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# omprehensive Plan

The Vision of Sammamish is a community of families. A blend of small-town atmosphere with a suburban character, the City also enjoys a unique core of urban lifestyles and conveniences. It is characterized by quality neighborhoods, vibrant natural features, and outstanding recreational opportunities. A variety of community gathering places provide numerous civic, cultural, and educational opportunities. Residents are actively involved in the decisions that shape the community and ensure a special sense of place.



Nature



Recreational



Urban



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## **COMPREHENSIVE PLAN ACKNOWLEDGEMENTS**

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## **EXECUTIVE SUMMARY**

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This Comprehensive Plan was prepared by the City's Planning Advisory Board (PAB), subject to public review and comment, analyzed in the corresponding Supplemental Environmental Impact Statement, and ultimately refined by the City Council considering the advisory, public, and environmental analysis. The process to prepare this Plan was initiated in 1999 and has involved two sets of community meetings, two community surveys, numerous newsletter and newspaper articles, over 65 public meetings of the 17 citizen member PAB as well as 76 meetings of the PAB subcommittees, frequent public discussions, and three public hearings by the City Council. This planning process was supported by the entire City staff, a team of consultants, staff and elected officials from neighboring jurisdictions and special purpose districts, and hundreds of community volunteers and participants.

As a recently incorporated City, this Comprehensive Plan is an important management tool to guide resource allocation decisions and day-to-day decisions by City staff. The Plan has been prepared in accordance with the planning goals contained in the Washington State Growth Management Act and the King County Countywide Planning Policies. The Plan is based on a Vision Statement adopted by the City Council, which emphasizes that the City of Sammamish is a community of families. This Vision Statement and more information about the Growth Management Act, the County-wide Planning Policies, and the Plan adoption process can be found in Chapter I Introduction, and Chapter II Growth Management Element. The following is a brief summary of each of the chapters of the Comprehensive Plan. For more information about the Comprehensive Plan, please refer to the Table of Contents, refer to the Supplemental Environmental Impact Statement that has been prepared for this Plan, and/or visit the City's Website at [www.ci.sammamish.wa.us](http://www.ci.sammamish.wa.us).

### **CHAPTER I INTRODUCTION**

The Introduction includes the Community Vision and Ideals on which the Comprehensive Plan is based. In addition, the chapter contains population and housing characteristics and a glossary of definitions used in the Plan. The Vision Statement describes the desired future for the community:

*The vision of Sammamish is a community of families. A blend of small-town atmosphere with a suburban character, the City also enjoys a unique core of urban lifestyles and conveniences. It is characterized by quality neighborhoods, vibrant natural features, and outstanding recreational opportunities. A variety of community gathering places provide numerous civic, cultural, and educational opportunities. Residents are actively involved in the decisions that shape the community and ensure a special sense of place.*

### **CHAPTER II GROWTH MANAGEMENT ELEMENT**

The Growth Management Element includes a review of the requirements of the Washington State Growth Management Act and the thirteen planning goals that guide the formulation of the City's first Comprehensive Plan. The element also includes a process for the future review and revision of the Comprehensive Plan. Of particular note are the following policies:

- Policy GM-1.1 Establishes, upon completion, a one-year period, from the effective date of the Comprehensive Plan, in which no amendments to the Comprehensive Plan will be accepted. This



will provide for the orderly implementation of the Plan, and the preparation of development regulations consistent with the Plan.

- Policy GM-1.2 Establishes criteria for the review and evaluation of future Comprehensive Plan amendments.
- Policy GM-1.4 Requires that a public participation strategy be prepared for future Comprehensive Plan amendment cycles.

### **CHAPTER III LAND USE ELEMENT**

The Land Use Element (Chapter III) provides the framework for the Comprehensive Plan and includes a series of goals and policies and a Comprehensive Land Use Map to guide future land use decisions in the City. These goals, policies, and the future land use map are based on the approved Vision Statement, the goals of the Washington State Growth Management Act, and the Countywide Planning Policies. In addition, the City reviewed Comprehensive Plans and development regulations from neighboring communities and communities with similar characteristics as well as decisions of the Growth Management Hearings Boards.

Community comments emphasized lower density, limited commercial, minimal intensification of land uses, reduction or elimination of the infrastructure deficit, and protection of the environmentally sensitive areas. Early in our planning process the City Council directed staff and the PAB to plan for a range of new houses between 1,500 and 3,000 homes in the 20-year planning period and investigate the protection of R-1 zoning in the SO-180 and SO-190 overlays.

The Comprehensive Plan Land Use Map was derived from three alternative land use scenarios designed to highlight different policy options and different future development scenarios that could be implemented to achieve the community's vision. These alternatives were presented in a series of public meetings for review and comment and the PAB subsequently incorporated key attributes from each alternative into a draft preferred alternative. The draft recommended alternative was then presented for public review and comment at a special public meeting prior to the PAB finalizing its recommendations to the City Council. While each of the alternatives had distinguishing characteristics, the PAB emphasized in its deliberations the importance of managing future growth and ensuring that the public facilities and services necessary to support new growth are provided in a timely manner. In addition, the PAB consistently emphasized the importance of protecting environmentally sensitive areas and recognized that appropriate land use designations must be supported by the application and enforcement of development regulations that are consistent with the Comprehensive Plan.

The 228<sup>th</sup> corridor was a primary focus in all of the land use scenarios. As a result of the community meetings, land use changes evolving through out the process (Eastside Catholic High school and the City Hall Site), and our environmental concerns for the areas protected by the SO-180 and SO-190 Overlay requirements, a supplemental environmental study was requested for a special study area along 228<sup>th</sup>. The final PAB recommendation on land use was not made until this supplemental environmental study was completed. The final recommendation to up-zone areas along 228<sup>th</sup> to R-4 was based on the special study area findings, the desire to keep the 228<sup>th</sup> corridor from becoming a continuous commercial development, and from dramatically increasing our population over the growth target of 3,842 homes. This R-4 up-zone makes the 228<sup>th</sup> corridor consistent in character with other parts of the City as well as protecting the area from intensification beyond growth targets and the community input. The R-4 zoning will provide appropriate levels of more intensive development consistent with the community vision and will minimize the unintended project consequences that has resulted in a concentration of highly intensive institutional uses on large undeveloped R-1 parcels.



The Comprehensive Land Use Plan emphasizes the preservation of the character of the existing single-family neighborhoods and limits new commercial development to the established boundaries of the existing Inglewood and Pine Lake Village commercial areas. The primary land use designation is R-4 and R-6, which in most instances is the lowest density permitted in urban areas. This designation supports the City Council and Community growth direction. No new areas have been designated for significant increases in the density of residential development and several hundred parcels have been targeted for a potential downzone to R-1, which is permitted in order to further protect environmentally sensitive areas of high rank order and function. These potential R-1 downzones will not be implemented until further analysis of the environmental characteristics of each parcel is evaluated by the City in more detail, and affected property owners are provided an opportunity to provide additional information.

It is important to note that, there is enough vacant and underdeveloped land to support the construction of an estimated 4,858 new residential units in the City. This includes an estimated 1,535 new lots/residential units currently in the planning permit pipeline. Given that the City's revised 20-year planning goal is 3,842 new households (for the years 2001 to 2022; as of May 31, 2003, the remaining target would equal 2,479), the proposed land use policies call for the adoption of growth management tools to guide the location and timing of residential growth, recognizing environmental capacities, and established level of service standards. In addition, the policies support the establishment of a concurrency management system to provide that infrastructure improvements required to support new development is made in a timely manner. The policies require the City to establish a set of growth controls for the purpose of controlling the amount and rate of growth in the City.

The Vision Statement provides the foundation and the Land Use Element is the framework on which the Comprehensive Plan is based. As a result, all of the Land Use Goals and Policies are important and warrant careful review. The following is a brief listing of policies that may be of particular interest:

- LUG-2 Establishes three designated community centers including the existing centers at Inglewood Center and Pine Lake Village, and the planned City Hall/Park at the Sammamish Commons. The Inglewood and Pine Lake Centers are limited to those parcels currently zoned for more intensive land uses, and no new commercially zoned lands have been proposed. The Sammamish Commons will include a permanent City Hall and a community park and will be developed in accordance with an approved master plan. The boundaries of these designated centers may be expanded only subject to certain conditions and public procedures.
- LUP-3.3 Requires that the City establish a concurrency management system to insure that infrastructure is in place to support new growth and that established level of service standards are met.
- LUP-3.4 Provides for the establishment of growth controls to guide the location and timing of growth and that established level of service standards are met. This may result in the limiting future building permits or subdivision approvals during the 20-year period of this Plan.
- LUP-3.5 Establishes the criteria for the review and approval of future rezone requests.
- LUP-3.11 Provides for the establishment of design standards, zoning and development regulations, to encourage compatibility of surrounding land uses and human scale developments.
- LUP-9.1 Establishes a process to continue to analyze and validate the potential down zoning of selected parcels to R-1 to further protect high rank order and function environmentally sensitive areas.
- LUG-16 Includes supporting policies examine the feasibility of amending the City's Potential Annexation Areas and to initiate joint planning efforts.

## **CHAPTER IV ENVIRONMENT AND CONSERVATION ELEMENT**

Preservation of environmentally sensitive areas in and near the community has been recognized by the City as an extremely important principal in preparing this Plan. As a result, although the City is not required to do so, proposed environmental goals and policies are contained in a separate element, Chapter IV Environment & Conservation. This Chapter contains an inventory of designated wetlands, streams, and environmentally significant features as well as a series of goals and policies to protect environmentally sensitive areas, plants and animals. In formulating these goals and policies the City evaluated previous environmental studies prepared by King County, consulted with a wide range of professionals who have a strong working understanding of the community's environment, and reviewed policies and regulations from neighboring jurisdictions with a particular emphasis on water quality. Policies of note include:

- ECP-1.4 Provides for the continuation and updating of the SO-180 Wetland Management Areas and SO-190 Erosion Hazards Near Sensitive Water Bodies Special Overlay District requirements.
- ECP-1.9 Requires the preparation of six sub-basin management plans in accordance with an established schedule which will include the active involvement of representatives of local water and sewer districts, affected neighborhoods, resource agencies, and organizations and individuals with expertise.
- ECP-3.51 Provides for the application of the Beaver Lake Water Quality regulations to Pine Lake pending the establishment of a Pine Lake Management District and Pine Lake specific water quality regulations.
- Goal EC-4 Provides for no net loss of wetland acreage and functions within each drainage sub-basin and promotes wetland enhancements.

## **CHAPTER V TRANSPORTATION ELEMENT**

Historic transportation deficiencies were a major issue leading to the incorporation of the City of Sammamish. Citizen input throughout the preparation period for the City Comprehensive Plan has consistently expressed concerns that these deficiencies be addressed concurrent with growth needs. As a result, the City has dramatically accelerated the implementation of several key transportation projects since incorporation. The provision of adequate transportation facilities concurrent with the impacts of growth will continue to be a significant challenge and a top priority for the City. The policies in the Transportation Element were developed with consideration to six priorities, listed as follows:

Improve the ability of Sammamish residents to enter and exit the City of Sammamish via Commute Routes (within and adjacent to the City), transit, and non-motorized facilities

- Enter into inter-local agreements with surrounding jurisdictions,
- Focus on commute routes.

Provide concurrency management

- Mitigate development impacts within the time frame presented in the Transportation Plan,
- Develop a management system.

Improve traffic flow within the City

- Improve the basic overall internal transportation system,
- Focus on major north-south and east-west corridors,
- Provide a balanced internal transportation system,
- Balance traffic flow across numerous routes rather than splitting the community with one or two major routes.

Improve quality of life and safety concerns

- Improve existing facilities to meet current standards,



- Consider community lifestyle impacts,
- Make safety improvements to existing facilities that may include, but are not limited to sidewalks and sight lines.

Enhance internal connectivity of non-motorized facilities

- Address connectivity of pathways, sidewalks, trails and bicycle facilities,
- Provide connections between parks, schools, shopping, community centers, and neighborhoods.

Enhance internal connectivity of roadways

- Address connectivity within and between neighborhoods,
- Provide connections between parks, schools shopping, community centers, and neighborhoods.

Public input and technical analysis of the Preferred and 3000 Land Use scenarios, the transportation priorities listed above, and the transportation policies presented in the Plan, were used to develop a recommended list of transportation projects. These projects address all modes and types of travel, from commuting into and out of the City, to walking to a neighbor's house.

The existing transportation deficiencies and future needs identified in the Plan are large with an estimated cost significantly over \$170 million. The Plan recognizes the need to cooperate with adjacent jurisdictions and recommends the implementation of inter-local agreements to help solve transportation problems outside the City limits that benefit Sammamish residents. The inter-local agreements are intended to provide a mechanism for Sammamish to participate when appropriate in the funding of projects outside the City limits, in cooperation with the relevant jurisdictions. The Plan provides the City Council the ability to spend transportation dollars as a function of the inter-local agreements, which is intended to encourage neighboring jurisdictions to enter into these agreements.

The Plan recognizes the difficult balance between adequate transportation, impacts to the environment, impacts to neighborhoods and cooperation with adjacent jurisdictions. The Plan is complete; its success will depend upon the City's ability to finance it. The Plan includes a list of projects that will guide City officials and the City's Transportation Improvement Program (TIP) over the next 20 years.

Several transportation projects met with significant public input. The input was considered and resulted in the priorities and policies recommended in the Plan. Two projects exemplify the issues:

- The East Sammamish Corridor (a.k.a. 244th Avenue Corridor) project generated significant input from residents in the vicinity of the project. The City considered the public concerns, the effectiveness of the project, and the proposed priorities and determined that the middle section between SE 8th Street and SE 24th Street was not required to achieve concurrency or improve access into and out of the City. The City recommended that the project be delayed and funding for it set aside for higher priority projects.
- The East Lake Sammamish Parkway widening project, between Inglewood Hill Road and SR 202, also generated significant public input. In this case the City considered the same policies and priorities and recommended that the project remain, as it is required to address existing deficiencies. The City did adopt the use of flexible design standards, as supported in the policies, to reduce the impacts of the proposed 3-lane project

The revenue forecast for the 20-year planning period is adequate to fund all of the recommended projects. Significant revenue is anticipated from the Capital Transportation Fund, Mitigation Fees, and General Obligation Bonds.

The City intends to charge the maximum allowable mitigation fees to meet the level of the City's future transportation needs. This is consistent with Washington State statutes and the City's Comprehensive Plan goals, objectives and policies. It is imperative that development pay for its share of its impact on the transportation system. The City should not use its funds or grants to subsidize improvements needed for new development. City revenues and grants should be used to fix existing transportation deficiencies.

If inadequate revenues are available to fund the recommended improvements, the City has four options:

1. Change the Plan policies (e.g. maintenance practices, sidewalk/safety programs) to eliminate projects.
2. Change the Plan policies (e.g. design standards) to reduce project costs.
3. Raise other revenue (e.g. bonds) to cover the shortfall.
4. Change the Plan policies to lower the LOS standard and eliminate projects.

## **CHAPTER VI HOUSING ELEMENT**

The Housing Element focuses on the Community Vision to protect existing residential single family areas, to encourage housing design sensitive to neighborhood character and surrounding land uses, to develop new opportunities for housing diversity and affordability, and to work cooperatively with neighboring jurisdictions or entities to develop a region wide housing plan. The City's primary land use is single family residential. The housing plan respects the integrity of this use while striving to protect the character of neighborhoods by directing new growth consistent with the community vision to appropriate sites. The implementation of the Housing Element will increase residents' ability to stay in their community throughout a lifetime by increasing housing choices. It is hoped that as a result there will be an increase in affordable starter homes, homes for empty nesters, homes for those with special needs, and homes for those who work in our community.

The Housing Element Strategy strives to coordinate with the Land Use Element. Additional housing choices are proposed through revisions to the land use map that recognize the City's primary land use as single-family residential, while directing mixed use and low to medium density multifamily residential growth to specific appropriate sites. The Housing Element also outlines the housing options and continuum of care for disabled residents and residents with special needs in accordance with Housing Goal 9 (HG-9):

- HG-9 Provide for a continuum of care and housing opportunities for people with special needs.

Creative single family residential alternatives are outlined such as cottages, accessory dwelling units, manufactured homes, and attached single family homes. The City's affordable housing targets are achieved in a variety of ways including preservation of existing housing stock, public-private partnerships, regulatory incentives, and the establishment of rezone requests consistent with the criteria of HP-7:

- HP-7 The City should establish criteria to evaluate rezone requests. This criteria should include, but not be limited to:
  - Addressing community needs such as affordable housing, senior housing, or special needs housing,
  - Compliance with City development regulations and design standards,
  - Protection of environmentally sensitive areas,



- public-private partnerships.

The City is required to prepare a housing element in accordance with the provisions of the requirements of the Washington State Growth Management Act (GMA) to plan for affordable housing and the diversity of housing choices related to special needs populations. In addition, the Housing Element is consistent with State and Federal Laws as outlined in the **Appendix D**. In Sammamish approximately 12% of our households are of moderate to low income, and 5.2% of our housing stock is moderate to low income. Considering the City's GMA growth allocation number through the year 2022, the Housing Element incorporates a plan for proportionately increasing the affordable housing residential units (Housing Targets, **Table VI-D**). In addition, housing stock, affordability, and special needs housing will be assessed periodically by the Housing Needs Assessment during the periodic Comprehensive Plan Updates.

## **CHAPTER VII UTILITIES AND PUBLIC SERVICES/CAPITAL FACILITIES ELEMENT**

The focus of the Utilities and Public Services/Capital Facilities Element is on the provision reliable utility service and to establish policies to guide the development of the City's capital investment program. The public and franchise services addressed in this chapter include: electricity, natural gas, telecommunications, solid waste, water, sewer, storm water, schools, emergency medical, and police. The element includes an inventory of existing facilities and a forecast of future needs. In addition, it is important to note that utility providers will be required to update their capital facilities plans to be consistent with the City's Comprehensive Plan. Goals and policies of note include:

- UP-1.2 Calls for the City to furnish regular population updates to utility and service providers in order to ensure that appropriate services will be available as needed.
- UP-2.2 Encourages the co-location of utilities and the coordination of construction timing.
- UP-4.1 Encourages the under grounding of new utilities.
- UP-7.4 Encourages the establishment of a street tree program.
- Goal CF 6 Provides for the establishment of a six-year Capital Improvements Plan that reflects approved level of service standards, and is based on realistic estimates of revenues.
- Goal CF 7 Provides that existing development should pay to correct existing deficiencies and that new developments should pay for the cost of providing the facilities and services necessary to serve the new growth.
- CFP-9.1 Promotes coordination with neighboring jurisdictions to ensure compatible levels of service.

## **CHAPTER VIII ESSENTIAL PUBLIC FACILITIES ELEMENT**

The focus of the Essential Public Facilities Element is to establish a process through which essential public facilities are sited in accordance with State laws while protecting the community from adverse impacts. The chapter includes a definition of essential public facilities and identifies those facilities currently in or near the community such as State Highways. The goals and policies in this element establish a process for the siting of essential public facilities, which includes an assessment of the need for the proposed facilities and provides for the active involvement of the public in the review and approval process.

## **CHAPTER IX PARKS, RECREATION, AND OPEN SPACE ELEMENT**

It is the vision of the City of Sammamish to establish a park and recreation system that meets the high standards of the community, creates an interesting network of trails, and that preserves trees and greenways by encouraging the retention of large areas of greenery. This vision will be accomplished through the preparation and implementation of a Parks, Recreation, and Open Space Plan being prepared concurrently with this Comprehensive Plan. The Parks Element of this Comprehensive Plan includes the Goals and Policies of the draft Parks, Recreation, and Open Space Plan. It is anticipated that upon adoption, the Parks, Recreation, and Open Space Plan will be incorporated by reference and/or included as an Appendix to this Comprehensive Plan.

It is the primary function of parks to provide a wide range of recreational opportunities and the economic, environmental, social, and public safety benefits of parks have been well documented. As a recently incorporated City, Sammamish was able to negotiate the transfer of several County owned parks to the City. In addition, the City has acquired a number of undeveloped parks or open spaces. It is the intent of the City to implement a three-pronged approach to achieve its parks, recreation, and open space goals that include acquisition, development, and redevelopment activities.

Policies that may be of particular interest include:

- PRO-P 1.2 b. which provides that the City shall prepare a master plan for each of its parks to guide future use and development.
- PRO-P 1.2 d. which encourages the development of local neighborhood, volunteer, and community based programs for park improvements.
- PRO-P 1.4 b. which encourages the joint use of existing public resources.



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## **I. INTRODUCTION**

### **COMMUNITY VISION AND IDEALS**

In November of 1999, the City Council began the process of developing a vision statement to serve as the foundation for planning the future of the City of Sammamish. This included a community-wide survey and a series of public workshops in December of 1999 and the first part of 2000. The results of these workshops and the community survey were reviewed by the City Council's Community Development Committee, which then drafted a proposed statement representing the ideal vision of the community. The City Council then adopted the following statement and ideals in August 2000. It is upon this vision and accompanying ideals, that this plan is based and to which its goals and policies strive to achieve.

### **Vision Statement**

*The vision of Sammamish is a community of families. A blend of small-town atmosphere with a suburban character, the City also enjoys a unique core of urban lifestyles and conveniences. It is characterized by quality neighborhoods, vibrant natural features, and outstanding recreational opportunities. A variety of community gathering places provide numerous civic, cultural, and educational opportunities. Residents are actively involved in the decisions that shape the community and ensure a special sense of place.*

### **Vision Ideals**

#### **Community Design**

- Maintain a small-town atmosphere and suburban character so that new development will complement Sammamish's existing character as well as allow for diversity and creativity.
- Provide a family-friendly, kid-safe community.
- Encourage community gathering spaces which invite human presence, arouse curiosity, peak interest and allow for the interaction of people.
- Establish a unique sense of place for visitors and residents.
- Respect the character and integrity of existing neighborhoods.

#### **Environment**

- Preserve trees and green ways by encouraging the preservation or development of large areas of greenery which provide a visual impact as opposed to creating small areas of unusable residue.
- Protect and enhance streams, wetlands and wildlife corridors
- Maintain a harmonious relationship between the natural environment and future urban development.

#### **Recreation**

- Create a safe and interesting network of trails for hiking, biking and horseback riding.
- Establish a park and recreation system that meets the high standards of the community.

#### **Government**

- Provide accessible, quality government service and encourage active, involved citizens.
- Develop civic and cultural opportunities and experiences.



## COMMUNITY PROFILE

### History of Sammamish

The City of Sammamish's cultural and historical background provides a context from which to understand the City as it exists today. A written history of the community is being prepared and will be included and maintained as a separate Appendix to this Comprehensive Plan (see **Appendix A**).

### Population and Housing Characteristics

The City of Sammamish incorporated in August 1999, prior to which it was governed by King County. **Figure I-1** shows the location of the City in the context of other King County cities. By the time of incorporation, the locale had grown significantly in population as the natural environment, views, excellent schools, quality homes, and many other features have attracted residents. **Table I-A** provides a summary of population growth from 1970 to 2001.

**TABLE I-A**  
**SAMMAMISH PLATEAU/CITY OF SAMMAMISH POPULATION GROWTH**  
**1970 - 2001**

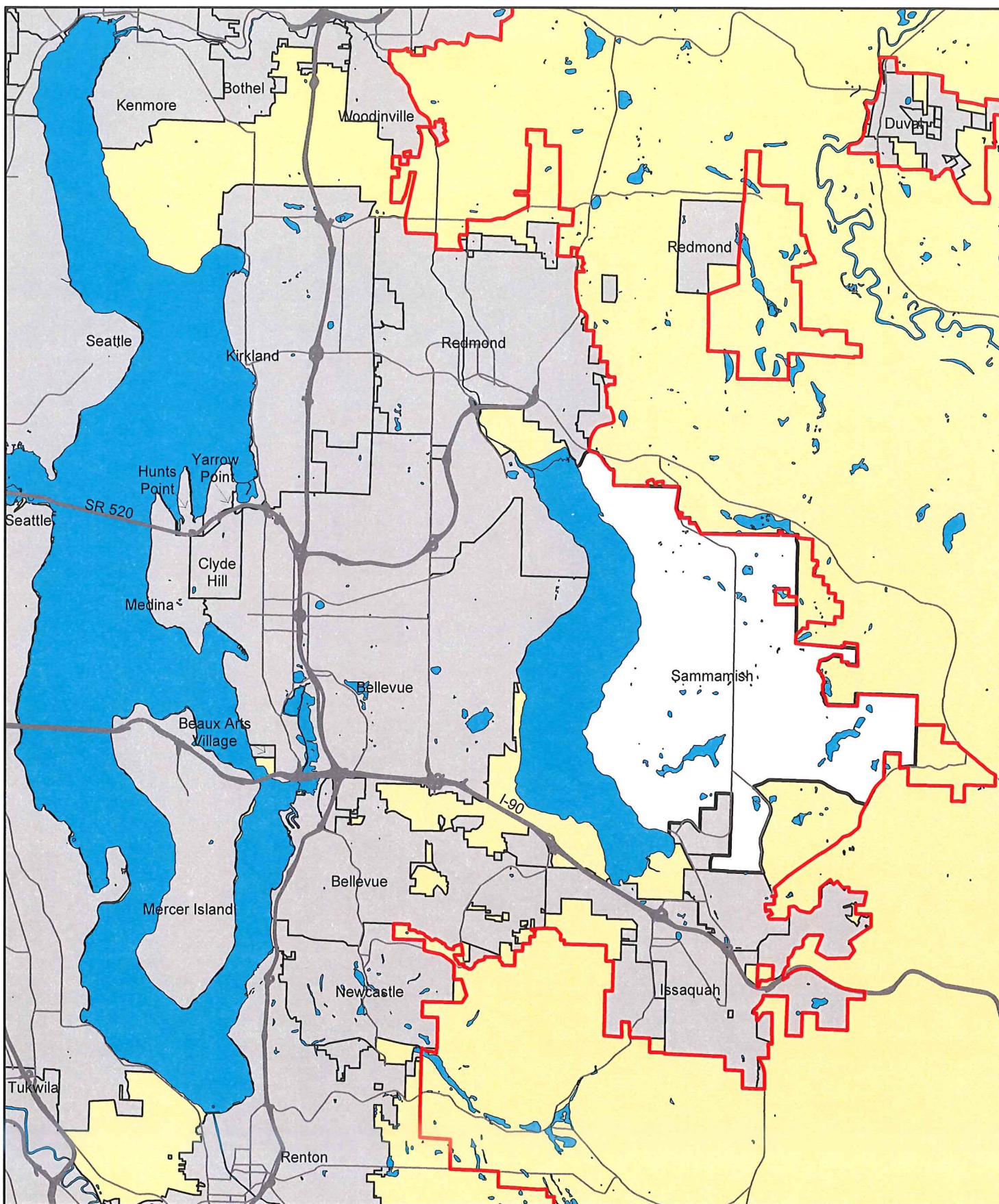
| <b>GEOGRAPHIC AREA</b> | <b>1970</b> | <b>1980</b> | <b>1990</b> | <b>1997</b> | <b>2000</b> | <b>2001</b> |
|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Sammamish Plateau      | 6,000       | 12,300      | 31,000      | 41,300      | 43,200      |             |
| City of Sammamish      |             |             |             | 26,200      | 34,104      | 34,560      |

Source: City of Sammamish Community Development Department, as reported in the November 2002 *Parks, Recreation & Open Space Comprehensive Plan*, by the City of Sammamish Parks and Recreation Department. Decade figures are based on the US Census. 1997 figures are from the "Analysis of the Financial Feasibility of the Proposed City of Sammamish," a study of incorporation by EcoNorthwest in June 1998. Year 2001 figures are derived from the State of Washington Office of Financial Management.

In terms of its built environment, the City of Sammamish is characterized by a suburban residential development pattern with high quality homes, supporting two primary commercial centers that meet the local goods and service needs of the community.

The City of Sammamish contains approximately 11,599 dwelling units based on the 100% sample Year 2000 US Census. The April 1, 2001 estimate by the State of Washington Office of Financial Management is 11,753 dwelling units. The City largely contains single family detached units estimated at about 90% per sample data contained in the Year 2000 US Census. The median household income in 1999 was estimated as \$101,592 by the Year 2000 US Census. The median home value was estimated at \$362,900 in the same Year 2000 US Census.





## Vicinity Map

Plot Date: September 2003

### Legend:

UGA  
 Freeways  
 Streets  
 Lakes  
 City of Sammamish  
 Other Cities  
 Unincorporated

SOURCES: King County GIS CD# 1 Standard Data dated April 2003.

DISCLAIMER: This map is derived from various data sources. While care has been taken to ensure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. "This map is provided", "as is".



1 0.5 0 1  
 Miles

Scale 1" = 2.2 Miles

**Figure I-1**



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In terms of employment in the City, Year 2000 estimates by the Washington State Employment Security Department indicate 4,757 employees (excluding self employed), largely consisting of education and service sector employees (refer to the Housing Element, **Table VI-A**).

Additional demographic information may be found in the Housing Element, **Chapter VI**, of this Comprehensive Plan. Future growth is dependent upon the desired future land use pattern, market trends, and other factors. Future growth projections are included in **Chapter III**, Land Use Element.

## **DEFINITIONS**

As used throughout this Comprehensive Plan, most particularly in goals and policies the following words have meanings as defined below:

- Vision:** A description of the community as desired. It serves as the keystone upon which goals, policies and objectives are based.
- Goal:** A general statement expressing a desired result consistent with the vision and towards which policies and objectives aim.
- Policy:** A specific statement giving guidance to decision makers for the purpose of achieving a goal's desired result.
- Objective:** A specific statement establishing a measurable target or specific task to be accomplished for the purpose of achieving a goal's desired result.
- Shall:** When "shall" is used in a policy, such language requires that the City take steps to accomplish the purpose of the policy.
- Should:** When "should" is used in a policy, such language directs the City take steps to accomplish the purpose of the policy unless specific circumstances justify an alternative direction.
- May:** When "may" is used in a policy, such language indicates the City has the option to take steps to accomplish the purpose of the policy.

## **REFERENCES**

- City of Sammamish (November 2002). *Draft Parks, Recreation & Open Space Comprehensive Plan*. Sammamish, WA.
- EcoNorthwest, Nesbitt Planning and Management, Norton Arnold Janeway. (June 6, 1998). "Analysis of the Financial Feasibility of the Proposed City of Sammamish." Prepared for Washington State Boundary Review Board for King County. Seattle, WA.



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## II. GROWTH MANAGEMENT ELEMENT

### VISION

Locally based comprehensive plans are the heart of the State and regional laws that require community planning. The Vision Statement and Vision Ideals provided in the Introduction to this Comprehensive Plan describe the desired community character for a community-oriented, family friendly city providing a suburban and small town atmosphere yet having a core to provide some urban conveniences, linkages of parks and open spaces, and high standards for environmental protection. This Vision and the Comprehensive Plan are being developed to create a blue print for the City's future in the context of the State and regional growth management concerns and requirements that are the subject of this Element.

### GROWTH MANAGEMENT ACT GOALS

The State of Washington Growth Management Act (GMA) was enacted in 1990 to promote community planning efforts that manage growth, meet community economic, housing, and public service needs, provide infrastructure concurrent with growth, help solve multi-jurisdictional problems, and respect natural environmental systems. The GMA contains 13 planning goals for the purposes of guiding the development of comprehensive plans and development regulations. The goals are listed as follows, and, pursuant to the GMA, are not listed in order of priority (RCW 36.70A.020):

- (1) Urban growth. Encourage development in urban areas where adequate public facilities and services exist or can be provided in an efficient manner.
- (2) Reduce sprawl. Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.
- (3) Transportation. Encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans.
- (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.
- (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.
- (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.
- (7) Permits. Applications for both state and local government permits should be processed in a timely and fair manner to ensure predictability.
- (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.
- (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.
- (10) Environment. Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.
- (11) Citizen participation and coordination. Encourage the involvement of citizens in the planning process and ensure coordination between communities and jurisdictions to reconcile conflicts.
- (12) Public facilities and services. Ensure that those public facilities and services necessary to support development are 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.
- (13) Historic preservation. Identify and encourage the preservation of lands, sites, and structures, that have historical or archaeological significance.



Using the 13 planning goals, the GMA requires preparation of a Comprehensive Plan addressing land use, housing, capital facilities, utilities, transportation, economic development and parks issues. Certain topics such as open space corridors and essential public facilities must also be considered within Plan Elements. Optionally, the City may choose to include subarea plans and/or other elements, such as conservation and solar energy. GMA does not limit optional topics. Specific element requirements are described further below. Implementing development regulations must be prepared consistent with the Comprehensive Plan.

## KING COUNTY COUNTYWIDE PLANNING POLICIES

The GMA requires countywide planning policies to help assure that local comprehensive plans are coordinated and responsive to regional needs. Beginning in the fall of 1991, King County, the City of Seattle, and the Suburban Cities of King County met jointly as the Growth Management Planning Council to develop and recommend Countywide Planning Policies for King County, as mandated by the Growth Management Act, RCW 36.70A.210. In July of 1992, the King County Council adopted the Countywide Planning Policies recommended to it by the Growth Management Planning Council. In 1994 a second phase of regional policies were adopted and ratified. Since that time the policy document has been updated incrementally as needed.

The Countywide Planning Policies for King County address and direct the following issues: an Urban Growth Boundary for the County and Cities within, natural systems protection, multi-modal transportation system improvements, fair share housing and employment allocations among the County and Cities, and public services/utilities provision and coordination.

## SUMMARY OF STATE & REGIONAL PLAN REQUIREMENTS

While the GMA goals give guidance to planning efforts, there are also specific topics and issues that should be addressed in local comprehensive plans to be consistent with the State laws and regional policy frameworks. **Table II-A** lists requirements of both the GMA and Countywide Planning Policies.

**TABLE II-A  
GROWTH MANAGEMENT ACT &  
COUNTYWIDE PLANNING POLICY REQUIREMENTS**

| GROWTH MANAGEMENT ACT (GMA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | COUNTYWIDE PLANNING POLICIES (CPPs)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LAND USE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p>The land use element is the central requirement in the Growth Management Act (GMA). It provides the basis for all the other required elements including housing, transportation, capital facilities, and utilities elements. These other elements rely on the future land use pattern and the population and housing accommodated by the land use pattern in determining needed improvements and strategies. The specific GMA requirements for the land use element include addressing:</p> <ul style="list-style-type: none"> <li>• Distribution/location/extent of land uses: Agriculture, timber production, housing, commerce, industry, recreation, open spaces, public utilities, public facilities, other;</li> <li>• Population densities, building intensities, and estimates of future population growth;</li> <li>• Protection of the quality and quantity of ground water</li> </ul> | <p>The <i>King County Countywide Planning Policies</i> (CPPs) define an Urban Growth Boundary within which urban development should occur. The City of Sammamish is included within the Urban Growth Boundary. Residential and nonresidential development should occur in an urban context and be sufficiently dense to efficiently support urban services.</p> <p>The policies also establish an Urban Centers concept and growth phasing within the Urban Growth Boundary. For identified centers, regional funding and service priority is to be given. The hierarchy of Centers includes:</p> <ul style="list-style-type: none"> <li>• Urban Centers: These include areas with a minimum of 15,000 jobs within a half-mile of a transit center, an average of 50 employees per gross acre, and an average of 15 households per gross acre. A pedestrian emphasis and superior urban design are to be characteristics of the Urban Centers. Urban Centers that were nominated and</li> </ul> |



| GROWTH MANAGEMENT ACT (GMA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | COUNTYWIDE PLANNING POLICIES (CPPs)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <p>used for public water supplies;</p> <ul style="list-style-type: none"> <li>• Drainage, flooding, and stormwater runoff within and nearby the jurisdiction as well as guidance for corrective actions to mitigate or clean discharges to waters of the state.</li> </ul> <p>Growth Management Hearings Board decisions have clarified what densities should occur in urban growth areas. In <i>Bremerton v. Kitsap County</i> October 1995, the Central Puget Sound Hearings Board found that as a general rule, 4 dwelling units per acre or more constitutes urban densities. A pattern of 1 and 2-1/2 acre lots is a sprawl pattern that should not occur in rural and urban areas. In <i>Lawrence Michael Investments, Chevron USA and Chevron Land and Development Company v. Town of Woodway</i>, January 1999, the Central Puget Sound Hearings board found that “GMA requires every city to designate all lands within its jurisdiction at appropriate urban densities.” The Board also found that areas containing an environmentally sensitive feature large in scope and with a high rank order can be protected beyond critical area ordinances. A city may use its future land use map designations to afford a higher level of protection (e.g. establishing lower residential densities in the specific area).</p> | <p>accepted in the Countywide Planning Policies include: Bellevue CBD, Federal Way CBD, Seattle CBD, Seattle Center, Northgate, Tukwila CBD, and several others.</p> <ul style="list-style-type: none"> <li>• Manufacturing/Industrial Centers: These include areas accommodating a minimum of 10,000 jobs where there is sufficiently sized parcels or vacant land suitable for manufacturing/industrial uses. Examples of designated Manufacturing/Industrial Centers include: North Tukwila, Duwamish and Ballard/Interbay in Seattle, and the Kent industrial area.</li> <li>• Activity Areas: These areas contain moderate concentrations of commercial and housing development that function as focal points for the local community. There are no numeric criteria, but qualitative criteria include ensuring there is an array of land uses including: commercial, housing, public facilities and public open spaces; sufficient densities/intensities that encourage transit; pedestrian emphasis, and disincentives for single-occupancy vehicle usage during peak hours. Activity areas are designated in local comprehensive plans and not in the CPPs.</li> <li>• Growth outside of Centers, but within the Urban Growth Boundary: Policies address establishing minimum residential densities in each residential zone; establishing new household targets and new employment targets. (See description under Housing regarding household targets and the Economic Development section regarding employment targets.)</li> <li>• Urban Separators: These are low density areas or areas of little development within the Urban Growth Boundary. These are to be permanently defined as low density lands which protect adjacent resource lands, rural areas, and/or environmentally sensitive areas, or which create open space corridors between urban areas that provide environmental, visual, recreational and wildlife benefits.</li> </ul> <p>The policies indicate that growth should be directed first to Centers and urbanized areas with existing infrastructure capacity, second to areas which are already urbanized such that infrastructure improvements can be easily extended, and last to areas requiring major infrastructure improvements.</p> |
| NATURAL ENVIRONMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p>Under the GMA all jurisdictions are required to protect and enhance the natural ecosystems through comprehensive plans and policies, and to develop regulations that reflect natural constraints and protect sensitive features. Land use and development is to be regulated in a manner that respects fish and wildlife habitat in conjunction with natural features and functions, including air and water quality. In designating and protecting critical areas, counties and cities are to include the best available science in developing policies and development regulations to protect the functions and values of critical areas. In addition, counties and cities are to give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p>The CPPs require all jurisdictions to identify natural drainage systems including riparian and shoreline habitat to be maintained and enhanced. Jurisdictions in shared basins are to coordinate regulations to manage the basins and the natural drainage system. Jurisdictions are also directed to maintain or enhance water quality through control of runoff and best management practices. Local governments are required to coordinate land use planning and management of fish and wildlife resources with affected state agencies and federally recognized Tribes.</p> <p>Under the CPPs, cities are to work with the County to plan and coordinate implementation of their flood hazard reduction activities within the major river basins, and be consistent with the King County <i>Flood Hazard Reduction Plan</i> (FHRP)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |



| GROWTH MANAGEMENT ACT (GMA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | COUNTYWIDE PLANNING POLICIES (CPPs)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>policies. Each jurisdiction's policies, regulations, and programs must effectively prevent new development or other actions from causing significant adverse impacts on major river flooding, erosion, and natural resources outside its jurisdiction. All jurisdictions are to implement the <i>Puget Sound Water Quality Management Plan</i> to restore and protect the biological health and diversity of the Puget Sound Basin.</p> <p>All jurisdictions are to coordinate with the Puget Sound Air Pollution Control Agency (PSAPCA) and the Puget Sound Regional Council to develop policies, methodologies, and standards to promote regional air quality.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TRANSPORTATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p>Transportation planning at the state, county and local levels is mandated by the GMA. In addition to requiring consistency with the land use element, specific GMA requirements for a Transportation Element include:</p> <ul style="list-style-type: none"> <li>• Inventory of facilities by mode of transport;</li> <li>• Level-of-Service calculations to aid in determining the existing and future operating conditions of the facilities;</li> <li>• Proposed actions to bring deficient facilities into compliance;</li> <li>• Traffic forecasts, based upon land use;</li> <li>• Identification of infrastructure needs to meet current and future demands;</li> <li>• Funding analysis for needed improvements, as well as possible additional funding sources;</li> <li>• Identification of intergovernmental coordination efforts; and</li> <li>• Identification of demand-management strategies as available.</li> </ul> <p>In addition to these elements, GMA mandates that development cannot occur unless existing infrastructure either exists or is built concurrent with development. In addition to construction of new capital facilities, infrastructure may include transit service, transportation demand management (TDM) strategies, or transportation system management (TSM) strategies.</p> | <p>The CPPs provide direction for King County and the 34 jurisdictions contained within it. Policies are directed at providing a balanced multimodal transportation system within the County, based upon regional priorities and consistent with adopted land use plans. The County defines the balanced transportation system as one that promotes all modes, including automobiles, heavy trucks, rail, transit, bicycle, pedestrian, equestrian, and air travel, as efficiently as possible. Transportation Demand Management should be included in addition to capacity improvements. Movement of freight as well as people should be considered in comprehensive plans.</p> <p>Washington State, King County, Puget Sound Regional Council (PSRC), and cities, as well as transit operators, airport officials, etc., should work together to provide an efficient region-wide transportation system. Transportation impacts to individual cities generated by the State, County, and/or neighboring jurisdictions must be taken into account. All levels of jurisdictions should coordinate when planning and financing projects to ensure state, regional, county and city visions and land use plans are consistently achieved. Consistency of plans, projects, and thresholds with regional, state, and neighboring jurisdictions should also be considered.</p> <p>Where appropriate, the County and its cities should adopt a clear definition of level-of-service and concurrency requirements, and structure impact fees to ensure that new development contributes its fair share of the resources needed to mitigate the impact on the transportation system. Future improvement needs for all modes should be considered and included in Comprehensive Plans, with special interest in completing the regional systems. Additionally, level-of-service calculations should be consistent with those of adjacent agencies to aid in determining accountability and impacts of projects. Mode-split goals for each mode of transportation should be determined by local agencies to ensure services are adequate.</p> <p>Comprehensive plans should include timelines for all improvements, focusing on maintenance and preservation of existing infrastructure with additions as necessary to accommodate future growth. Furthermore, alternative funding sources should be sought when funding falls short of projected needs. Source may include developer contributions, impact fees, and Local Improvement Districts.</p> |



| GROWTH MANAGEMENT ACT (GMA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | COUNTYWIDE PLANNING POLICIES (CPPs)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>HOUSING</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p>Comprehensive Plans are to 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. Cities are to make an inventory and analysis of existing and projected housing needs; include a statement of goals, policies, and objectives for the preservation, improvement, and development of housing; identify sufficient land for housing, including low income, special needs, and multiple housing types; and make adequate provision for existing and projected housing needs of all economic segments of the community.</p> | <p>The Countywide population growth has been established by the Washington State Office of Financial Management (OFM) as required by the GMA. Each jurisdiction in King County has been allocated a housing target (population allocations are converted into households). The household target for Sammamish is proposed as 3,842 for the years 2001 to 2022.</p> <p>The CPPs commit the City to ensuring there is capacity in the Comprehensive Plan and implementing regulations to meet this target. Growth would occur based upon market forces. However, the policies indicate that the City should promote affordable housing to low and very low income households, at 20-24 percent and 17 percent of the target respectively.</p> <p>Aside from establishing housing targets, the CPPs also include policies requiring jurisdictions to evaluate existing affordable housing, subsidized or not, in terms of potential loss to redevelopment, deterioration, or plans and policies. Strategies to preserve housing or provide relocation assistance should be developed, and residential growth is to be monitored. Jurisdictions are to establish minimum densities, excluding critical areas, for new construction in each zone and establish a target mix of housing types for new development.</p> |
| <b>UTILITIES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p>A Utility Element is required to address the general location, proposed location and capacity of electrical lines, telecommunication lines, and natural gas lines.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>The CPPs include general policies to ensure adequate infrastructure for planned development are defined for those areas within the King County Urban Growth Boundary. Growth is to be directed to centers and urbanized areas with existing infrastructure capacity.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>PUBLIC SERVICES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p>A goal of the Growth Management Act (GMA) is to ensure that those public facilities and services necessary to support development are 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.</p>                                                                                                                                                                                                                                                                                                                                                                | <p>The CPPs address public services, including social and health services, schools, libraries, and fire and police protection. Human and community services planning activities are to support CPPs and the Countywide land development pattern. All jurisdictions are to identify essential community and human services and include them in land use, capital improvement, and transportation plans.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>CAPITAL FACILITIES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p>GMA requires that capital facilities element include an inventory of existing publicly owned capital facilities, a forecast for the future needs for new or expanded facilities, and a six-year plan to indicate from what sources the identified future facilities will be financed. The GMA defines public facilities to include roadways, street lighting, sidewalks, domestic water systems, storm and sanitary sewer systems, parks and recreational facilities, and schools.</p>                                                                                                                                                                                                           | <p>The CPPs include general policies regarding adequate infrastructure for planned development for those areas within the Urban Growth Boundary. Growth is to be directed to centers and urbanized areas with existing infrastructure capacity. Policies also include several policy statements regarding water and wastewater. In summary, the policies address regional coordination of water supplies, water conservation, alternate sewer treatment technologies and systems, and preference for urban water and sewer systems to serve new construction in the areas identified for growth within 10 years.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>ESSENTIAL PUBLIC FACILITIES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p>GMA requires that counties and cities planning under the Act include a process for the identification and siting of "essential public facilities" (EPF). Essential public facilities can be government owned and operated facilities, or privately owned facilities that are regulated by public entities. RCW</p>                                                                                                                                                                                                                                                                                                                                                                               | <p>The CPPs indicate that public capital facilities of a Countywide or statewide nature should be sited to support the Countywide land use patterns, support economic activities, mitigate environmental impacts, provide amenities, and minimize public costs. The policies require the Growth</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



| GROWTH MANAGEMENT ACT (GMA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | COUNTYWIDE PLANNING POLICIES (CPPs)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>36.70A.200 states that essential public facilities are “those facilities that are typically difficult to site, such as airports, state education facilities and state or regional transportation facilities as defined in RCW 47.06.140, state and local correctional facilities, solid waste handling facilities, and in-patient facilities including substance facilities, mental health facilities, group homes, and secure community transition facilities as defined in RCW 71.09.020.” This definition is not considered to be all-inclusive, but provides examples of facilities that are difficult to site. RCW 36.70A.200(2)(5) states that “No local comprehensive plan or development regulation may preclude the siting of essential public facilities.”</p>                                                                                                                                                                                                                                         | <p>Management Planning Council or its successor to establish a process by which jurisdictions can cooperatively site public capital facilities of a Countywide or statewide nature. The process, when developed, should address definitions, inventories, economic and other incentives, public involvement strategies, environmental protection, health and safety protection, and consideration of alternatives.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PARKS/OPEN SPACE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p>The GMA requires that the City encourage the retention of open space and development of recreation opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks. The City's land use plan should also identify open space corridors within and between urban growth areas, including land useful for recreation, wildlife habitat, trails, and connections of critical areas.</p> <p>In 2002, the GMA newly required a specific Parks Element:</p> <p>A park and recreation element that implements, and is consistent with, the capital facilities plan element as it relates to park and recreation facilities. The element shall include: (a) Estimates of park and recreation demand for at least a ten-year period; (b) an evaluation of facilities and service needs; and (c) an evaluation of intergovernmental coordination opportunities to provide regional approaches for meeting park and recreational demand.</p>                      | <p>The CPPs require the identification and protection of local open spaces in individual Comprehensive Plans. The Countywide development pattern includes a requirement for a sufficient supply of quality places for housing, employment education, recreation, and open space as well as provision of community and social services. Included as well is a statement that Countywide funding shall be available for the acquisition, maintenance, and stewardship of parks and open space.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ECONOMIC DEVELOPMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p>As of Fall 2002, GMA newly requires an economic development element “establishing local goals, policies, objectives, and provisions for economic growth and vitality and a high quality of life” which would be prepared prior to the next review cycle dated 2004 according to the GMA.</p> <p>“The element shall include: (a) A summary of the local economy such as population, employment, payroll, sectors, businesses, sales, and other information as appropriate; (b) a summary of the strengths and weaknesses of the local economy defined as the commercial and industrial sectors and supporting factors such as land use, transportation, utilities, education, work force, housing, and natural/cultural resources; and (c) an identification of policies, programs, and projects to foster economic growth and development and to address future needs. A city that has chosen to be a residential community is exempt from the economic development element requirement of this subsection.”</p> | <p>Jurisdictions should cooperatively create environment which sustains the economic vitality of the region and which contributes to manageable economic growth. Jurisdictions shall recognize that King County is part of a larger regional economy, which is strongly linked by trade to the national and international economies. Infrastructure investments should be focused into Urban Centers and Manufacturing/Industrial Centers which supported by transit. Countywide Policies shall be integrated with economic development.</p> <p>Employment targets are established for each jurisdiction. For Sammamish, the employment target is 1,230 for the period 2001 to 2022.</p> <p>The Countywide Planning Policies include many related to economic development. Policy <i>concepts</i> are summarized below:</p> <ul style="list-style-type: none"> <li>• Jurisdictions shall provide infrastructure and public services, promote education and protect the environment in a way that contributes to the economic sustainability of the County.</li> </ul> |

| GROWTH MANAGEMENT ACT (GMA) | COUNTYWIDE PLANNING POLICIES (CPPs)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | <ul style="list-style-type: none"> <li>• Jurisdictions shall support the development of a regional economic development strategy consistent with the Countywide land use pattern. (Countywide Planning Policies promote urban centers, manufacturing/industrial centers, and activity areas.)</li> <li>• Jurisdictions shall include economic development policies and an economic development element in their comprehensive plans which must address local concerns and the regional context. Estimates of the type and number of jobs need to be provided. Policies and plans must address the following topics: <ul style="list-style-type: none"> <li>- Strengthen, expand and diversify the economy</li> <li>- Environmental protection as economic value</li> <li>- Human resources - economically disadvantaged citizens and neighborhoods, job training and education</li> <li>- Direct governmental actions land supply, infrastructure and permitting</li> <li>- Private/public partnerships</li> </ul> </li> </ul> |

Source: RCW 36.70A; *Countywide Planning Policies for King County*, 2002, by the Growth Management Planning Council.

## POTENTIAL ANNEXATION AREAS

Consistent with the GMA, King County's Comprehensive Plan identifies Urban Growth Areas where future urban development is targeted to occur. Through the GMA-required Countywide Planning Policies, the County, in consultation with the Cities, helped facilitate the designation of Potential Annexation Areas (PAA) inside Urban Growth Areas. Within its designated PAA, a city would ultimately annex and provide services.

The King County Urban Growth Boundary includes the City of Sammamish and unincorporated areas north, east, and south of the City limits. As a recently incorporated City, the County and City have not identified a formal PAA for the City. However, as several of the adjacent unincorporated areas within the UGA relate to the City in terms of environmental systems, transportation systems, and land use character, planning efforts have addressed these areas in the public participation and notification process, natural systems review, transportation systems analysis, and other topics. Policies in the Land Use Element under Goal LUG-16, address coordination in provision of services, future land use, and processes for future annexation applicable at the time a PAA is defined.

## ADOPTION/AMENDMENT PROCESS

### Plan Adoption Process

The City of Sammamish incorporated in 1999. To initiate the required planning process, the City Council conducted a community survey, held community workshops, and subsequently adopted a Vision Statement and Vision Ideals in July 2000 as shown in **Chapter I** Introduction. Also in July 2000, the City Council appointed a citizen volunteer Planning Advisory Board (PAB) to develop this Comprehensive Plan.

Meeting regularly between July 2000 and May 2002, the PAB developed goals and policies and alternative land use concepts, issued on May 16, 2002 as a First Draft working document. In May 2002,



the alternative concepts and key goals and policies were presented at a series of public meetings to solicit feedback on the alternatives. Additionally, a second community survey on a range of topics was conducted. Using the community meeting and survey feedback, the PAB developed a preferred land use alternative and revisions to the First Draft Comprehensive Plan. In light of a preliminary environmental review and policy analysis the Preferred Plan was ultimately refined into a Recommended Plan. The PAB recommended Land Use Alternative and other Comprehensive Plan concepts were presented for public review at a workshop held December 11, 2002. The Spring and Summer prepared alternatives, including the Preferred land use concept, and the goals and policies were reviewed in a Supplemental Environmental Impact Statement (SEIS) and both the Public Review Draft Comprehensive Plan and SEIS were subject to public comment in Winter/Spring 2003. Comment periods were established for the documents – both to allow the required State Agency and public review process and the required State Environmental Policy Act public comment period. During the public comment period, the City solicited public comments. Following the public comment periods and meetings, the City issued a Final SEIS and a prepared a final Comprehensive Plan for City Council adoption. Prior to adoption, the City Council held three public hearings.

### **Future Plan Amendment Process**

The Growth Management Act (GMA) recognizes that Comprehensive Plans are dynamic rather than static, and should be evaluated regularly to ensure that they respond to changing needs of the community and respond to new Federal or State law. In accordance with the Growth Management Act, and Policy GM-1.1 of this Element and LUP-17.3 in the Land Use Element, the City will allow for an amendment process to consider changes to the essential components of the Comprehensive Plan, including Goals, Objectives, Policies, and plan maps that are contained in this document. At the time of this writing, the GMA (RCW36.70A.130) requires the following:

- Each county that designates urban growth areas must review, at least every ten years, its designated urban growth area or areas, and the densities permitted within both the incorporated and unincorporated portions of each urban growth area. In conjunction with this review by counties, each city located within an urban growth area is required to review the densities permitted within its boundaries, and the extent to which the urban growth occurring within the county has located within each city and the unincorporated portions of the urban growth areas. The county comprehensive plan designating urban growth areas, and the densities permitted in the urban growth areas by the comprehensive plans of the county and each city located within the urban growth areas must be revised to accommodate the urban growth projected to occur in the county for the succeeding twenty-year period.
- By December 1, 2004, and at least every seven years thereafter, the City is required to review and, if needed, revise its comprehensive land use plan and development regulations to ensure that the plan and regulations are complying with GMA requirements.
- The City is required to institute a public participation program identifying procedures whereby proposed amendments or revisions of the comprehensive plan are considered by the City Council no more frequently than once every year, except that amendments may be considered more frequently under the following circumstances:
  - The initial adoption of a subarea plan,
  - The adoption or amendment of a Shoreline Master Program under the procedures set forth in chapter 90.58 RCW,

- The amendment of the Capital Facilities Element that occurs concurrently with the adoption or amendment of the City budget,
- Amendments or revisions to the City's comprehensive plan when an emergency exists or to resolve, if appropriate, an appeal of the Comprehensive Plan filed with the Growth Management Hearings Board or with the court.

Aside from the exceptions above, all proposals are to be considered by the City Council concurrently so the cumulative effect of the various proposals can be ascertained.

## **PUBLIC PARTICIPATION PROGRAM**

Methods to assure public participation in the formation of this Comprehensive Plan have varied to solicit as much input as possible. Since 1999 two community surveys have been conducted. A Planning Advisory Board (PAB) with 17 appointed citizens has been established. Also, public workshops have been held.

The PAB was the prime vehicle for public participation, and the PAB meetings have offered public comment opportunities on their agenda at the beginning and end of every meeting. The PAB conducted public meetings to solicit community input on the development of the plan's requisite elements. In addition, the Board worked with a technical advisory group (staff and selected consultants) to develop the essential elements of the Comprehensive Plan and development regulations. Between August 2000 and January 2003, the PAB has held approximately 65 full committee meetings and 76 subcommittee meetings. In addition, the PAB has hosted three community workshops in May 2002, and one in December 2002, to gain feedback on various planning alternatives.

Prior to plan adoption, a public comment period on the Public Draft Comprehensive Plan and Supplemental Environmental Impact Statement (SEIS) was conducted, as well as three City Council public hearings as noted above.

## **GOALS**

**Goal GM-1 Evaluate the Comprehensive Plan regularly for consistency with the City Vision, Growth Management Act requirements, and Countywide Planning Policies, and make amendments as necessary.**

## **POLICIES**

**Policy GM-1.1** Upon completion of the Comprehensive Plan, the City shall not approve amendments to the Comprehensive Plan for a one year period from the effective date of the Comprehensive Plan to allow for the orderly preparation, implementation, and subsequent evaluation of the effectiveness of development regulations consistent with the plan. Exceptions to this schedule may be made in order for the City to comply with state law or other legal requirements.

**Policy GM-1.2** The City shall consider proposed Comprehensive Plan Amendments concurrently so that the cumulative effect of the proposals can be determined. The City may consider some amendments outside of the normal review cycle as authorized in the Growth Management



Act. All proposed Comprehensive Plan Amendments should include the following elements:

- a. A detailed statement of what is proposed to be changed and why,
- b. A statement of anticipated impacts of the change, including geographic area affected and issues presented,
- c. A demonstration of why existing Comprehensive Plan guidance should not continue in effect or why existing criteria no longer apply,
- d. A statement of how the amendment complies with the Growth Management Act's goals and specific requirements,
- e. A statement of how the amendment complies with the Sammamish Vision Statement,
- f. A statement of how functional plans and capital improvement programs support the change, and
- g. Public review of the recommended change, necessary implementation (including area zoning if appropriate) and alternatives.

Policy GM-1.3 The City should ensure proposed Comprehensive Plan policy amendments are accompanied by any changes to development regulations, modifications to capital improvement programs, subarea, neighborhood, and functional plans required for implementation so that regulations will be consistent with the Plan.

Policy GM-1.4 The City shall implement a public participation strategy appropriate for each Comprehensive Plan amendment cycle.

Policy GM-1.5 The City should prepare an annual report to the City Council and general public on Comprehensive Plan implementation progress.

## **REFERENCES**

King County Growth Management Planning Council (November 2002). *Countywide Planning Policies*. Seattle, WA.

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### III. LAND USE ELEMENT

#### VISION

The Vision Statement and Vision Ideals provided in the Introduction to this Comprehensive Plan highlight several desired community attributes addressed in more detail in this Land Use Element:

- Maintenance of a small town atmosphere and suburban development character,
- Encouragement of community gathering spaces,
- Respect for the character and integrity of existing neighborhoods,
- Relationship of the natural environment to urban development,
- Responsive government services with respect to development review.

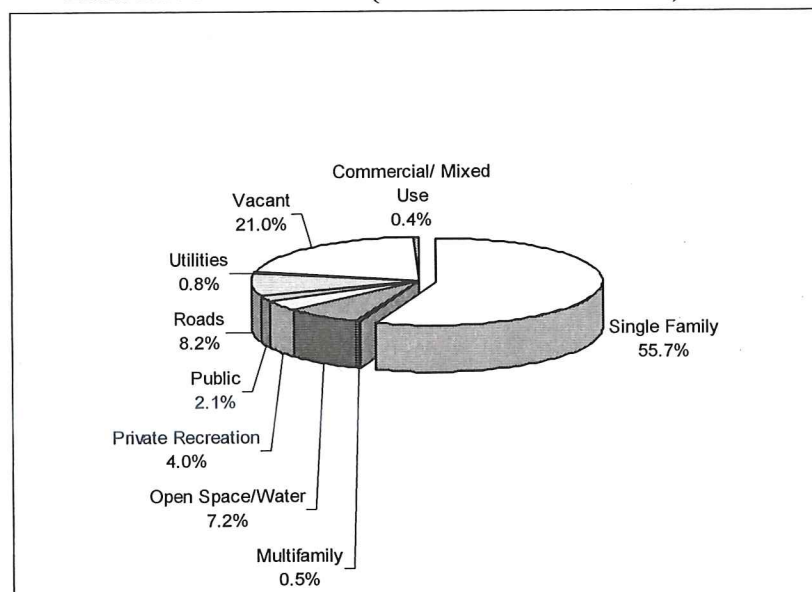
Additionally, the Land Use Element responds to the Growth Management Act and King County County-wide Planning Policies identified in the Growth Management Element of this Comprehensive Plan by addressing existing and future land use distributions in the community, the relationship of land use to service and infrastructure provision, and the roles and responsibilities of the City in the region.

#### PRIMARY ISSUES

##### Existing Land Use Analysis

An inventory of the City's existing land use was completed for the City of Sammamish in December 2001. The following figure identifies relative amount of acres in each land use category. Single family development represents the most predominant existing land use, with vacant land and roads the second and third most predominant. The land use acre amounts represented below do not include adjustments for sensitive areas. Please see the Growth Capacity section below for a discussion of discount factors.

**FIGURE III-1  
EXISTING LAND USE (ACRES BY PERCENT): CITY**



## **Land Use Plan Development**

As a part of this comprehensive planning process, the No Action (County plan) and three land use scenarios were prepared to highlight alternative approaches to preserve and enhance community character and to guide future growth and development. These alternatives are documented in **Appendix E** and are briefly listed as follows: No Action (County Plan), Gateway/Corridor Alternative, and Dispersed or Activity Centers Alternative. These alternatives were presented at a series of community meetings in May 2002 in order to generate a better understanding of the preferred future for the City of Sammamish. Utilizing information generated through the public meetings and a separate community survey, a fourth Preferred Alternative was developed by the Planning Advisory Board in Summer 2002. A more detailed environmental analysis was prepared to identify and assess the probable significant adverse effects that proposed alternatives would have on the natural and man-built environment. Based on preliminary environmental review and policy analysis, the Summer 2002 alternative was further revised to become the PAB Recommended Land Use Alternative, December 2002. By July 2003, a preferred alternative was selected by the City Council, amending features of the PAB Recommended Land Use Alternative.

## **Land Use Plan**

The Land Use Plan provides for land uses reflective of the City vision statement for a small town character, suburban residential style development, but with acknowledgement of community gathering areas in “centers”, and attention to environmental characteristics. The plan is illustrated in **Figure III-2** at the end of this chapter. Distinguishing characteristics of the Plan and associated policies include:

- Preservation of the character and development patterns in existing single family neighborhoods through R-4 and R-6 zoning,
- Protection of high rank order and function environmentally sensitive areas through policies, development regulations, and through R-1 zoning as appropriate,
- Targeting future commercial growth and mixed use development to three designated community centers, the Inglewood and Pine Lake Centers and the Sammamish Commons,
- Development of a City Hall and City Park project as a designated Community Center, in accordance with an approved master plan, known as the Sammamish Commons,
- Establishment of locally determined level of service standards for transportation, a priority list of capital improvements, revised mitigation fees and concurrency requirements, and direction to execute interlocal agreements with neighboring jurisdictions to relieve bottlenecks affecting access to and from the community,
- Establishment of a process to evaluate the designation of potential annexation areas.

## **Growth Capacity**

The City of Sammamish contains approximately 11,599 dwelling units based on the 100% sample Year 2000 US Census. The April 1, 2001 estimate by the State of Washington Office of Financial Management is 11,753 dwelling units. The City largely contains single-family detached units estimated at about 90% per sample data contained in the Year 2000 US Census.



The City population is estimated to be 34,104 based on the 100% sample Year 2000 US Census, and 34,560 as of April 1, 2001 per the State of Washington Office of Financial Management. While the Year 2000 US Census estimated an average household size of 3.12 for ownership housing and 2.52 for rental housing, for purposes of future growth calculations, a lesser average household size of 2.5 is projected according to the King County Growth Management Planning Council.

The Growth Management Act and Countywide Planning Policies for King County require that the City accommodate its fair share of the future growth projected for King County. Future development “targets”, expressed in the number of housing units, are determined through an interactive, multi-jurisdictional process between King County and cities located within. Through this ongoing regional process, the City’s growth target for the years 2001 to 2022 is established at 3,842 units, of which approximately 2,479 target units remain given building permits issued through May 31, 2003.

With estimates of developable land, either vacant or underdeveloped (e.g. review of the ratio of improvement value to land value), and allowed densities, future growth capacity can be estimated. As part of the preparation of this Comprehensive Plan, a development capacity analysis was prepared by the City (refer to **Appendix E**), which reviewed gross vacant and re-developable land acres and then discounted the amount of acres for the following purposes:

- Environmentally Sensitive Areas
- Roads/Rights-Of-Way
- Utilities
- Market Factors (i.e. property may not be available)

With this methodology, the City has estimated the following modified “build out” estimates for the Plan: 4,858 additional dwelling units.

This estimate accommodates the established growth target from the King County Countywide Planning Policies, and means that growth beyond the target level may occur during or after the 20-year planning period. The forecasts include pipeline dwellings – more than half of the future growth in the City would be derived from pipeline projects, approximately 1,535 units.

It should be noted that a capacity analysis may make adjustments or discounts to the amount of available land, but does not estimate the time or rate that growth will occur, only the capacity of the land for additional development. It is through growth controls that the City may control the rate and timing of growth, as long as the City is endeavoring to meet its adopted growth targets.

To address the difference between the Plan “build out” capacity and the growth target level, and the need to ensure that community character is maintained and supporting capital facilities and services are in place, the City’s Comprehensive Plan studies growth at the approximate 3,000 level as well as the approximate 5,000 level, and includes policies and measures to manage growth including concurrency of capital improvements, and threshold levels to determine if additional growth controls are needed, to meet the remaining 2,479 target units to be accommodated in planning efforts during the 20-year planning period.

### **Managing Growth**

As a result of rapid development over the past decade, the City of Sammamish has experienced a severe burden on its infrastructure, particularly its roadway system. With an imbalance between jobs and housing, making Sammamish basically a bedroom community, traffic congestion exiting and entering the community has steadily become worse. Other basic infrastructure such as sewer and water service is also

struggling to meet the demand of this increasing population. In order to provide for adequate infrastructure capacity for the existing population and meet the preferred level of service standards, the City must plan for future growth and its increased infrastructure demands.

The City has several choices of growth control tools by which the City can meet its preferred level of service standards and growth targets. Currently the construction of new homes is significantly constrained by the limited availability for water. The primary provider of water service to the community, the Sammamish Plateau Water and Sewer District, is currently only awarding recaptured water certificates on a periodic basis, pending a new water supply. Additional measures available to the City include limiting the number of new lots created or dwelling units constructed through a random lottery system<sup>1</sup>, a complex point system, or a proportional system of issuing permits. The City may also choose to strengthen its concurrency requirements, allowed in the Growth Management Act, resulting in infrastructure being provided truly concurrent with development. Finally, the City may consider revising its zoning ordinance by changing the method by which density is calculated, such as a net density system in place of gross density system, or down-zoning parcels encumbered by significant sensitive areas. In order to control development so that the adequate infrastructure is provided, level-of-service standards are met, and community character is maintained, any of these methods can help the City achieve these goals. Since it may be several years before there is adequate water to support new subdivisions, the City has time to evaluate the appropriate measures to manage growth and to monitor the need for growth controls in accordance with the policies contained in this plan.

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<sup>1</sup> This would need to be considered carefully and may be coordinated with local water utility providers such as the Sammamish Plateau Water and Sewer District which currently implements a lottery system.



## **GOALS**

- GOAL LUG-1:** Create and maintain a small-town atmosphere.
- GOAL LUG-2:** Establish the three designated community centers, including the existing centers at Inglewood Center and Pine Lake Village, and the planned City Hall/Park project, to host a diversity of high quality places to live, work, shop and recreate.
- GOAL LUG-3:** As new development occurs, preserve Sammamish's character, human scale and neighborhood quality.
- GOAL LUG-4:** Establish a community that maintains and enhances the quality of family life within Sammamish.
- GOAL LUG-5:** Promote community-gathering places that encourage the interaction of people.
- GOAL LUG-6:** Promote development design that encourages attractive, functional, and distinctive environments which reinforce a sense of community.
- GOAL LUG-7:** Encourage land use patterns that promote walkability, diversity, and creativity.
- GOAL LUG-8:** Respect the character, integrity, and unique qualities of existing neighborhoods.
- GOAL LUG-9:** Preserve and enhance the natural features and historic, cultural and archeological resources of the community.
- GOAL LUG-10:** Preserve trees and other natural resources as integral components of the community's overall design.
- GOAL LUG-11:** Promote the use of greenscape as an important physical and visual element of site development.
- GOAL LUG-12:** Preserve scenic corridors and natural vistas.
- GOAL LUG-13:** Practice environmental stewardship by protecting, enhancing, and promoting the natural environment within Sammamish and the surrounding communities.

**GOAL LUG-14:** Promote development design that maintains a harmonious relationship with the natural environment.

**GOAL LUG-15:** Promote connectivity between neighborhoods.

**GOAL LUG-16:** Develop Sammamish as a leading member in regional planning efforts.

**GOAL LUG-17:** Develop and implement plan and regulatory amendment and development permit processes that are participatory, timely, predictable, and fair to all affected parties.

## GOALS & POLICIES

**GOAL LUG-1:** Create and maintain a small-town atmosphere.

**LUP-1.1** The City shall encourage development that creates and maintains a safe, healthy and diverse residential community. The City should contain diverse affordable housing, reasonable employment opportunities, and should protect the natural environment and significant cultural resources.

**LUP-1.2** The City shall designate the proposed general distribution, general location and extent of the uses of land, where appropriate, for housing, commerce, recreation, open spaces, public utilities, public facilities, and other land uses. The official Comprehensive Plan Land Use Map is included as **Figure III-2**.

**LUP-1.3** The City shall implement a range of residential and non-residential use classifications:

- Table of Districts and Densities. The City shall utilize the following table to establish land use districts and maximum residential densities.

| LAND USE/ZONE DISTRICT                        | MAXIMUM<br>RESIDENTIAL DENSITY |
|-----------------------------------------------|--------------------------------|
| Residential 1 Dwelling Unit Per Acre (R-1)    | 1                              |
| Residential 4 Dwelling Units Per Acre (R-4)   | 4                              |
| Residential 6 Dwelling Units Per Acre (R-6)   | 6                              |
| Residential 8 Dwelling Units Per Acre (R-8)   | 8                              |
| Residential 12 Dwelling Units Per Acre (R-12) | 12                             |
| Residential 18 Dwelling Units Per Acre (R-18) | 18                             |
| Neighborhood Business (NB)                    | 8                              |



| LAND USE/ZONE DISTRICT  | MAXIMUM<br>RESIDENTIAL DENSITY |
|-------------------------|--------------------------------|
| Community Business (CB) | 18                             |
| Office (O)              | 18                             |
| Public Institution      | --                             |

b. District Descriptions. The City shall utilize the following purpose statements to distinguish the land use districts.

- **Residential:** The purposes of the Residential Districts are to implement Comprehensive Plan policies for housing quality, diversity, and affordability, and to efficiently use land, public services, and energy. In the R-1 district, the primary uses are single detached dwellings clustered as appropriate in relation to environmental constraints. In the R-4 through R-8 districts, Residential District purposes are accomplished by providing for predominantly single detached dwelling units on lot sizes that vary according to district. In the R-12 through R-18 districts, Residential District purposes are accomplished by allowing for a mix of predominantly apartment and townhouse dwelling units with a variety of densities according to district. In the Residential Districts, accessory uses and complementary nonresidential uses that are compatible with residential communities may be allowed.

Where a range is given on the map, this indicates parcels for which the density of R-1 is under review in accordance with Policy LUP-9.1. The density would be between R-1 and R-4 if indicated to be in the category of R-1 – R-4. The density would be between R-1 and R-6 if indicated to be in the category of R-1 – R-6.

- **Neighborhood Business:** The purposes of the Neighborhood Business District are to provide convenient daily retail and personal services for a limited service area, to minimize the impacts of commercial activities on nearby properties, and to provide for limited residential development not to exceed R-8 density.
- **Community Business:** The purpose of the Community Business District is to provide convenience and comparison retail and personal services for local service areas serving neighborhoods that cannot be served conveniently by larger commercial centers. Allowable uses include a wider range of retail, professional, governmental, and personal services than are found in Neighborhood Business districts, as well as limited small-scale office uses, and mixed-use (housing and retail/service) developments. Commercial uses with extensive outdoor storage or auto-related and industrial uses would be discouraged in the Community Business District.
- **Office:** The purpose of the Office District is to provide for pedestrian and transit-oriented, high-density employment office uses together with limited complementary retail and urban density residential development in locations where the full range of commercial activities is not desirable.
- **Public Institution:** This classification recognizes publicly owned facilities and sites that offer governmental, utility, recreational, educational, and emergency response services, respectively, to the community.

LUP-1.4      The City should allow community-scale commercial, residential, and mixed-use opportunities, promoting efficient transit service, at the Inglewood Center and the Pine Lake Center.

LUP-1.5      The future land use pattern should promote affordable housing opportunities, reduce external vehicle trips, and related traffic congestion patterns in the City.

**GOAL LUG-2:**      **Establish the three designated community centers, including the existing centers at Inglewood Center and Pine Lake Village, and the planned City Hall/Park project, to host a diversity of high quality places to live, work, shop and recreate.**

LUP-2.1      The City shall designate on the Comprehensive Plan Land Use Map three community centers to be known as the Inglewood Center, the Pine Lake Center , and the Sammamish Commons.

- a. The Inglewood Center shall include those parcels in the immediate vicinity of Inglewood Center which, prior to the adoption of this comprehensive plan, were previously zoned Neighborhood Business (NB), Community Business (CB), Office (O), and Residential 12 and 18 units to the acre (R-12)(R-18), as depicted in **Figure III-2**, unless subsequently modified by the City Council in accordance with the provisions of this Plan.
- b. The Pine Lake Center shall include those parcels in the immediate vicinity of Pine Lake Village which, prior to the adoption of this comprehensive plan, were previously zoned Neighborhood Business (NB), Community Business (CB), Office (O), and Residential 12 and 18 units to the acre (R-12)(R-18), as depicted in **Figure III-2**, unless subsequently modified by the City Council in accordance with the provisions of this Plan.
- c. The Sammamish Commons shall consist of parcels currently owned by the City of Sammamish, or abutting parcels subsequently purchased by the City, in the vicinity of the intersection of SE 8th and 228th Ave SE, as depicted in **Figure III-2**, for the site of the City Hall and a community park.

LUP-2.2      The City should plan for compact and diverse community centers that are consistent with the community vision, and respectful of surrounding neighborhoods and the capacity of natural systems.

- a. The City should actively involve the community in the preparation of sub-area plans for the Inglewood and Pine Lake Centers and a Master Plan for the Sammamish Commons as designated in **Figure III-2**.
- b. The Inglewood Center and the Pine Lake Center may feature the following types of uses, to be further defined in community-based sub-area planning efforts:
  - Civic uses and community gathering opportunities,
  - Recreational uses,



- Pedestrian and public transit-oriented design and circulation,
  - Specialty retail stores,
  - Restaurants,
  - Professional offices,
  - Community services, and
  - Diverse housing opportunities.
- c. The City shall prepare and formally adopt for implementation a Master Plan to guide the development of the Sammamish Commons, as designated in **Figure III-2**. This Master Plan may include provisions for a City Hall, related community facilities such as a library and/or community center, and a public park. Limited commercial activities supportive of the public functions in the commons may be permitted.
- d. Following adoption of the Sammamish Commons Master Plan, the City shall initiate a sub-area planning process for properties in the vicinity of 228<sup>th</sup> Avenue that may be affected by the Sammamish Commons. This sub-area plan may include potential zoning changes or other recommendations to promote more compatible land uses and to minimize potential adverse impacts on adjoining properties.
1. The Planning Commission shall recommend, for City Council review and approval, final boundaries for the sub-area.
  2. The general boundaries for the sub-area plan shall include NE 4th St on the north, SE 10<sup>th</sup> St to the south, the unimproved right-of-way for 232<sup>nd</sup> Ave to the east, and 218<sup>th</sup> St extended to the west.
  3. In establishing the final boundaries, whole parcels and multiple parcels in common ownership shall be included in the sub-area.
  4. Sub-area planning shall focus on undeveloped and underdeveloped parcels within the final boundaries.
  5. Sub-area planning shall respect the integrity of fully developed single-family residential neighborhoods, and give consideration to landscaping and/or buffer requirements between single family residential neighborhoods, recreational uses and mixed use/commercial development.
  6. The sub-area planning process shall include opportunities for public participation and comment.

- LUP-2.3      Along 228<sup>th</sup> Avenue, plans and regulations should address boulevard treatments (landscaped medians, street lighting, sidewalks, etc), a compatible and consistent streetscape on both sides of the corridor, and a compact development pattern in the three designated community centers, appropriate to land carrying capacity.
- LUP-2.4      The City should promote design of the three designated community center environments based upon a human scale to encourage attractive street fronts and other connecting walkways that accommodate pedestrians as the first priority, while accommodating vehicular movement.

- LUP-2.5 Multi-family housing may be located above ground floor non-residential uses in the Inglewood and Pine Lake Centers.
- LUP-2.6 Innovative design techniques should be considered to promote and encourage mixed-use development within the Inglewood and Pine Lake Centers.
- LUP-2.7 Individual mixed use buildings with residences or offices located along with retail uses should be encouraged in the Inglewood and Pine Lake Centers, near public transit and pedestrian amenities.
- LUP-2.8 The three designated community centers should be expanded upon a recommendation of the City Planning Commission or upon action of the City Council.

**GOAL LUG-3: As new development occurs, preserve Sammamish's character, human scale and neighborhood quality.**

- LUP-3.1 The land use plan should accommodate carefully planned levels of development, consider existing uses, safeguard the environment, reduce sprawl, promote efficient uses of land, create alternative modes of transportation, and foster the development of the City's sense of community.
- LUP-3.2 Growth should be directed as follows: first, to areas with existing infrastructure capacity; second, to areas where infrastructure improvements can be easily extended; and last, to areas requiring major infrastructure improvements.
- LUP-3.3 The City shall institute a concurrency management system to provide for infrastructure to be in place at the time of development and meeting level of service goals of the Community. The Transportation Element and Capital Facilities Element shall identify the level of service objectives, the infrastructure, facilities, and services that must be in place to serve development at the time of development, including, but not limited to roads, stormwater facilities, water service, wastewater service, parks, schools, and others. The City shall monitor the effectiveness of concurrency standards.
- LUP-3.4 The City shall adopt residential development growth management tools that guide the location and timing of residential growth, recognizing environmental capacities, and established level of service standards for water, sewer, surface water, transportation, parks, schools, and other public facilities and services. The growth management tools shall provide for City attainment of the City's housing target of 3,842 over the 20-year planning period (2001 – 2022), including affordable housing. Additional measure to control growth may be required if any of the following thresholds are exceeded:



- a. Building permit applications submitted to the City for the construction of new residential development in one year period is at a rate that if continued, could result in over 3000 building permits being issued in the twenty year period of 2003 to 2022.
- b. Subdivision or commercial site development permit applications are submitted to the City in any two consecutive years at a rate that if continued, could result in the creation of over 1000 new residential units in the twenty year period of 2003 to 2022.
- c. A finding is made by the City Council that new growth and development is occurring at a rate or in a manner that precludes the timely provision of necessary public facilities or services, and/or that established level of service standards are not being met.

LUP-3.5      The City should establish criteria for the review and approval of future rezone requests, including but not limited to:

- a. Consistency with the City's Comprehensive Plan goals, policies, and land use map (LUP-2.9, LUP-7.6, and LUP-7.9 et al),
- b. Demonstration of a clear and compelling need and public benefit,
- c. Documentation that there will be no probable significant adverse environmental effects that cannot be reasonably mitigated.

Decisions on rezone requests should be made by the City Council based on an evaluation of a staff report and a recommendation by the City Planning Commission. The public should be notified of all rezone requests and afforded meaningful opportunities for public review and comment.

LUP-3.6      During consideration of areawide or site-specific zoning classifications or rezones, the City may allow different zoning designations on a single legal parcel (i.e. split zoning), recognizing with a lower density lands environmentally unsuitable for development and with a greater density lands suitable for development, provided that:

- a. The application of the greater density shall be consistent with the predominant density of the neighboring properties to the area or site considered for reclassification. For example, R-1 may be applied to environmentally sensitive portions of a site, and R-4 to the developable portion of a site, R-4 matching the character and density of neighboring properties.
- b. Split zone boundaries should consider environmental, legal, and practical administrative issues associated with application of the split zone boundary.

LUP-3.7      Zoning regulations shall be written to:

- a. Achieve the desired scale and character for an area,
- b. Ensure adequate light and air (i.e. height and setback requirements),
- c. Protect environmental quality,

- d. Manage potential impacts on transportation systems, other public facilities and public services.
- LUP-3.8
- a. The City should apply minimum density requirements to the R-8 to R-18 and NB, CB, and O zones consistent with King County Countywide Planning Policies,
  - b. The City should monitor and assess the density and nature of new development on a periodic basis to determine if the community vision and Growth Management Goals are met for community character and efficient use of land.
- LUP-3.9
- Regulations shall include limitations to residential density, lot sizes, impervious surface, and building location, height, and bulk.
- LUP-3.10
- The design, scale, and allowable uses within the three designated community centers shall be strictly regulated in accordance with approved sub-area or master plans to ensure compatibility with the surrounding neighborhood. Development should vary with the type and intensity of the abutting neighborhood in which it is located.
- LUP-3.11
- Community design standards, zoning and development regulations should encourage:
- a. Incorporation of the natural site characteristics,
  - b. Compatibility with surrounding uses,
  - c. Buildings of a scale and character appropriate to the site,
  - d. Building variety while providing for designs that reflect the distinctive local character, the context of the site and the community's historical character and natural features,
  - e. Building setbacks and orientations appropriate to the site and use,
  - f. The use of landscaping to enhance building and site appearance,
  - g. Efficient pedestrian and vehicular circulation movement,
  - h. Reducing the impact of motorized transportation,
  - i. Creating usable open space, community space and community facilities,
  - j. Reducing visual clutter through sign regulation and view preservation; and
  - k. Impervious surface limitations, site access control, alternate parking lot configurations and other standards.
- LUP-3.12
- The City shall adopt design standards and development regulations to ensure that future mixed-use developments are designed in a manner and at a scale that is consistent with the character of the respective zoning classifications. In doing so, the Planning Commission shall evaluate mixed-use developments and standards from other communities and may recommend revisions to permitted residential densities appropriate for the City of Sammamish. The total impacts of such development should not exceed impacts of each use individually.



**GOAL LUG-4:      Establish a community that maintains and enhances the quality of family life within Sammamish.**

- LUP-4.1      The City should provide attractive, high quality parks, recreational areas and streetscapes throughout the City.
- LUP-4.2      The City should encourage joint use and development of recreation lands and facilities in accordance with the Park, Recreation and Open Space Comprehensive Plan.
- LUP-4.3      Parks, schools, churches and other public and semi-public buildings should be encouraged to locate on sites that give the community and neighborhoods landmarks and an identity, without creating adverse impacts on environmentally sensitive areas.
- LUP-4.4      Public and private community service providers, including the City should be encouraged to share or reuse facilities, to reduce costs, conserve land and provide convenience and amenity for the public. Joint siting and shared use of facilities should be encouraged for schools, community centers, health facilities, cultural facilities, libraries, swimming pools, other social facilities and gathering places.
- LUP-4.5      Major entrances into the City should be given symbolic markers and landscaping to strengthen community identity and to highlight community design standards. Symbolic markers may include signs, monuments and plantings.
- LUP-4.6      The City should encourage community cultural and historical projects throughout the City to provide beautification, education, and other social benefits.
- LUP-4.7      The area's natural history should be reflected in the community's identity and its civic architecture.

**GOAL LUG-5:      Promote community-gathering places that encourage the interaction of people.**

- LUP-5.1      Small pocket parks, public plazas, and sidewalk gathering places should include "street furniture" such as benches, and be incorporated into development design.
- LUP-5.2      Community gathering places such as small parks, courtyards, village greens, outdoor plazas and seating areas should be incorporated into developments whenever possible.
- LUP-5.3      Community gathering opportunities that contribute to the character and human scale of the sidewalk environment should be encouraged. Streetscape design and details should

reinforce the human scale of the street. Human scale means that the size of the building relates to the approximate dimensions of the human body.

- LUP-5.4 Parks and recreational opportunities should serve as models of superior design quality and serve as community gathering areas promoting neighborhood identity.

**GOAL LUG-6: Promote development design that encourages attractive, functional, and distinctive environments which reinforce a sense of community.**

- LUP-6.1 Development standards for non-residential uses should create a consistent and compatible pattern of development. Development standards should address issues, including, but not limited to: floor area ratios, lot dimensions, building setbacks and height, impervious surface limitations, access, and parking configurations.
- LUP-6.2 Non-residential uses, multiple family residential buildings, townhouses and similar housing types within residential areas shall be subject to design criteria and design review. Design criteria may be applied to single family dwellings on individual lots.
- LUP-6.3 Specific community-wide design standards shall be developed for use in the design review process. These design standards should reflect the desired characteristics of each neighborhood planning area or designated community center.
- LUP-6.4 The City should promote its design policies to attract the type of development envisioned. Flexibility in design standards may be considered depending on the type of development, its anticipated market, geographic location, and the goals of the community center or neighborhood planning area. Priority may be given to developments that provide suitable land for park, recreation, and open spaces uses.
- LUP-6.5 Design standards, building design and site design should provide appropriate transitions between dissimilar uses and intensities. Building and site design should also be used to maintain compatibility and to minimize adverse impacts on the lower intensity or more sensitive uses.
- LUP-6.6 Building design and details should support the human scale.
- LUP-6.7 Building and site design should encourage personal safety by:
- a. Making criminal access more difficult (referred to as reducing penetrability),
  - b. Using site planning techniques to give all users more control over the space adjacent to their buildings (increased territoriality),
  - c. Providing clear and direct lines of sight to increase the perception of security.



- d. Increasing opportunities for neighbors and those passing by to keep an eye on nearby activities (improved surveillance) reducing “unclaimed” areas, i.e. spaces within a development that are not clearly public or private (reduced ambiguity),
- e. Incorporating pedestrian-oriented lighting into neighborhoods, streets and other public places, and
- f. Using design and construction approaches that reduce vandalism. These principles should also be incorporated into design standards.

LUP-6.8 Building placement and landscaping should be used to separate potentially conflicting uses and to separate intensive uses from less intensive uses. Machinery, service entries, storage areas and loading docks should be screened from adjacent, less intense uses.

LUP-6.9 Design standards should include provisions to guide site design such as placement of buildings in relation to parking and the street, location of supporting service and mechanical equipment, integration of surface water facilities, etc.

LUP-6.10 The City’s zoning and other development regulations for non-residential developments should foster community, create enjoyable outdoor areas and balance needs of automobile movement with pedestrian and bicycle mobility and comfort. Non-residential development proposals should include, but are not limited to:

- a. Paved streets,
- b. Sidewalks and bicycle lanes in commercial and retail areas,
- c. Adequate parking for employees and business owners,
- d. Landscaping along or within streets, sidewalks and parking areas,
- e. Adequate stormwater control, including curbs. Gutters and stormwater retention facilities,
- f. Public water supply,
- g. Public sewers; and
- h. Controlled traffic access to arterials and intersections.

LUP-6.11 Building design should contribute to the uniqueness of the three designated community centers and distinct neighborhoods of the City with predominant materials, elements, features, color range, and activity areas tailored specifically to the site and its context. In the case of a multiple building development, each individual building shall include predominant characteristics shared by all buildings in the development so that the development forms a cohesive place within the designated community center and distinct neighborhoods of the City.

- LUP-6.12 Build-to-lines based on a consistent relationship of buildings to the street sidewalk should be established by development projects in order to form visually continuous, pedestrian-oriented storefronts with no vehicle use area between building faces and the street.

**GOAL LUG-7: Encourage land use patterns that promote walkability, diversity, and creativity.**

- LUP-7.1 Clustered development should be encouraged rather than strip development. Non-residential development should be compact, allow for walking between uses and be located at an intersection of arterials or be bounded by arterials or other boundaries, such as topography, that would discourage development in long narrow strips. Non-residential uses should be designed so that impacts on adjacent uses will not pressure adjacent uses to convert to non-residential uses.
- LUP-7.2 Requirements for pedestrian accessible recreational space should be greater for higher density multifamily developments than for lower density, single-family development.
- LUP-7.3 Residential development standards should address housing densities, lot dimensions and sizes, building setbacks and height, impervious surface limitations, access, parking and other standards.
- LUP-7.4 The City should encourage design variety such as lot clustering, flexible setback requirements and mixing attached and detached housing in appropriately zoned areas.
- LUP-7.5 Variation in façade, rooflines, and other building design features should be used to give a residential scale and identity to multifamily developments.
- LUP-7.6 High density multi-family housing should be located close to arterials served by public transit and within walking distance of commercial activities, parks and recreational facilities. Zoning changes to accommodate additional multi-family development should only occur when it can be demonstrated that conditions have changed since the original multifamily classification boundaries were determined, and there is a demonstrated community need.
- LUP-7.7 Town home developments, carriage houses and infill development should be encouraged in areas which:
- a. Transition between single family residential and other uses or densities;
  - b. Are served by an arterial street system with sidewalks;
  - c. Have nearby pedestrian access to public transit services; and
  - d. Are located within one-quarter mile of a neighborhood park or recreation area.



- LUP-7.8 Town home developments, accessory residential units, carriage houses and infill development should be encouraged to be accessed by service alleys when compatible with topography.
- LUP-7.9 Non-residential uses should be:
- a. Located within the Inglewood and Pine Lake Centers and the Sammamish Commons,
  - b. Sized appropriately to accommodate community business and services needs,
  - c. Located in areas with current or planned pedestrian access; and
  - d. Expanded only when it can be demonstrated that conditions have changed since the original non-residential classification boundaries were determined, and there is a demonstrated community need.
- LUP-7.10 All residential development shall provide park sites and/or contribute a fair share toward meeting park and outdoor recreation needs.
- LUP-7.11 All residential development should consider integration of surface water management as multiple use facilities including park sites in the dry months.

**GOAL LUG-8: Respect the character, integrity, and unique qualities of existing neighborhoods.**

*Residential Neighborhoods*

- LUP-8.1 Development standards for residential neighborhoods should create a consistent and compatible pattern of development. Development standards should address housing densities, lot dimensions and sizes, building setbacks and height, impervious surface limitations, access, and parking.
- LUP-8.2 Residential densities should be set, commensurate with the character of the City, to provide a housing inventory that includes a range of housing types to provide affordable housing to all economic segments of the community.
- LUP-8.3 Zoning regulations shall emphasize single-family dwellings as the principal use in the City's established single-family neighborhoods.
- LUP-8.4 Appropriately scaled schools, churches, home occupations, parks, open spaces, day care facilities and other such uses may be appropriate uses within a neighborhood.

Regulations within the City Code should contain clear and appropriate standards for siting and designing these uses.

- LUP-8.5      City regulations may allow for home occupations within residential zones that maintain the residential character.

### *Commercial and Economic Development Policies*

- LUP-8.6      To maintain the current business base, and allow for additional business consistent with the adopted land use pattern, the City should maintain accurate and up-to-date capital facility plans for transportation, surface water, and parks.
- LUP-8.7      New and expanding businesses in the City shall meet performance standards that restrict the adverse impacts including but not limited to: noise, vibration, smoke, fumes, surface or ground water pollution, air pollution, hazardous wastes and risk of explosion.
- LUP-8.8      To support residents and businesses of the City, City regulations should encourage adequate child care and adult care facilities.
- LUP-8.9      The City should foster the development and use of private/public partnerships to implement economic development policies, programs, and projects.
- LUP-8.10      Through cooperative planning efforts with other agencies, the City should support education and training programs that involve economically disadvantaged individuals (including, but not limited to, minorities, women, disabled persons, and others) in improving their economic future.
- LUP-8.11      The City should cooperate in efforts to establish regional economic diversification and development goals, strategies, and actions. Participation should be encouraged by other jurisdictions, labor, education, environment, and business interests.
- LUP-8.12      The City should monitor the achievement of Countywide Planning Policy employment targets on a periodic basis to determine if the community vision and regional goals are being met. Based on the monitoring the City may review its plans, policies, and regulations for potential amendment as needed.
- LUP 8.13      The City is a residential community and is exempt from the economic development element requirement of the Washington State Growth Management Act.



**GOAL LUG-9: Preserve and enhance the natural features and historic, cultural and archeological resources of the community.**

- LUP-9.1 The City shall continue to analyze and validate proposed reclassifications of properties to R-1 prior to implementation of the new classifications.
- a. The criteria for reclassification of parcels to R-1 shall include:
    - 1. Vacant and underdeveloped parcels in the Special Overlay District (SO) 190, identified in the King County East Lake Sammamish Watershed Management Committee Basin and Non-Point Action Plan report dated 1994 as having significant portions identified as “No Disturbance areas”.
    - 2. Vacant and underdeveloped parcels in the Special Overlay District (SO) 180, identified in the King County East Lake Sammamish Watershed Management Committee Basin and Non-Point Action Plan report dated 1994 as containing significant portions of class 1 wetland area, and associated buffer.
    - 3. Parcels containing significant portions of class 1 wetlands/associated buffer for which the Special Overlay District (SO) 180 was intended to protect.
    - 4. Parcels immediately adjacent to areas cited in subsections “1)”, “2)”, and “3)” in order to provide logical administrative boundaries and a consistent classification scheme.
  - b. The City may consider reclassifying only that portion of the property that meets the above criteria (i.e. split zoning), provided that a finding has been made that the City’s development regulations and/or voluntary actions of the property owner will adequately protect the designated environmentally sensitive area.
  - c. When evaluating the appropriateness of potential split zoning reclassifications, the City shall consider the zoning of neighboring parcels as well as practical and legal matters associated with administering the split zoning.
  - d. Owners of property targeted for potential R-1 down zones shall be notified by the City prior to an action on the proposed rezone and shall be given the opportunity to review City studies and to present additional information and analysis.
- LUP-9.2 Site characteristics that enhance community character, including clusters of existing trees, watercourses, historic features and similar assets should be preserved through sensitive site planning. Clustering may be used to protect these areas incorporating recreation areas and open space.
- LUP-9.3 The City should use regulations, incentives, open space acquisition, or where these measures are not adequate, use low density zoning to protect floodplains, riparian corridors, high value wetlands, and unstable slopes from degradation, and to encourage linking these environmental features into a network of open space, fish and wildlife habitat.

- LUP-9.4 Sammamish should encourage cultural resources and promote expanded cultural opportunities for residents to enhance the community's quality of life and economic vitality.
- LUP-9.5 Sammamish should protect identified cultural resources. The City should expand cultural opportunities for residents by encouraging public education, the celebration of artistic creativity, and cultural diversity.
- LUP-9.6 Sammamish should support and encourage development of city cultural resources by supporting and encouraging cultural organizations, facilities, and services that address a citywide audience or are dedicated to unique cultural themes.
- LUP-9.7 Sammamish should support and encourage community cultural organizations, facilities, and services to provide opportunities for local access and participation by all residents throughout the City.
- LUP-9.8 The City shall review and revise the City development regulations, as appropriate, to permit the repair or rebuilding of privately owned, community recreation facilities, including, but not limited to the Pine Lake Community Club building, Plateau Club, Sahalee Country Club, and others.
- LUP-9.9 The City may prepare and periodically update a community profile which includes the community history and maintain the profile as an appendix to the Comprehensive Plan.

**GOAL LUG-10: Preserve trees and other natural resources as integral components of the community's overall design.**

- LUP-10.1 Clustering of existing trees and native vegetation should be incorporated into site and building designs when appropriate. This policy should be implemented during design review and other land use reviews.

**GOAL LUG-11: Promote the use of greenscape as an important physical and visual element of site development.**

- LUP-11.1 New development shall incorporate "greenscape" as an integral part of site design.
- LUP-11.2 Landscaping shall be used to provide:
- a. Buffers between mixed use sites and adjacent parcels,
  - b. Buffers along street frontages,
  - c. Design unity to the three designated community centers and areas of the City,



- d. Shade and soften parking lots and other unsightly uses,
- e. Transition between different intensities of land uses,
- f. Transition between contrasting architectural styles; and
- g. Areas within the three designated community centers that give the center a sense of place.

LUP-11.3      Landscaping should use plant materials native to the Pacific Northwest, conserve water and maintain the character of the area.

**GOAL LUG-12:      Preserve scenic corridors and natural vistas.**

LUP-12.1      The City shall identify scenic view areas. These areas should be areas of public importance and natural vistas.

LUP-12.2      Additional scenic view areas should be designated upon annexation to the City.

LUP-12.3      The City shall identify corridors associated with scenic view areas and should develop regulations to protect and enhance these corridors.

LUP-12.4      The City shall identify community gateway areas. Such areas should:

- a. Promote a positive image of the community,
- b. Create a sense of place,
- c. Highlight community assets; and
- d. Establish a community identity.

LUP-12.5.      Design and zoning initiatives should be developed to control adverse visual impacts, promote compatible development and protect the positive features of the physical environment.

LUP-12.6      Streetscape improvements should reflect the community vision. The streetscape should include common elements such as signage, lighting, landscaping and furniture. Color, texture, rhythm and spacing, massing, bulk of the buildings should be considered in creating the streetscape.

LUP-12.7      The City should consider establishing a program to acquire property for public purposes consistent with the policies of this comprehensive plan. This evaluation should include consideration of the feasibility of both fee simple acquisition and the acquisition of development rights, as well as identification of potential funding sources, grants, and gifting strategies. Priorities for acquisition may include:

- a. Protection of environmentally sensitive areas,
- b. Preservation of view corridors,
- c. Preservation of parcels that convey a unique sense of the community's character or historical tradition,
- d. Parcels to provide breaks in development patterns along designated arterials,
- e. Passive and active recreation opportunities.

**GOAL LUG-13: Practice environmental stewardship by protecting, enhancing, and promoting the natural environment within Sammamish and the surrounding communities.**

- LUP-13.1 The City shall use innovative land use techniques to preserve open space and allow more efficient land use patterns.
- LUP-13.2 The City supports programs which promote the use of clean burning fuels and fuel efficient vehicles.

**GOAL LUG-14: Promote development design that maintains a harmonious relationship with the natural environment.**

- LUP-14.1 Residential development should fit in with the natural landscape, protect the privacy of other residences and maintain the character of the nearby neighborhoods.
- LUP-14.2 The City shall prepare development regulations that encourages creative and non-traditional alternatives to storm water management and design.
- LUP-14.3 Diversification of non-residential uses should be encouraged (including business or office parks) while mitigating or reducing the associated impacts of these activities on adjacent properties and the natural environment.

**GOAL LUG-15: Promote connectivity between neighborhoods.**

- LUP-15.1 The City should develop a trail system in accordance with the Support Policies – Encourage Planning, Development & Full Use of Trails and Greenways stated in the Park, Recreation and Open Space Comprehensive Plan, and **Chapter IX** of this Comprehensive Plan.
- LUP-15.2 The City should plan urban trail systems for multi-modal access to existing and new parks as an alternative to automobile access.



- LUP-15.3      The trail system should provide public access and visual corridors, link neighborhoods, activity centers, natural areas, and parks together. Sidewalks, bike paths and trails should be designed to provide safe linkages between residential and non-residential areas.
- LUP-15.4      New developments should be conducive to pedestrian, bicycles and public transit travel. New developments should connect to the trail and pathway system when possible.
- LUP-15.5      Street standards and site planning requirements for new development and redevelopment should ensure that neighborhoods throughout the city will be connected and accessible by all travel modes.
- LUP-15.6      The City should encourage the provision of pedestrian scale improvements that fit the context of the area. The color, materials, and form of pedestrian facilities and features should be appropriate to their surroundings, as well as the functional utility of the pedestrian trail system.

**GOAL LUG-16:      Develop Sammamish as a leading member in regional planning efforts.**

- LUP-16.1      The Sammamish Comprehensive Plan shall seek to be consistent with the Growth Management Act and the King County Countywide Planning Policies. All plans, policies, regulations adopted by the City shall be consistent with the Sammamish Comprehensive Plan.
- LUP-16.2      The City should continue to cooperate on a countywide and regional basis, with other governmental agencies and the private sector to inventory, plan for and monitor the land capacity for commercial, institutional, resource, critical area, open space and residential uses, estimated for six- and 20-year time periods.
- LUP-16.3      If service deficiencies are identified, the City should adopt Capital Improvement Programs to remedy deficiencies. The City should coordinate with other jurisdictions and service providers as needed.
- LUP-16.4      The City should plan in partnership with special districts, neighboring municipalities, King County, and the State of Washington. The City should strive to balance the differing needs identified by planning partners at various levels.
- LUP-16.5      The City shall coordinate with water and sewer districts to ensure that adequate water and sewer capacity exists or is proposed within the respective District's capital facilities plan to support development throughout the City.

- LUP-16.6 The City should examine the feasibility of annexing the adjacent unincorporated Urban Growth Area of King County not already identified as part of a neighboring city Potential Annexation Area. The feasibility study should take into account site-specific considerations, such as critical area designations, zoning, as well as the concerns of rural area residents, adjacent cities, and King County.
- LUP-16.7 The City shall coordinate future planning and interlocal agreements for annexation areas with the appropriate agencies.
- LUP-16.8 The City shall, in consultation with King County and neighboring jurisdictions as appropriate, identify, and evaluate the designation of Potential Annexation Areas, including but not limited to the following areas in unincorporated King County:
- a. Areas within the Sammamish Plateau and/or the NE Sammamish Sewer and Water Districts,
  - b. Property owned by the City of Sammamish abutting the current City limits, including, but not limited to, the Evans Creek Preserve,
  - c. Parcels between the existing city limits and SR 202 between Duthie Hill Road and 187th Avenue SE,
  - d. Aldera Farms and neighboring properties.
- When evaluating Potential Annexation Areas the City shall conduct such environmental assessments as may be required by law, and shall consider the efficient and cost effective delivery of services in accordance with the provisions of the Washington State Growth Management Act.
- LUP-16.9 The City should coordinate with King County to plan consistently within any designated Potential Annexation Areas for the City. The coordinated plans should address appropriate service standards.
- LUP-16.10 Where Potential Annexation Areas are designated, the City should allow for annexation of unincorporated territory when residents or property owners request annexation.
- LUP-16.11 The City should ensure that newly annexed lands are zoned in accordance with the Sammamish Comprehensive Plan Land Use Map and policies.

**GOAL LUG-17: Develop and implement plan and regulatory amendment and development permit processes that are participatory, timely, predictable, and fair to all affected parties.**

- LUP-17.1 The City should undertake the following responsibilities in the development review process:



- a. Prepare and maintain a Comprehensive Plan with community-wide policies and area-specific policies that embody the community vision,
- b. Prepare and maintain development regulations that implement the City's plans, include all significant development requirements, are clearly written, and can be efficiently and effectively carried out,
- c. Base land use decisions, conditions and performance guarantee requirements on written, clear and objective standards to the greatest extent possible,
- d. Provide ways for applicants to obtain early City responses to development proposals,
- e. Be responsive to the entire community, including local residents, property owners, businesses and those who work in the City,
- f. Treat all members of the public fairly,
- g. Engage the public in the review of plans, regulations and development proposals,
- h. Review and make decisions on development applications in a timely and predictable manner; and
- i. Ensure the development review process conforms with the goals and policies of King County Countywide Planning Policies and the Growth Management Act.

- LUP-17.2 Applicants should undertake the following responsibilities in the development review:
- a. Use processes for early review of proposals, such as pre-application conferences, where appropriate to review the scale and nature of the proposal,
  - b. Involve the neighborhood early in the design process, where appropriate to review the scale and nature of the proposal; and
  - c. Provide project information appropriate to the level of review as soon as possible.
- LUP-17.3 The public shall be afforded opportunity to be involved in the development, review and implementation of the Comprehensive Plan. The issues addressed in the public involvement process should be tailored to the decision-making level. Issues relating to the development pattern and the general location and intensity of uses should be decided in the Comprehensive Plan.
- LUP-17.4 Community Center business and property owners, employees, customers, and neighboring residents shall be given opportunity to be involved in the development and implementation of the community center plans. Community Center plans should address issues and opportunities of local significance. Individual project reviews should address compliance with prior decisions embodied in the Comprehensive Plan, the applicable community center plan and other applicable regulations as well as site-specific issues.
- LUP-17.5 The Comprehensive Plan, development regulations, City and other agency functional plans and budgets should be mutually consistent and reinforce each other.

- LUP-17.6      The City should review existing development regulations to ensure that P-suffix and SO regulations have been adequately incorporated to provide the desired land use and environmental protection.

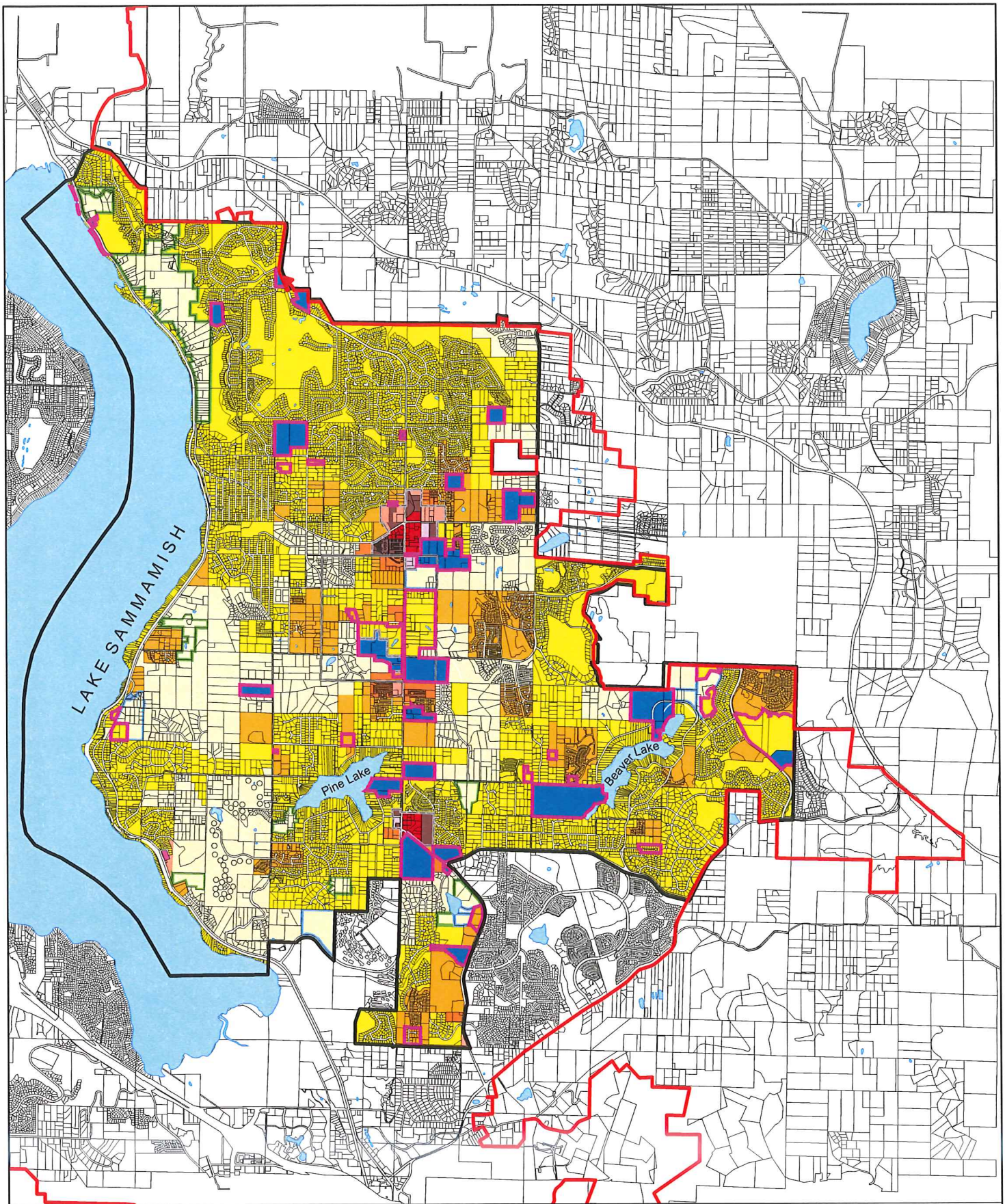
## **REFERENCES**

Bucher, Willis & Ratliff (April 4, 2002). Memo " City of Sammamish – Growth Control Tools (Task 3.1)." Seattle, WA.

EDAW, Inc. (December 2001). *Final Report: Analysis of Population Projections, Existing Land Use, and Development Capacity for the City of Sammamish.* Seattle, WA.

King County Growth Management Planning Council (November 2002). *Countywide Planning Policies.* Seattle, WA.





## Comprehensive Land Use Plan

Plot Date: September 2003

### Legend:

- |             |                           |             |      |       |     |      |                         |                            |                            |
|-------------|---------------------------|-------------|------|-------|-----|------|-------------------------|----------------------------|----------------------------|
| UGA         | Community Center/Commons  | Zone Change | Lake | R 1-4 | R-4 | R-8  | R-18                    | Office (O)                 | Public/Institutional (P/I) |
| City Limits | Subarea Planning Boundary | Tax Lots    | R-1  | R 1-6 | R-6 | R-12 | Community Business (CB) | Neighborhood Business (NB) |                            |

R - # = Residential Units Per Acre. SOURCES: King County GIS CD #3 Standard Data, dated March 2002.

DISCLAIMER: This map is derived from various data sources and depicts the Comprehensive Plan land use designations. While care has been taken to ensure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. The map is provided "as is" and is the basis of future zoning maps.



Scale 1 = 1 Mile  
Miles  
0.5 0.25 0 0.5

**Figure III-2**



## **IV. ENVIRONMENT & CONSERVATION ELEMENT**

### **VISION**

The Vision Statement and Vision Ideals provided in the Introduction to this Comprehensive Plan reflect a strong emphasis on the value of and need to protect environmentally sensitive features:

- Preserve trees and green ways by encouraging the preservation or development of large areas of greenery which provide a visual impact as opposed to creating small areas of unusable residue.
- Protect and enhance streams, wetlands and wildlife corridors.
- Maintain a harmonious relationship between the natural environment and future urban development.

This element furthers this vision by providing policy direction for the City's active role in participating in regional environmental protection efforts, developing and applying local environmental regulations, promoting education, and other programs.

### **PRIMARY ISSUES**

#### **Environmental Setting**

The large majority of the geographical boundaries for the City of Sammamish are within the East Lake Sammamish Basin with westward flows towards, and into Lake Sammamish. The City also includes portions of the Evans Basin to the northeast, Patterson Creek Basin to the east, and Issaquah Creek Basin to the south. Within each basin are sub-basins (see **Figure IV-1 and Appendix A**).<sup>1</sup>

The Sammamish Plateau is the distinguishing topographic feature in the City, rising from about 50 feet at the Lake Sammamish shoreline to about 500 feet above Lake Sammamish. There are numerous wetlands, streams, and lakes, including Pine Lake and Beaver Lake. The streams flow in a predominantly western direction from the lake and wetland headwaters over the plateau and then flow down the steep erosive slopes through ravines ultimately discharging to Lake Sammamish. (Tina Miller, King County 1999, "Draft East Lake Sammamish Basin Plan ESA Review").

#### **Regulatory Setting**

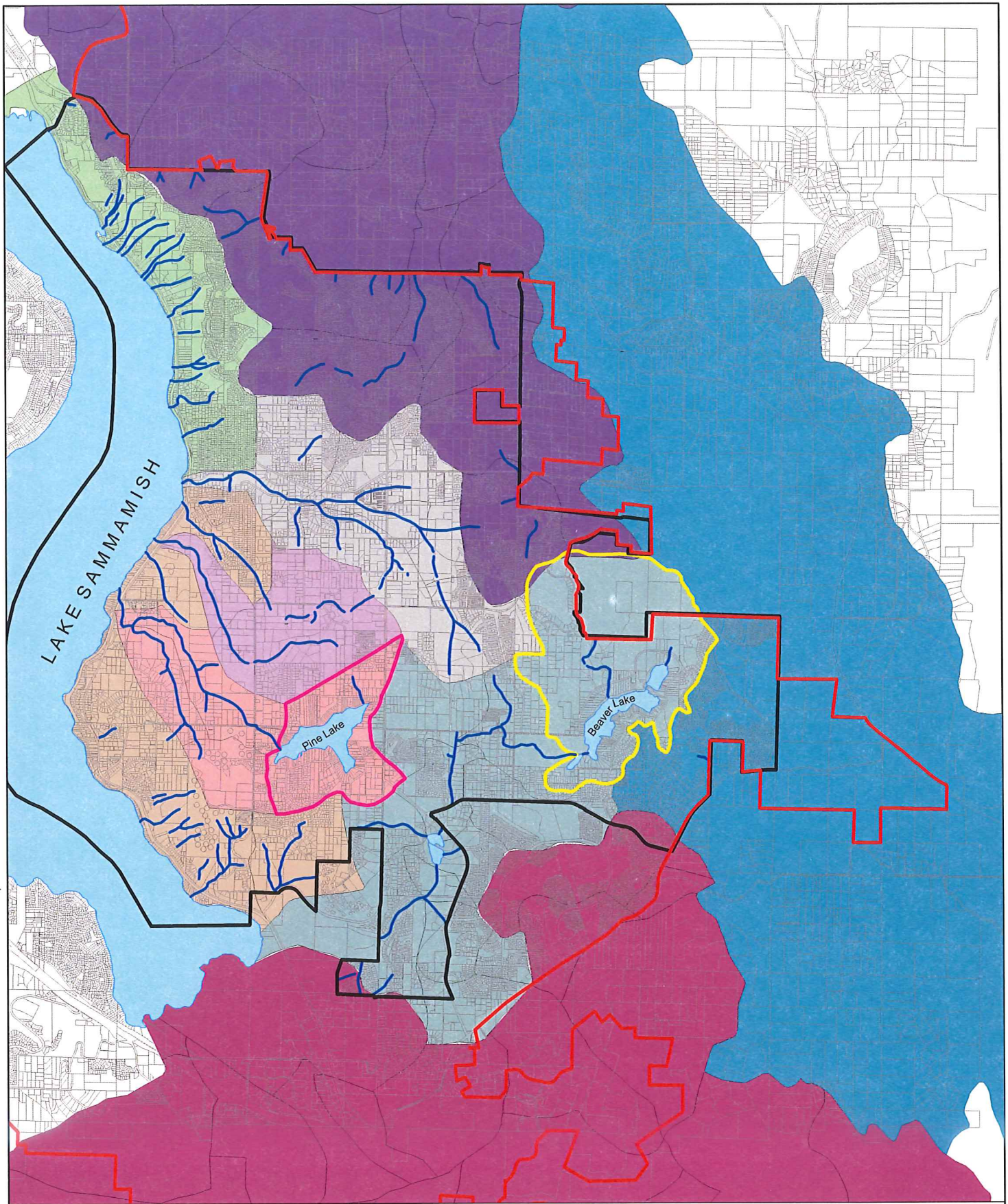
##### **State Growth Management Act**

The Growth Management Act and RCW 36.70A.040 requires that open space be identified and protected as described in RCW 36.70A.160, and that Critical Areas be designated and protected as described in RCW 36.70A.170.

<sup>1</sup> Figure IV-1 is a general representation of drainage basin boundaries based upon King County information developed through basin plans. Some of the basin boundaries could require revision due to additional area-specific review. For example, the "Master Drainage Plan – Patterson Creek Basin: The Beaverdam Property," identified a basin boundary correction between Evans Creek and Patterson Creek Basins. Other basins are known to have basin limit differences, and remapping is planned.

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## Drainage Subbasin Delineation

Plot Date: September 2003

### Legend:

|             |               |            |           |           |           |                 |                            |
|-------------|---------------|------------|-----------|-----------|-----------|-----------------|----------------------------|
| UGA         | City Tax Lots | Lakes      | Issaquah  | Monohon   | Pine Lake | Patterson       | Beaver Lake Mgmt. District |
| City Limits | Streams       | Bear Evans | Inglewood | Panhandle | Thompson  | Laughing Jacobs | Pine Lake Drainage Area    |

SOURCES: King County GIS CD#1, 3 Standard Data dated April 2003.

DISCLAIMER: This map is derived from various data sources. While care has been taken to ensure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. "This map is provided, "as is."

Scale 1 Inch = 1 Mile

Miles  
0.5 0.25 0 0.5



**Figure IV-1**

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The Growth Management Act provides 13 planning goals intended to guide Comprehensive Plans and Development Regulations prepared by local jurisdictions (RCW 36.70A.020). Several GMA goals relate directly or indirectly to the environment and conservation:

- (2) Reduce sprawl. Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.
- (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.
- (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.
- (10) Environment. Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.
- (13) Historic preservation. Identify and encourage the preservation of lands, sites, and structures, that have historical or archaeological significance.

While the GMA does not mandate a Plan Element specifically devoted to the Environment or Historic Preservation, it is understood through the GMA goals, related elements such as land use, best available science provisions, as well as critical area regulation requirements that a community's environmental and historical features should be considered in preparing a Comprehensive Plan. GMA does not limit optional topics and suggests "conservation" as a possible optional element.

### **State Shoreline Management Act**

Shoreline Master Programs are required by the State Shoreline Management Act (RCW 90.58) for Shorelines of the State. Shoreline Master Programs must include goals and policies related to shoreline uses, conservation, economic development, public access, recreation, circulation, and housing. Development regulations for specific shoreline uses must be included as well.

To better coordinate Growth Management Act (GMA) and Shoreline Management Act (SMA) requirements, GMA was amended in 1995. The goals and policies found in a Shoreline Master Program are considered an element of the Comprehensive Plan. The development regulations required as part of Shoreline Master Programs are considered part of a jurisdiction's development regulations.

The Washington State Department of Ecology is preparing new Shoreline Master Program Guidelines, after prior drafts have been appealed. In accordance with State requirements, cities and counties must amend their Shoreline Master Programs within two years of the State completing its guidelines. Unlike other Growth Management Act elements which only receive review and comment from State agencies, Shoreline Master Programs require State approval.

The County's Shoreline Master Program is considered the program in effect for the City of Sammamish. State law provides that Shoreline Master Programs of the prior governing body apply until a new Shoreline Master Program is prepared by the new jurisdiction and approved by the State.

### **Federal Laws - Endangered Species Act**

In addition to considering the State Growth Management Act (GMA) requirements and State Shoreline Act requirements, the City must be cognizant of the Endangered Species Act. In March 1999, the Puget Sound chinook salmon was listed as a "threatened" species under the Endangered Species Act (ESA).

The Coastal Puget Sound bull trout was listed as threatened in November 1999. It is anticipated that listing of other salmonid species including the native kokanee from Ebright Creek and other Sammamish creeks may follow.

These listings carry with them restrictions on any activities that would significantly affect the aquatic habitat of these species. Activities that alter patterns of runoff, alter water quality, or that physically alter streams or riparian corridors will have harmful effects on fish.

Wild Pacific salmon have great cultural, economic, recreational and symbolic importance to the Puget Sound region. It is a regional goal to ensure long-term protection of salmon resources to harvestable levels for today and tomorrow, with the least economic impact possible. Successful restoration and maintenance of healthy salmon populations will require time, money and effort, and collaboration with federal, state, tribal and local governments, as well as businesses, environmental groups, and citizens. To meet this goal, the City will need to consider salmon when making decisions about land use and development, providing facilities and services, maintaining roads, parks, and flood control facilities, and building new capital improvement projects.

Local governments in the Puget Sound region, in cooperation with state and tribal governments and other major stakeholders, have established a Tri County partnership to identify early actions and develop long-term conservation strategies. The early actions will focus on protecting salmon habitat in order to preserve options for recovery. The long-term conservation strategy will be developed at the Watershed Resource Inventory Area (WRIA) level. The boundaries of WRIs are defined under state regulations, and generally adhere to the watershed boundaries of major river or lake systems.

Sammamish contains a number of wetlands, river and stream reaches that are important to the viability of fish and wildlife populations and are therefore considered biological, social and economic resources. Salmon-bearing streams do pass through the City of Sammamish, including but not limited to, Ebright Creek, Pine Lake Creek, and Laughing Jacobs Creek.

Some resource areas were previously identified through basin plans and other resource inventory efforts, and are categorized by the County as either Regionally Significant Resource Areas (RSRAs) or Locally Significant Resource Areas (LSRAs). The County indicates the RSRAs contribute to the resource base of the entire Sammamish Watershed by virtue of exceptional species and habitat diversity and abundance, and may also support rare, endangered or sensitive species, including threatened salmonids. The County identified LSRAs as contributing to the aquatic resources within a specific basin, when compared to aquatic and terrestrial systems of similar size and structure elsewhere in the basin. They also provide wetland and stream habitat that is important for wildlife and salmonid diversity and abundance within the basin. As Water Resource Inventory Area plans are prepared in compliance with the Endangered Species Act, additional resource areas will be identified and analyzed to determine appropriate levels of resource protection.

The challenge of this plan is to balance the need to meet density goals, while ensuring all development occurs in accordance with the provisions and requirements of the Endangered Species Act. To meet this challenge, a variety of regulatory and non-regulatory tools and programs will be needed.

### **Additional Agency Coordination**

Sammamish needs to coordinate many programs with other groups and agencies. Coordination with the Washington State Department of Ecology and affected jurisdictions is necessary to comply with mandates



of the Clean Water Act that address point and non-point source pollution. Further coordination with air quality agencies, such as the Puget Sound Clean Air Agency and Puget Sound Regional Council, is needed to exchange information and develop consistent programs. Coordination with water service providers who use ground water sources is necessary to protect the region's ground water quantity and quality.

### **Air Quality**

The preservation of clean air is essential to the quality of life enjoyed by the residents of Sammamish, to avoid loss of scenic visibility, odor, dirt and unhealthy air. Motor vehicles and wood burning stoves and fireplaces are the primary cause of air pollution.

Panoramic views are treasured as an important part of quality of life in Sammamish. Reduced visibility is caused by weather (clouds, fog, and rain) and air pollution (fine particles and gases). The most important pollution contributor is fine particulate matter (PM2.5) emissions, which are transported aloft and may remain suspended for a week or longer.

Air quality is generally assessed in terms of concentrations of air-borne pollutants being higher or lower than ambient air quality standards set to protect human health and welfare. To measure existing air quality, the Washington State Department of Ecology and PSCAA maintain a network of monitoring stations throughout the Puget Sound region. Based on monitoring information collected over time, state (Ecology) and federal (EPA) agencies designate regions as being "attainment" or "nonattainment" areas for particulate air pollutants. Attainment is a measure of whether National Ambient Air Quality Standards (NAAQS) are being met. Six monitored pollutants are commonly found in the Puget Sound region:

- PM10/PM2.5
- Carbon Monoxide (CO)
- Nitrogen Dioxide (NO2)
- Ozone (O3)
- Sulfur Dioxide (SO2)
- Lead (Pb)

At present, the region is in attainment of federal and local air quality standards for the six monitored pollutants. The airshed is close to exceeding the annual standard for PM2.5. The Puget Sound area currently complies with the ozone standard, though by a slim margin. ([www.pscleanair.org/airq/pollution](http://www.pscleanair.org/airq/pollution))

### **Wetlands**

Wetlands are transitional areas between aquatic and upland habitats and are identified based upon three parameters: hydrology, soils and vegetation. Wetlands are formally identified and delineated according to the methods in the *Washington State Wetland Identification and Delineation Manual* (Department of Ecology, 1997). Under normal circumstances, wetlands include the following three components:

- Presence of water (hydrology) or an indication of at least the seasonal presence of water,

- Unique soils (hydric soils) that differ from upland soils due to anaerobic conditions resulting from prolonged or frequent saturation or flooding; and
- A dominance of plants adapted to growing in wet conditions (hydrophytic vegetation).

Wetlands provide a variety of functions. Wetlands retain water, provide time for filtration and settling of suspended solids, and recharge groundwater supplies. Wetlands moderate floodwaters via storage and conveyance. Wetlands also provide habitat for a variety of aquatic and terrestrial plant and animal species.

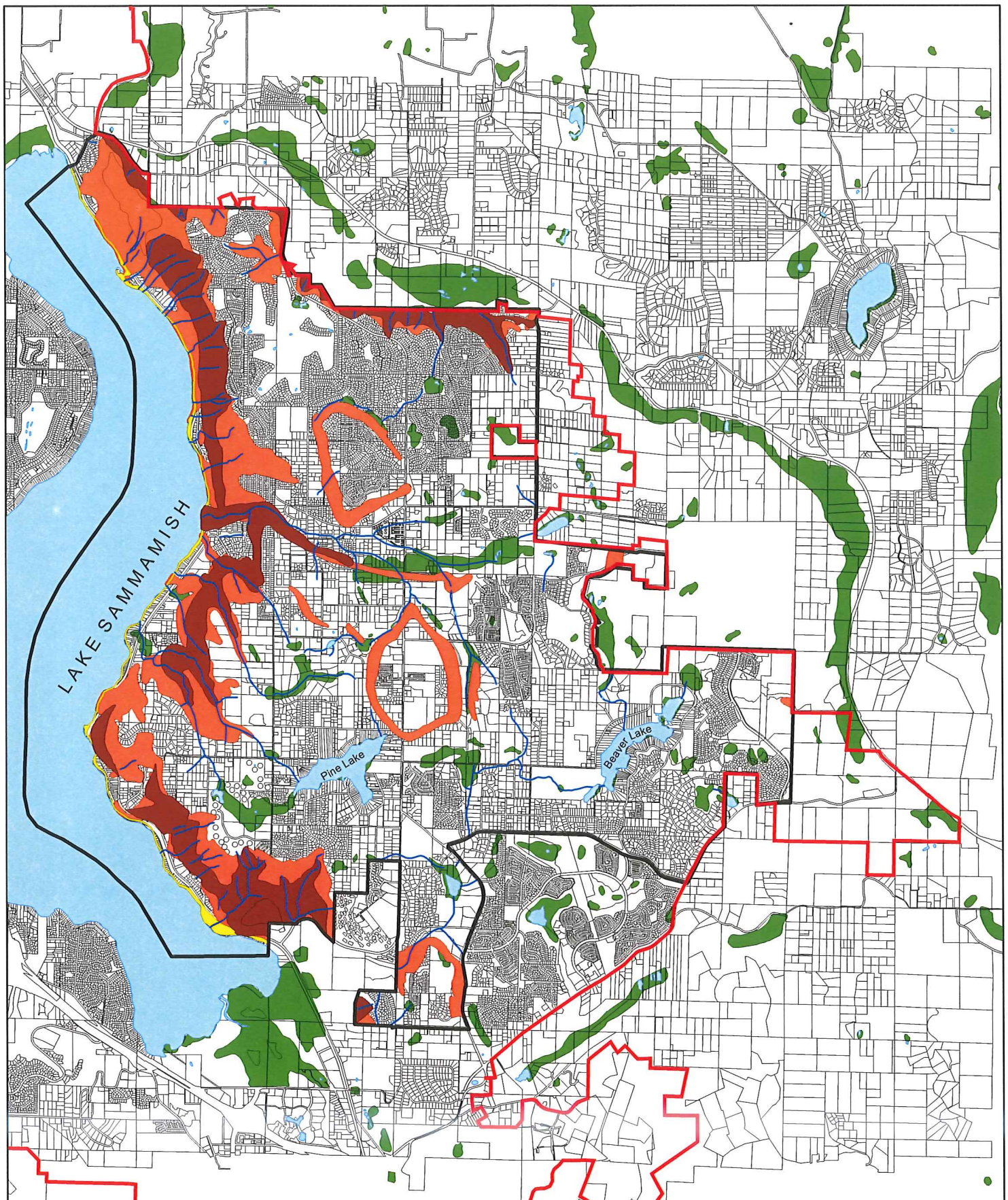
There are approximately 530 acres of wetlands in the City of Sammamish. Deforestation, filling, drainage, agriculture, or removal of buffers have disturbed almost all of the City's wetlands to some extent (*2001 City of Sammamish Stormwater Comprehensive Plan*). The wetlands have been classified according to a wetland rating system developed by King County whereby wetlands of Class 1 are considered the highest functioning and quality and the other Categories 2 and 3 show lower quality/functioning wetlands. The following table identifies wetland acreage as inventoried by King County and reported in the *City of Sammamish Stormwater Comprehensive Plan*. **Figure IV-2** identifies wetlands generally, and **Appendix A** contains a map from the 1990 King *Sensitive Areas Map Folio*, which provides the corresponding wetland numbers listed in **Table IV-A** listed below.



**TABLE IV-A  
INVENTORY OF WETLANDS AND ASSOCIATED LAKES  
PARTIALLY OR ENTIRELY LOCATED IN CITY OF SAMMAMISH**

| Name                                       | Location (S,T,R)                       | Access                           | Acreage | Class        |
|--------------------------------------------|----------------------------------------|----------------------------------|---------|--------------|
| <b>Evans Creek Sub-basin</b>               |                                        |                                  |         |              |
| Evans Creek 27<br>(Gazebo Bog)             | NW-NW 27, 25N, 6E                      | 229th Avenue NE / NE 21st Street | 11.0    | 1            |
| Evans Creek 28                             | NW-NE 28, 25N, 6E                      | 220th Place NE                   | 3.2     | 2            |
| Evans Creek 29                             | SW-NE 28, 25N, 6E<br>SE-NE 28, 25N, 6E | 228th Avenue NE / NE 20th Street | 5.5     | 2            |
| Evans Creek 30                             | SW-NE 27, 25N, 6E<br>NW-SW 27, 25N, 6E | 228th Avenue NE                  | 7.6     | 2            |
| Evans Creek 31<br>(Mystic Lake<br>Wetland) | S-NE 27, 25N, 6E<br>NE-SE 27, 25N, 6E  | 244th Avenue NE / NE 14th Street | 13.0    | 1            |
| Evans Creek 32                             | SE-SW 27, 25N, 6E                      | NE 8th Street & Pipeline         | 5.5     | 2            |
| Evans Creek 37                             | NW 35, 25N, 6E                         | E Main Drive                     | 1.8     | 2            |
| Evans Creek 43                             | SW-NW 35, 25N, 6E                      | 224th Avenue NE                  | 1.2     | 3            |
| Evans Creek 65a                            | NE-NE 18, 25N, 6E                      | 192nd Drive NE                   | 19.5    | Unclassified |
| Evans Creek 66b                            | N-N 20, 25N, 6E                        | Sahalee Way NE                   | 5.0     | Unclassified |
| Evans Creek 70b                            | NW 27, 25N, 6E                         | 244th Avenue NE / NE 20th Street | 10.8    | Unclassified |
| Evans Creek 71b                            | SE 27, 25N, 6E                         | 244th Avenue NE / NE 14th Street | 3.4     | Unclassified |
| <b>East Lake Sammamish Sub-basin</b>       |                                        |                                  |         |              |
| E. Lk. Samm. 2                             | SW-SW 27, 25N, 6E                      | NE 8th Street                    | 1.8     | 2            |
| E. Lk. Samm. 9                             | N 34, 25N, 6E                          | 228th Avenue SE & E. Main Street | 55.0    | 1            |
| E. Lk. Samm. 10<br>(Saddle Swamp)          | S 35, 25N, 6E<br>NE 2, 24N, 6E         | Beaver Lake Drive SE             | 31.3    | 1            |
| E. Lk. Samm. 11                            | SE-SW 34, 25N, 6E<br>SW-SW 34, 25N, 6E | 228th Avenue SE / SE 8th Street  | 3.6     | 2            |
| E. Lk. Samm. 12                            | SE-SE 33, 25N, 6E                      | 228th Avenue SE                  | 0.7     | 3            |
| E. Lk. Samm. 14                            | NW-NW 4, 24N, 6E                       | SE 8th Street                    | 2.8     | 2            |
| E. Lk. Samm. 17                            | SW-NW 4, 24N, 6E<br>SE-NW 4, 24N, 6E   | 212th Avenue SE / SE 14th Street | 32.0    | 2            |
| E. Lk. Samm. 18                            | SW-NE 3, 24N, 6E<br>NE-SE 3, 24N, 6E   | 236th Avenue SE / SE 8th Street  | 17.2    | 2            |
| E. Lk. Samm. 19                            | SE-SW 35, 25N, 6E                      | NE 8th Street                    | 1.0     | 2            |
| E. Lk. Samm. 21                            | NW-NW 1, 24N, 6E<br>SW-NW 1, 24N, 6E   | Beaver Lake Road                 | 13.4    | 1            |
| E. Lk. Samm. 24                            | SE-NW 11, 24N, 6E                      | SE 24th Street & Power lines     | 0.9     | 2            |
| E. Lk. Samm. 26                            | SE-SW 3, 24N, 6E<br>SW-SE 3, 24N, 6E   | 236th Avenue SE / SE 24th Street | 37.0    | 1            |
| E. Lk. Samm. 29                            | NE-NE 8, 24N, 6E                       | SE 24th Street                   | 2.5     | 2            |
|                                            |                                        |                                  |         |              |
|                                            |                                        |                                  |         |              |
| E. Lk. Samm. 30                            | SW-NW 9, 24N, 6E<br>NE 8, 24N, 6E      | 212th Avenue SE                  | 67.0    | 1            |





## Environmentally Sensitive Areas

Plot Date: September 2003

### Legend:

- UGA
- City Limits
- City Tax Lots
- Lakes
- Streams
- Erosion
- Wetlands
- Flood
- Landslide
- Wildlife corridor (King County)

SOURCES: King County GIS CD #3, Standard Data, dated April 2003.

DISCLAIMER: This map is derived from various data sources. While care has been taken to ensure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided "as is".

Scale 1 inch = 1 Mile

Miles  
0.5 0.25 0 0.5



**Figure IV-2**



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**TABLE IV-A (cont.)**  
**INVENTORY OF WETLANDS AND ASSOCIATED LAKES**  
**PARTIALLY OR ENTIRELY LOCATED IN CITY OF SAMMAMISH**

| Name                                      | Location (S,T,R)                       | Access                                    | Acreage | Class        |
|-------------------------------------------|----------------------------------------|-------------------------------------------|---------|--------------|
| E. Lk. Samm. 32                           | NW-SE 9, 24N, 6E<br>SW-SE 24N, 6E      | 223rd Avenue SE                           | 0.8     | 3            |
| E. Lk. Samm. 33                           | SE-SE 9, 24N, 6E                       | 225th Avenue SE                           | 1.2     | 2            |
| E. Lk. Samm. 35                           | NE-NW 11, 24N, 6E<br>NW-NE 11, 24N, 6E | 252nd Avenue SE                           | 4.0     | 2            |
| E. Lk. Samm. 39<br>(Laughing Jacobs Lake) | SE-SW 10, 24N, 6E                      | Pine Lake-Issaquah Road                   | 21.0    | 1            |
| E. Lk. Samm. 57                           | SW-NW 1, 24N, 6E<br>SE-NE 2, 24N, 6E   | W. Beaver Lake Drive SE                   | 3.0     | 2            |
| E. Lk. Samm. 58                           | SW-SE 9, 24N, 6E                       | 219th Avenue SE / SE 37th Street          | 3.7     | 1            |
| E. Lk. Samm. 59                           | NE-NW 34, 25N, 6E<br>NW-NW 34, 25N, 6E | 223rd Avenue NE                           | 6.3     | 2            |
| E. Lk. Samm. 61                           | NW-NE 4, 24N, 6E                       | 228th Avenue SE                           | 5.0     | 1            |
| E. Lk. Samm. 62                           | SW-SE 33, 25N, 6E                      | 228th Avenue SE                           | 0.4     | 3            |
| E. Lk. Samm. 63                           | SE-SE 5, 24N, 6E                       | 212th Avenue SE / SE 24th Street          | 2.8     | 2            |
| E. Lk. Samm. 65                           | NE-NE 6, 24N, 6E<br>NW-NW 5, 24N, 6E   | E. Lake Sammamish Parkway / SE 8th Street | 7.5     | 2            |
| E. Lk. Samm. 66                           | SW-SE 3, 24N, 6E<br>NW-SE 3, 24N, 6E   | 236th Avenue SE                           | 2.1     | 2            |
| E. Lk. Samm. 74                           | SW-SW 15, 24N, 6E                      | 227th Place SE / SE 48th Street           | 0.7     | 3            |
| E. Lk. Samm. 76b                          | NE-NE 5, 24N, 6E                       | 212th Avenue SE                           | 3.3     | Unclassified |
| E. Lk. Samm. 77                           | SE-NE 33, 25N, 6E                      | 228th Avenue NE / Main Street             | 58.0    | 2            |
| E. Lk. Samm. 80b                          | SE 33, 25N, 6E                         | SE 4th Street                             | 2.3     | Unclassified |
| E. Lk. Samm. 81b                          | SE 34, 25N, 6E                         | SE 8th Street                             | 1.4     | Unclassified |
| E. Lk. Samm. 82b                          | SE-SE, 3, 24N, 6E                      | SE 24th Street                            | 2.4     | Unclassified |
| E. Lk. Samm. 91b                          | W 15, 24N, 6E                          | SE 42nd Street                            | 4.0     | Unclassified |
| <b>Patterson Creek Sub-basin</b>          |                                        |                                           |         |              |
| Patterson Crk. 15                         | SW-SE 1, 24N, 6E<br>NW-SE 1, 24N, 6E   | Beaver Lake Drive SE                      | 4.6     | 2            |
| Patterson Crk. 16                         | SE-SE 1, 24N, 6E<br>SW-SE 1, 24N, 6E   | SE 27th Street                            | 3.4     | 2            |
| Patterson Crk. 17                         | SW-SW 1, 24N, 6E                       | East Beaver Lake Drive                    | 2.8     | 1            |
| Patterson Crk. 18                         | NE-NW 12, 24N, 6E<br>SE-NW 12, 24N, 6E | Duthie Hill Road                          | 10.1    | 1            |
| Patterson Crk. 24                         | NE-NW 12, 24N, 6E                      | Duthie Hill Road                          | 1.8     | 1            |
| Patterson Crk. 25                         | SW-SW 1, 24N, 6E<br>SE-SW, 1, 24N, 6E  | Beaver Lake Drive SE                      | 4.7     | 2            |
| Patterson Crk. 26                         | SW-SW 1, 24N, 6E                       | Duthie Hill Road                          | 3.0     | 2            |

Source: King County, March 1990 (further field studies required to confirm wetland delineation), as reported in the 2001 *City of Sammamish Stormwater Comprehensive Plan*.

Sammamish has adopted King County's Sensitive Area Regulations on an interim basis with some modifications (i.e. increasing buffer widths by 50 feet on Class 1 wetlands). For the Class 1, 2, and 3 wetlands, the following buffer requirements apply at the time of this writing:

- Class 1 Wetland – 150 feet
- Class 2 Wetland – 50 feet
- Class 3 Wetland – 25 feet



The regulations allow for the possibility of wetland alteration if certain criteria are met, such as minimizing the area to be altered and if there is wetland creation, restoration or enhancement of wetlands on another portion of the site or within the same drainage basin.

There are special wetland regulations, SO-180, that apply in the East Lake Sammamish basin to nine Class 1 wetlands and the properties in their vicinity, including impervious surface limits, clustering provisions, open space set-asides and grading requirements, in addition to the standard sensitive area regulations which regulate buffers.

### **Streams and Lakes**

Within the various drainage basins of the City are stream courses where surface waters produce a defined channel or bed. There are also lakes, the most sizeable of which are Lake Sammamish, Pine Lake, and Beaver Lake. Laughing Jacobs Lake is considered technically an open water wetland due to its small size (*East Lake Sammamish Basin Conditions Report - Preliminary Analysis*, King County, 1990). **Figure IV-2** and **Appendix A** shows the stream courses and lakes in the City and vicinity.

Class 1 streams are those streams with a mean annual flow of 20 cubic feet per second (cfs) or greater. These streams are regulated as Shorelines of the State under the State Shoreline Management Act. Class 2 streams are smaller than Class 1 streams, flow year-round during years of normal rainfall, or are those used by salmonids. Class 3 streams are intermittent or ephemeral during years of normal rainfall and are not used by salmonids.

At the time of this writing, Sammamish has adopted King County stream regulations on an interim basis with modifications (additional 50 foot buffer for Class 1). The buffer requirements in the City's sensitive area regulations applicable to streams are:

- Class 1 Streams – 150 feet
- Class 2 used by salmonids – 150 feet
- Class 2 streams not used by salmonids – 50 feet
- Class 3 streams – 25 feet
- Unclassified – a study is required to determine stream class

Class 1 streams are also considered Shorelines of the State. Activities or developments proposed within 200 feet of Shorelines of the State are reviewed under the jurisdiction's required Shoreline Master Program. The Shoreline Master Program applies to Class 1 streams and other State shorelines, specifically streams with mean annual flows of 20 cubic feet per second (cfs) or greater, or lakes 20 acres or greater in size. In Sammamish, lakes regulated under the Shoreline Master Program (Title 25 ISDC) include Lake Sammamish, Pine Lake and Beaver Lake. In addition, wetlands considered "associated" with State Shorelines are also regulated by the Shoreline Master Program. Sammamish, Pine and Beaver lakes are large open water bodies and are not considered wetlands or streams in determining required buffer widths. Where wetlands are associated with these lakes, they are primarily Class 1 wetlands, and would require Class 1 wetland buffers. Lake setbacks are based upon the "shoreline environment designation" of a particular area of a lake. Natural environments are most restrictive in terms of uses and standards and Urban environments are the least restrictive. In the City of Sammamish, two environmental designations dominate: Conservancy (50-foot setbacks for residences) and Rural (20-foot setbacks for residences).

In cases of incorporation or annexation, State law provides that Shoreline Master Programs of the prior governing body apply until a new Shoreline Master Program is prepared by the new jurisdiction and approved by the State. The County's Shoreline Master Program (currently considered the regulations in effect for the City of Sammamish) includes environment designations of Urban, Conservancy, Rural and Natural for the regulated water bodies. On all water bodies, the designations change based upon environmental and development conditions. Due to state requirements (pending Shoreline Master Program Guidelines, critical areas regulations to utilize "best available science") and the recent listings under the Endangered Species Act, it is likely that buffers and setbacks will be revisited for lakes and streams.

The streams and lakes have been characterized in terms of water quality and habitat in the 2001 *City of Sammamish Stormwater Management Comprehensive Plan* (based on King County source documents) as well as the 2001 and 2002 *King County Lake Water Quality* reports summarized in the Table below.

| TABLE IV-B<br>STREAM AND LAKE SUMMARY             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WATER BODY/CLASS                                  | SUMMARY OF WATER QUALITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | SUMMARY OF HABITAT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>George Davis Creek (WRIA 08-0144), Class 2</b> | Livestock access to the headwaters of George Davis Creek has caused nutrient and bacteria levels to exceed state standards during storm events. Stormwater samples from commercial areas contain high concentrations of bacteria, suspended solids, and heavy metals that enter tributary 08-0144D during periods of heavy rainfall. ... Fecal coliform, total phosphorus, and copper concentrations at a sampling point identified as ELSWQ2 exceeded water quality criteria or recommendations during the April 23, 1990, storm event on tributary 08-0144 at 228th Avenue, SE. The final section 303(d) list included George Davis Creek as impaired by fecal coliform.                                                                                                                                                                                                                | George Davis Creek (WRIA 08-0144) is a Class 2 stream with salmonids downstream (west) of the confluence of tributaries at approximately 220th Place NE. Species identified in this creek are coho salmon, cutthroat trout, and rainbow trout. Upstream of this location, the mainstem and tributaries are categorized as Class 3 waters. Four impassable fish barriers are shown in the East Lake Sammamish (ELS) Basin and Action Plan, three located near the mouth of George Davis Creek and the other downstream of the intersection of NE 6th Street and 216th Avenue NE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Zaccuse Creek (WRIA 08-0146); Class 2</b>      | The area of Zaccuse Creek has easily erodible sand underlying much of the western slope. As a result, stream-channel incision is ubiquitous in this drainage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Zaccuse Creek (WRIA 08-0146) is a Class 2 stream with salmonids downstream (west) of 212th Avenue SE. Species identified in this creek are coho salmon and cutthroat trout. Upstream of 212th Avenue, the stream is categorized as Class 3. There is an impassable fish barrier at the culvert crossing beneath East Lake Sammamish Parkway.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Ebright Creek (WRIA 08-0149); Class 2</b>      | Problems in the Ebright Creek subbasin include bed and bank erosion in the upper and middle reaches of Ebright Creek, resulting in sedimentation of lower reach salmonid spawning and rearing habitat and of culverts under East Lake Sammamish Parkway. There are no major water quality problems in this subbasin, although elevated nutrient and turbidity levels have been.<br><br>Under future land-use conditions without mitigation, peak flows in Ebright Creek are predicted to increase by 100 to 150 percent, an absolute increase of between 20 and 40 cubic feet per second. Such increases will exacerbate existing erosion and sedimentation problems. Future land uses are expected to produce water quality problems far greater than those previously observed. Increases in turbidity, nutrients, metals, and organic pollutants are likely with projected urban uses. | Ebright Creek (WRIA 08-0149) is a Class 2 stream with salmonids downstream (west) of 212th Avenue SE. Species identified in this creek are chinook salmon, sockeye salmon, coho salmon, kokanee salmon (spawning only), cutthroat trout, and rainbow trout. Although the creek is of minimal size for chinook salmon, a few have been sighted. The creek is unclassified east of 212th Avenue SE where the wetlands begin.<br><br>Although the City Stormwater Management Plan indicates there is an impassable fish barrier located north of SE 8th Street and west of 212th Avenue SE, field review by a consulting engineer indicates there are no <u>complete</u> manmade fish barriers and no permanent natural fish barriers. Of significance, the stream is predominantly groundwater fed and is about 50 degrees in temperature. It supports one of the best runs of Kokanee. The stream is nicely intact, particularly the lower reach (personal communication, Geoff Clayton, RH2 Engineering, April 2, 2002). The kokanee in Ebright and Laughing Jacobs Creek and Lake Sammamish are distinct native populations from other populations in the Lake Sammamish basin. |



TABLE IV-B  
STREAM AND LAKE SUMMARY

| WATER<br>BODY/CLASS                                  | SUMMARY OF WATER QUALITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | SUMMARY OF HABITAT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Pine Lake Creek (WRIA 08-0152); Class 2</b>       | <p>Water quality in the base flows of Pine Lake Creek was monitored monthly by King County METRO between May 1987 and April 1988 as part of the development of the <i>Final East Lake Sammamish Basin and Nonpoint Action Plan</i> (King County, 1994). These data showed that bacteria and phosphorus concentrations frequently exceeded water quality standards or recommended guidelines.</p> <p>Monitoring of water quality in storm flow samples from Pine Lake Creek showed bacteria and phosphorus concentrations were the highest recorded in the entire basin (during a May 2, 1990, event), exceeding standards or recommended guidelines by a factor of 157 (bacteria) and 7 (phosphorus). Small farms and residential land uses are the most probable sources of these pollutants.</p> <p>The final 1998 Section 303(d) list included Pine Lake Creek as impaired by fecal coliform. This will require the development of a total maximum daily load (TMDL) for Pine Lake Creek.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p>Pine Lake Creek (WRIA 08-0152) is a Class 2 stream with salmonids. Species identified in this creek are coho salmon, sockeye salmon, kokanee salmon, cutthroat trout, and rainbow trout. The King County Water and Land Resources Division web site "Known Freshwater Distribution of Chinook Salmon for Water Resource Inventory Area (WRIA) 8 (<a href="http://dnr.metrokc.gov/WRIAS/8/chindist/distmap.htm">http://dnr.metrokc.gov/WRIAS/8/chindist/distmap.htm</a>) lists a 1997 chinook salmon sighting in the lower 0.02 miles of Pine Lake Creek. This sighting was recorded through its Volunteer Salmon Watcher Program. There is an impassable fish barrier located west of 204th Avenue SE and south of SE 8th Street.</p>                                                                                                           |
| <b>Kanim Creek (WRIA 08-0153); Class 2</b>           | <p>Available literature did not list any water quality information specifically for Kanim Creek. However, many of the conditions described for Pine Lake Creek also pertain to Kanim Creek, which is a tributary of Pine Lake Creek.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>Kanim Creek (WRIA 08-0153) is a Class 2 stream with salmonids. Species identified in this creek are coho salmon, cutthroat trout, and rainbow trout. There is an impassable fish barrier located at the culvert crossing beneath SE 19th Street.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Many Springs Creek (WRIA 08-0164); Class 2</b>    | <p>The only water quality data available in the literature for Many Springs Creek showed minimal problems, except for a high suspended sediment load associated with upstream problems of stream incision and landslides.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>Many Springs Creek (WRIA 08-0164) is a Class 2 stream with salmonids downstream (south) of SE 43rd Way (most just outside the City limits). Species identified in this creek are coho salmon and cutthroat trout. Upstream of SE 43rd Way, the mainstem and tributary are categorized as Class 3. There is an impassable fish barrier located upstream of SE 43rd Way.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Laughing Jacobs Creek (WRIA 08-0166); Class 2</b> | <p>Solids, nutrients, high temperatures, and bacteria associated with both urban and rural land uses are threatening water quality in the Laughing Jacobs Creek subbasin. Water quality criteria or recommendations were exceeded for fecal coliform, enterococcus, total phosphorus (TP), and total suspended solids (TSS) concentrations during storm flow and some base flow monitoring events.</p> <p>Laughing Jacobs Creek is underlain by bedrock. As a result, erosion is less than would otherwise be expected. However, ill-directed runoff from developed areas has resulted in the delivery of significant amounts of hill slope sediments to the channel. Downchannel transport of these sediments contributed to flooding of the East Lake Sammamish Parkway during a January 1990 storm. Both flooding and sedimentation problems will be severely exacerbated by the large projected increases in channel flows.</p> <p>Sediment from several active landslides in the Laughing Jacobs Creek ravine has settled in the flat lower reaches and caused flooding problems in East Lake Sammamish State Park and on East Lake Sammamish Parkway. These flooding problems are caused by discharge of runoff from cleared or developed land in the ravine edge. This situation is aggravated by the historic diversion of the lower channel route to Lake Sammamish, which has reduced the gradient and increased localized sediment</p> | <p>Laughing Jacobs Creek (WRIA 08-0166) is a Class 2 stream with salmonids. Species identified in this creek are coho salmon, sockeye salmon, kokanee salmon, cutthroat trout, and rainbow trout. Chinook salmon have been sighted in several reaches of Laughing Jacobs Creek (likely all downstream of the City limits) between 1995 and 1998 (<a href="http://dnr.metrokc.gov/WRIAS/8/chindist/distmap.htm">http://dnr.metrokc.gov/WRIAS/8/chindist/distmap.htm</a>). These sightings were recorded through the County's Volunteer Salmon Watcher Program. There is an impassable fish barrier located outside the City limits (south of Trinity Lutheran College and SE 43rd Way). The kokanee in Ebright and Laughing Jacobs Creek and Lake Sammamish are distinct native populations from other populations in the Lake Sammamish basin.</p> |

**TABLE IV-B  
STREAM AND LAKE SUMMARY**

| WATER<br>BODY/CLASS                                                                                     | SUMMARY OF WATER QUALITY                                                                                                                                                                                                                                                                                                                                                                                                                 | SUMMARY OF HABITAT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                         | <p>deposition. This ongoing problem can be addressed by constructing sediment traps in the form of logs and other diversity-fostering structures to the upper watershed.</p> <p>The intrinsic link between water quality and quantity cannot be ignored because the effects of water quantity are a continual focus of surface water problems in the subbasin.</p>                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p><b>Unnamed Tributaries (07-0111, 08-0143, 08-0145B, 08-0149A, 08-0152A, and 08-0163 systems)</b></p> | <p>Tributary 08-0152A has been partially channelized, and some diversion structures have been placed. A subdivision and extensive horse pasture contribute nutrient loading.</p> <p>Tributary 08-0163 has several possible fish barriers and numerous culverts, some of which appear to be too small to accommodate projected future flows.</p> <p>No water quality information was available for the remaining unnamed tributaries.</p> | <p>Unnamed tributaries (WRIA 07-0111; WRIA 08-0145B, -0152A, -0163, -0164B, 0166D, -0166E) are primarily Class 2 streams without salmonids or Class 3 streams. Stream 08-0163 is a Class 2 with salmonids (coho salmon cutthroat trout, and rainbow trout); systems 08-0166D and 08-0166E both have rearing habitats for cutthroat trout. Many of these unnamed creeks and small tributaries have fish passage barriers, most notably in the lower reaches, near Lake Sammamish.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <p><b>Patterson Creek (WRIA # 07-0376) Class 2</b></p>                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>Patterson Creek is a Class 2 stream system which provides significant habitat for a number of salmonids including coho, Chinook, steelhead and cutthroat trout. It is located east of the City limits; however a portion of the Patterson Creek Drainage Basin lies in the City limits in the Trossachs vicinity, and Staff indicate that lands within the City limits are the headwaters for the Creek.</p> <p>More than 150 acres of wetlands and forests in two discontinuous stretches along Patterson Creek were purchased as part of the King County Waterways program. The Natural Area is located outside the City of Sammamish City Limits, near the King County Section 36 Park and Carnation Marsh Natural Area, as well as in the vicinity of the Griffin Creek Park Natural Area, also a Waterways 2000 purchase within the Snoqualmie basin.</p> <p>Patterson was targeted by the King County Waterways program for its continuing ability to provide flood moderation and habitat for salmonids and wildlife, despite basin-wide development and agricultural activities. It is part of the larger Snohomish/Snoqualmie system which has, in recent years, contributed up to one-third of the wild coho production of the Puget Sound system.</p> <p>The Natural Area also includes upland and lowland habitat for a variety of terrestrial and aquatic wildlife, including pileated woodpecker, river otter, and black bear.</p> |



**TABLE IV-B  
STREAM AND LAKE SUMMARY**

| <b>WATER<br/>BODY/CLASS</b>     | <b>SUMMARY OF WATER QUALITY</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>SUMMARY OF HABITAT</b>                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Pine Lake (Class 1)</b>      | Trophic state indicators for the period 1999-2000, measured May to October each year, indicate Pine Lake is low to moderate in productivity (borderline oligotrophic to mesotrophic) consistent with past findings (King County March 2002). In a prior November 2001 report, King County characterized the lake as follows: Overall the water quality is good at Pine Lake. The slight decrease in lake phosphorous levels over time may be related to the permanent diversion of wetland inflow to the lake outlet which was completed by King County in 1990. To ensure nutrient levels remain lowered, ongoing erosion and nutrient control measures in the watershed remain important as land is developed in the watershed or local shoreline alteration occurs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Pine Lake, the headwaters of Pine Lake Creek, is not accessible to anadromous salmonids. Rainbow trout are present in the lake because hatchery fish are stocked annually. The lake supports a put-and-take fishery. The lake was planted with kokanee salmon decades ago and a remnant population remains. Cutthroat trout are present as a natural unaugmented population. |
| <b>Beaver Lake (Class 1)</b>    | <p>Beaver Lake is a series of three lakes, of which the two northern ones are part of the volunteer lake water quality monitoring program through King County. Beaver 2, the middle lake, is considered mesotrophic with values characterized in 1999-2000 (May to October measurements) as an improvement over past years (King County March 2002). In a prior November 2001 report, King County characterized the lake as follows: Overall water quality is moderately good with both surface water and groundwater flows influencing lake chemistry. Wetland inflows still influence lake water quality at Beaver Lake 2, but to a lesser degree than observed in Beaver Lake 1.</p> <p>Beaver 1, the northernmost lake, is considered eutrophic with low water clarity based on data reported for 1999-2000, measured May to October each year (King County March 2002). In a prior November 2001 report, King County characterized the lake as follows: Beaver 1 is influenced by wetland chemistry which gives the lake its dark color. The eutrophic character of the lake is a natural function of the basin which receives inflow directly from an upstream bog. Ongoing erosion and nutrient control measures in the watershed remain important as land is developed in the watershed or local shoreline alteration occurs. The County has identified the preservation of Wetland 21 (ELS) as critical to the ongoing preservation of the lake. This wetland may require a higher degree of protection.</p> <p>A Beaver Lake Management Plan is in effect for the subbasin.</p> | Beaver Lake is noted as providing habitat for salmonid species in County "report cards" for basins.                                                                                                                                                                                                                                                                          |
| <b>Laughing Jacobs Lake</b>     | <p>The 1990 <i>East Lake Sammamish Basin Conditions Report-Preliminary Analysis</i> found that the Laughing Jacobs Lake outfall had high fecal coliform concentrations (5,600 organisms/100 ml) during an April 23, 1990, storm event. In addition, TSS and TP concentrations were also relatively high during that event. These high fecal concentrations are probably related to agricultural activities in the subbasin.</p> <p>The final 1998 Section 303(d) impaired waters list included Laughing Jacobs Creek fecal coliform impairment. A total maximum daily load (TMDL) will be required for Laughing Jacobs Creek.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Laughing Jacobs Lake is inaccessible to anadromous salmonids because of blockage that is present low in the system. The lake contains rainbow trout and cutthroat trout.                                                                                                                                                                                                     |
| <b>Lake Sammamish (Class 1)</b> | Lake Sammamish is the sixth largest lake in Washington and the second largest in King County. The basin of the lake is a long, uniform trough with steeply sloping sides and a maximum depth of 32 meters (105 feet). These characteristics are fjord-like, but the lake lacks the extreme                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Lake Sammamish supports resident populations of rainbow trout, cutthroat trout, and kokanee salmon. The lake provides primary rearing habitat for juvenile sockeye salmon and potentially incidental or secondary rearing habitat for chinook and coho                                                                                                                       |

TABLE IV-B  
STREAM AND LAKE SUMMARY

| WATER<br>BODY/CLASS | SUMMARY OF WATER QUALITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | SUMMARY OF HABITAT                                                                                                                                                                                                                                                                                                        |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | <p>depth of most fjord lakes. Annual average precipitation is approximately 90 centimeters, with about 75 percent of that occurring during extended periods of non-intensive rainfall events from October through March. Land use changes in the watershed alter the quantity, quality, and timing of rainfall runoff. As forests are cleared and the area of impervious (paved) surfaces increases, the water storage capacity of the soils decrease and the rate of runoff increases. These changes increase the high wet weather flows in the streams and reduce the summer low flows. The increased wet weather flows cause additional erosion and instability in the stream channels and carry sediment into the lake. Decreased dry weather flows in the same streams reduce the amount and quality of in-stream habitat. Lake Sammamish is subject to the cumulative impacts of all of the land use changes in the watershed and the alterations to the influent streams.</p> <p>Lake Sammamish did meet the mean summer transparency goal of 4.0 meters in summer 1996 at mid-lake stations 611 and 612, but not at station 614, which is located offshore of the mouth of Issaquah Creek. The lake did not meet the mean summer chlorophyll-a goal of 2.8 mg/L in 1996 at stations 611, 612, and 614.</p> <p>Lake Sammamish was placed on the 1998 Section 303(d) impaired waters list due to fecal coliform and will require a total maximum daily load (TMDL).</p> | <p>salmon. The lake serves as a migratory corridor for anadromous species such as chinook, coho, and sockeye salmon and for steelhead and sea-run cutthroat trout destined for spawning areas upstream of the lake. Kokanee salmon in Lake Sammamish are thought to be a discrete and currently depressed population.</p> |

Source: 2001 City of Sammamish Stormwater Comprehensive Plan; 2001 King County Lake Water Quality reports; 2002 King County Lake Monitoring Report; personal communication, Geoff Clayton, RH2; King County Park System, Patterson Creek Park Natural Area, Waterways 2000 Site Management Plan, July 1999.

Other lakes affected by development within Sammamish are in unincorporated King County but adjacent to Sammamish. These include Allen Lake (once known as Mud Lake) and Mystic Lake.

In addition to Sensitive Area Regulations and Shoreline Master Program regulations, the City protects water quality and quantity with its 2001 *Stormwater Management Comprehensive Plan*. The Plan identifies local stormwater quantity and quality problems as well as capital improvement and other methods to address identified issues. The *Stormwater Management Comprehensive Plan* also includes a new stormwater code with regulations designed to minimize surface water impacts of new development through requirements for impact studies, detention, biofiltration, etc.

### **Flood Hazard Areas**

The State minimum guidelines to classify critical areas in WAC 365-190 defines flood hazard areas as:

“Frequently flooded areas are lands in the floodplain subject to a one percent or greater chance of flooding in any given year. These areas include, but are not limited to, streams, rivers, lakes, coastal areas, wetlands, and the like.”

The WAC guidelines note that: "Floodplains and other areas subject to flooding perform important hydrologic functions and may present a risk to persons and property. Classifications of frequently flooded areas should include, at a minimum, the 100-year floodplain designations of the Federal Emergency Management Agency and the National Flood Insurance Program."



King County's critical areas inventories indicate no designated 100-year floodplains in the City with the exception of small areas along Lake Sammamish and near SR 202 at the northern City limits (refer to **Figure IV-2**). Further, the King County 1990 *East Lake Sammamish Basin Conditions Report - Preliminary Analysis* indicates that no special flood hazards (i.e. areas within the 100-year flood boundary) have been identified on the King County Flood Insurance Rate Map for the East Lake Sammamish Basin, the largest basin included in the City limits. Rather, the area has been designated as Zone "X" or Zone "D". These designations apply to areas that lie outside the 500-year floodplain or where no flood hazard has been determined. The Conditions Report further indicates that this does not exclude the possibility of flooding caused by severe, concentrated rainfall generating runoff volumes larger than the design capacity of local drainage systems, as these systems are not normally considered in flood insurance studies. Of note, the 1993 *King County Flood Hazard Reduction Plan* focuses on the Sammamish River to the north and does not identify or consider more localized issues within the City limits.

The City's 2001 *Stormwater Management Comprehensive Plan* identifies local stormwater quantity and quality problems as well as capital improvement and other methods to address identified local issues.

### **Groundwater**

Groundwater is rainwater that has filtered into the ground and stays below the surface in zones called aquifers. The amount of groundwater available and the amount of water available to recharge ground water is affected by precipitation, land use, population growth and water reuse. With population growth there is an increase in the number of residential and commercial buildings, roads and parking lots that are impervious surfaces which decrease or prohibit groundwater recharge. There is also an increase demand for water. Ground water withdrawals from aquifer, when combined with an increase in impervious surface area in a recharge zone, can lead to a diminished groundwater supply for drinking water purposes. Because ground and surface water are interconnected, surface water features such as lake levels and the base flow of creeks are impacted by groundwater levels.

Methods to retain recharge are to maintain portions of residential areas in their natural state or permit the planting of vegetation in these areas. Stormwater facilities can be constructed to promote recharge of groundwater provided that the stormwater is first adequately treated so as not to contaminate ground water. The State of Washington is also currently investigating ways to treat and reuse wastewater.

Maintaining groundwater quality is also a major concern particularly in recharge areas. Contaminants sources could include: failing septic systems, untreated stormwater, leaking underground storage tanks, quarries, agricultural chemicals, hazardous materials spills, etc.

The City of Sammamish is included in two Groundwater Management Planning Areas, Issaquah Creek Valley and Redmond-Bear Creek Valley, with the City area lying primarily in the Issaquah Creek Valley Planning Area, and this area is the focus of this summary.

Information about groundwater is principally summarized from the December 1998 and March 1999 *Issaquah Creek Valley Groundwater Management Plan* volumes prepared by the Issaquah Creek Valley Groundwater Protection Committee.

### **Basin Wide Information**

Groundwater in the Issaquah Creek basin comes from precipitation in the basin. The areas with the highest infiltration potential are those with sand and gravel deposits. The most significant of these areas



lies east of the City of Issaquah on the uplands between the East and North Forks of Issaquah Creek. For the lower Issaquah Valley area (includes Sammamish), in particular the eastern plateau areas of the management area, Grand Ridge and Lake Tradition, do not overlie valley aquifers, but may provide up to 30% of the direct recharge to the lower Issaquah Valley ground water system. Measures such as recharging ground water with surface water facilities and homeowner education materials are being used in this area.

Aquifers are considered to be vulnerable where the soil is permeable, where the ground water depth is shallow, and where a potential contamination source is present. Given the location of wells and nearby development, the lower Issaquah Creek Valley is a vulnerable aquifer system. Even with the potential for contamination, water quality in the lower Valley has been found to be generally excellent; management strategies will be needed to protect the area. The upper Issaquah Creek Valley System (in the southern part of the Groundwater Management Planning Area) has been affected by contamination from the Cedar Hills Landfill and Queen City Farms Industrial Waste site. Both of these site have clean up activities to mitigate the ground water contamination.

### **Sammamish Plateau**

Groundwater in the upland area of the Sammamish Plateau moves vertically downward and laterally to discharge points (such as Lake Sammamish). Along the Lake Sammamish boundary, groundwater flows out of the groundwater study area to the west. The results of a seepage study conducted in September 1991 showed that an estimated 3.3 cubic feet per second discharges from the Sammamish Plateau to Lake Sammamish.

In some areas, deeper groundwater flows through some unmapped geohydrologic units, and may flow to the west also, perhaps beneath surface waters such as Lake Sammamish to surface water bodies outside the study area such as Puget Sound. Additional investigation is recommended to confirm these hypotheses.

As of 1999, more than 98 percent, or 1,110 acre feet of the total ground water withdrawals in the Sammamish Plateau went to public water supply systems reflecting the area's suburban nature. The greatest demand for public water supplies, and therefore withdrawal of groundwater, is during summer and early fall when temperatures are high and precipitation is at a minimum.

Continued growth will require greater volumes of water than is currently withdrawn from the aquifer system. In areas where an aquifer system provides the only source of water to an area, water demand is critical, as is the case with the Sammamish Plateau Water and Sewer District. (The Northeast Sammamish Water and Sewer District is not hindered by water supply concerns although groundwater is its primary source.) It has been difficult for the Sammamish Plateau Water and Sewer District to obtain additional water rights from the Department of Ecology based on the continuity of surface and ground waters in the basin. The Sammamish Plateau District has developed several supply strategies in its Water Comprehensive Plan. The District has also implemented a water allocation process for new development applications to randomly select applications for water certificates of availability.

To address ground water quality, the City of Sammamish will need to consider areas where groundwater is susceptible to contamination due to surficial geology, potential for infiltration, and depth to groundwater. Areas of low, medium and high susceptibility are mapped in **Appendix A** on a map entitled "Aquifer Susceptibility." The City will also need to consider wellhead protection zones. Such zones have been mapped by the Sammamish Plateau and Northeast Sammamish Water and Sewer Districts, and these maps also appear in **Appendix A**: see Sammamish Plateau Water and Sewer District Water Comprehensive Plan "Figure 5-1 Wellhead Protection Areas" and the map titled "Wellhead Protection



Program, Northeast Sammamish Sewer and Water District.” To address ground water quantity, the City should identify Groundwater Recharge Areas, and analyze this information with wellhead protection areas to identify critical areas for groundwater recharge. This may include coordinating with adjacent jurisdictions on identifying Critical Aquifer Recharge areas outside of the City limits that serve the City’s population.

Another key to addressing groundwater quantity and quality concerns are through policies and implementing regulations, with the recommended approach being to coordinate with the Groundwater Protection Committees for the Groundwater Management Planning Areas.

## **Geologically Hazardous Areas**

### **Erosion Hazard**

Soil erosion is a process in which individual soil particles are detached and moved by natural agents such as wind, rainsplash, frost action, or surface water flows. Erosion poses a potential public health and safety hazard to the extent that bodies of water are contaminated with sediment. In addition, erosion can directly and indirectly damage private property as well as valuable habitat and natural areas. The U.S. Department of Agriculture, Soil Conservation Service has identified certain soils as being susceptible to erosion if disturbed. Such soils occur throughout the City with the largest concentration of those on steeper slopes occurring in the western part of the City. Identification of areas subject to moderate or severe erosion hazard support environmental and development regulations since they affect grading and receiving water body quality.

City codes governing clearing and grading activities and erosion hazard areas regulate the timing and extent of clearing for development. Soils having an erosion hazard require that an erosion control plan be approved and implemented before disturbance starts. The plan may stipulate that clearing or grading be done only during the drier season of the year, and that silt fences or other means of preventing sediment movement be in place and functional; a vegetation management plan is required. In subdivisions, clearing for roads and utilities is to occur first with subsequent clearing on individual lots permitted after approval of the associated building permit. A vegetation management plan is required for clearing on individual lots. An erosion plan is required for all development proposals within erosion hazard areas. The use of hazardous substances, pesticides, and fertilizers is not permitted in erosion hazard areas.

### **Landslide Hazards**

Landslides, seismically sensitive soil materials, and geologic events pose substantial hazards to public health and safety. Such areas have limited suitability for siting of commercial, residential and industrial structures. Currently, the City regulates these hazard areas through their Sensitive Area regulations adopted on an interim basis from King County regulations. The county classification system is essentially consistent with the State of Washington minimum guidelines.

Many slopes with Sammamish are either naturally unstable or become unstable when disturbed. Areas subject to landslides are mostly along the western slopes of the City. Refer to **Figure IV-2**. The identification of areas susceptible to landslides support environmental and development regulations; they affect foundation design and housing density.

Unconsolidated soil materials with slopes greater than 15 percent that are underlain with impermeable geologic materials, and/or which have seeps are especially subject to slippage of the unconsolidated soil material. Areas which have experienced movement in the past or which are unstable as a result of rapid stream incision, stream bank erosion, or undercutting by wave action, are also susceptible to landslides.

Landslides in such areas can result in enormous public and private costs, severe threats to human health and safety, and severe natural resource and environmental damage. Disturbance in such areas should generally be avoided

Construction activities on slopes of 40% or greater, also known as Steep Slope Hazard Areas, are regulated because of the propensity for landslides and mass movement. Buffer zones above, below and at the sides of the steep slopes are mandated. Vegetation removal is not permitted unless it is part of an approved alteration activity and the use of hazardous substances, pesticides, and fertilizers is not permitted. Limited land alteration activities, such as surface water conveyance, trails, utilities, bank stabilization or reconstruction activities may be permitted, under certain circumstances. In addition, development activities may occur on steep slope hazard areas if the slope has a vertical rise of less than twenty feet and the City concurs with the soils report prepared by a geologist or geotechnical engineer. Point discharges from surface water facilities onto or upstream of steep Slope Hazard Areas is prohibited except in limited circumstances.

Currently, construction activities on landslide hazard areas with slopes under 40% may be permitted if the development activity will not decrease soil stability on contiguous properties and mitigation is based on best available engineering and geological practices which eliminates the risk of damage, death, or injury resulting from landslides.

In addition, current City regulations (based on King County regulations) have established more strict development conditions in certain sub-basins, such as Panhandle and Monohon, which are particularly impacted by landslides (SO-190). These areas designated sloped areas which drain directly to lakes or streams of high resource value which are particularly sensitive to the impacts of increased erosion. These areas lie along the western edge of the City. The special requirements include:

- The establishment of “no disturbance areas” as identified in the East Lake Sammamish Basin Watershed Management Committee Basin and Non-point Action Plan (King County 1994), as field confirmed.
- Land clearing in the “no disturbance area” is restricted except in limited cases, including the construction of single family residences on pre-existing lots, utility corridors, or road construction may be permitted if the clearing activities will not subject the area to risk of landslide or erosion, that clearing activities will be mitigated, monitored, and bonded, and the clearing activities are limited to the minimal area and duration necessary for construction.
- Applicant must identify suitability of site for on-site surface water infiltration.

## **Seismic Hazards**

Seismic hazards include areas subject to “severe risk of earthquake induced ground shaking, slope failure, settlement, soil liquefaction or surface faulting” (WAC 365-190). King County maps seismic hazard areas as “those areas in King County subject to severe risk of earthquake damage as a result of soil liquefaction in areas by cohesionless soils of low density and usually in association with a shallow groundwater table or of other seismically induced settlement.”

The County identified seismic hazard areas in Sammamish along Lake Sammamish and near SR 202. The United States Geologic Survey and the University of Washington also provide information regarding surface faulting and other earthquake induced hazards.



“There are three different sources for damaging earthquakes in the Pacific Northwest. The first of these is the 'Cascadia Subduction Zone,' a 1000 km long thrust fault which is the convergent boundary between the Juan de Fuca and North American plates and is the most extensive fault in the Pacific Northwest area. It surfaces about 50 miles offshore along the coasts of British Columbia, Washington, Oregon and northern California. No historic earthquakes have been directly recorded from this source zone. According to recent research, an earthquake estimated to be as large as 8.0 to 9.0 occurred in this zone in January of 1700.

The second source for damaging earthquakes is the Benioff Zone. This zone is the continuation of the extensive faulting that results as the subducting plate is forced into the upper mantle. The Benioff Zone can probably produce earthquakes with magnitudes as large as 7.5. Benioff Zone earthquakes are deeper than 30 km.

The third source consists of shallow crustal earthquake activity (depths of 0 to 20 km) within the North American continental plate where faulting is extensive. Past earthquakes have revealed many shallow fault structures, including the Western Rainier Seismic zone and the Mt. St. Helens Seismic Zone. Our best known crustal fault, the Seattle Fault, runs east-west through Seattle from Issaquah to Bremerton. This fault generated a very large earthquake approximately 1100 years ago. Other crustal faults have been located in the Puget Basin region”.

(Source: [http://www.geophys.washington.edu/SEIS/PNSN/INFO\\_GENERAL/faq.html](http://www.geophys.washington.edu/SEIS/PNSN/INFO_GENERAL/faq.html))

US Geological Survey Maps of the Seattle Fault indicate it trends east-west across the southern portion of the City of Sammamish (see **Appendix A**). Critical infrastructure including I-90 and I-405, and pipelines (including natural gas pipeline in Sammamish vicinity) could be severely impacted by earthquakes along the Seattle Fault.

The City critical area regulations inherited from King County address development restrictions in seismic hazard areas in areas of potential settlement or liquefaction. The Uniform Building Code addresses building construction requirements to help minimize building damage due to earthquakes. The City would likely participate in any regional emergency management planning.

### **Fish and Wildlife**

The Sammamish vicinity contains a diversity of wildlife - mammals, birds, and fish as noted in the 1992 King County *East Sammamish Community Plan Update Draft Environmental Impact Statement* (EIS). Bird species include bald eagle, osprey and great blue heron, which receive some level of Federal and/or State protection. A variety of mammal species are listed including coyote, cougar, bear, weasels, etc. The presence of fish species is described above under “Streams and Lakes” within this Element. In the King County *East Sammamish Community Plan Update* (1993), wildlife corridors were mapped to link major wetlands and other environmentally constrained features with good habitat value, primarily trending from the east to the west down to Lake Sammamish. In part due to the identified wildlife corridors, many of these corridor areas were zoned R-1, one dwelling unit per acre.

Wildlife species observed by Jones & Stokes biologists during reconnaissance surveys in 2002 include pileated woodpecker (State Species of Concern—a candidate for listing as threatened or endangered species by WDFW), black-tail deer, great blue heron (State Priority Species), mallard (*Anas platyrhynchos*), winter wren (*Troglodytes troglodytes*), American robin (*Turdus migratorius*), American crow (*Corvus brachyrhynchos*), and red-tailed hawk.

### **Historic and Cultural Resources**

The Sammamish vicinity contains inventoried historic sites according to King County survey records, with one site adjacent to the City being a designated historic landmark, the Gunnar T. Olson house. A discussion of historic resources and general locations of inventoried historic sites may be found in **Appendix A.**

The City has an active local Heritage Society as historic and cultural resources are important to the community's sense of place. In addressing cultural resources, the City recognizes the independent nation status of tribes, and seeks to work cooperatively with governmental agencies at all levels.



## **GOALS**

- GOAL EC-1:** Practice environmental stewardship by protecting, enhancing and promoting the natural environment in and around the City.
- GOAL EC-2:** Cooperate regionally and strive locally to improve air quality.
- GOAL EC-3:** Maintain a surface water and groundwater system that serves the community, enhances the quality of life, and protects the environment.
- GOAL EC-4:** Protect wetlands from encroachment and degradation and encourage wetland restoration.
- GOAL EC-5:** Protect life and property in areas of natural hazards.
- GOAL EC-6:** Protect natural and environmentally sensitive areas, open space, trees, vegetation, natural terrain, and drainage.
- GOAL EC-7:** Maintain and promote a diversity of species and habitat within the City.
- GOAL EC-8:** Protect and enhance unique, valuable and critical plants and wildlife.
- GOAL EC-9:** Recognize and protect historical and cultural resources in the community.

## **GOALS & POLICIES**

**GOAL EC-1:** Practice environmental stewardship by protecting, enhancing and promoting the natural environment in and around the City.

### **Critical Areas**

ECP-1.1 The City shall identify critical (environmentally sensitive) areas – jurisdictional wetlands, streams, lakes, steep slopes subject to mass movement, and their associated buffers - as defined in RCW 36.70A.030;

- a. Floodways of 100 year floodplains,
- b. Slopes with a grade of 40 percent or more, or landslide, erosion, or seismic hazards,
- c. Wetlands and their protective buffers,
- d. Streams and their protective buffers,
- e. Designated wildlife habitat networks,
- f. Critical Aquifer Recharge Areas; and
- g. Fish and Wildlife Habitat Conservation Areas, and other critical habitat areas identified for protection through Water Resource Inventory Area plans.

ECP-1.2 The protection of lands where development would pose hazards to health, property, important ecological functions or environmental quality shall be achieved through acquisition, enhancement, incentive programs and appropriate regulations. The features in policy ECP-1.1 defining critical areas are particularly susceptible and should be protected.

ECP-1.3 The City shall require all property owners, development proponents, utilities and public services to comply with its critical areas regulations and any regulations concerning habitat of listed species.

### **Special Overlays**

ECP-1.4 The SO-180 Wetland Management Areas Special Overlay District and requirements, and the SO-190, Erosion Hazards Near Sensitive Water Bodies Special Overlay District and requirements, shall be reviewed for potential amendment and updated where appropriate to ensure protection of high function or high hazard areas.

### **Special Areas Protection**

ECP-1.5 The City should identify the following special areas:

- a. Natural areas including significant trees,
- b. Scenic areas such as designated view corridors,



- c. Natural drainage areas, including the SO-180 and SO-190 designated locations,
- d. Urban landscaped areas such as public or private golf courses and parks,
- e. Land reserved as open space or buffers tracts as part of development, including parcels subject to density averaging,
- f. Lands designated as open space under the Current Use taxation-open space established according to King County for tax assessment purposes.

ECP-1.6      The City should protect and enhance natural ecosystems through its Comprehensive Plan, Policies and Development Regulations that reflect natural constraints and protect sensitive features. Natural resources and the built environment shall be managed to protect, improve, and sustain environmental quality while minimizing public and private costs.

ECP-1.7      Corridors with primary importance for wildlife, and ancillary importance as transitional buffers between development, should be designated by the City. Such corridors are defined as permanent low-density lands and/or designated streams and wetlands and their buffers, which protect adjacent resource lands and environmentally sensitive areas and which create open space corridors within and between development providing environmental, visual, recreational and wildlife benefits. The corridors further function as buffers to provide a visual contrast to continuous development and reinforce the unique identity of communities. The City should conduct a study to evaluate the effectiveness of the designated wildlife corridors and may revise the wildlife corridor criteria and/or boundaries as appropriate.

ECP-1.8      Corridors designated for wildlife and associated purposes should include and link parks and other lands that contain significant features as defined in ECP-1.7 and/or contain critical resource protection, contain defining physical features, or contain historic resources. The residential density for land so designated should be maintained at one unit per acre.

### **Planning Areas: Basins and Sub-Basins**

ECP-1.9      The City shall prepare a sub-basin management plan and policies for each of the six Sub-Basins within the East Lake Sammamish Basin, as defined in the East Lake Sammamish Basin Plan. The topology, soils, drainage, flow and channel monitoring vegetation, habitat identification, utilities, R/D maintenance, and mitigation policies shall be uniquely identified and defined for each Sub-Basin. These Sub-Basins are:

- Panhandle Sub-Basin
- Inglewood Sub-Basin
- Monohon Sub-Basins (3)
- Thompson Sub-Basin
- Pine Lake Sub-Basin
- Laughing Jacobs Sub-Basin

- ECP-1.10 The City shall prepare sub-basin management plans and policies, in conjunction with other agencies with jurisdiction, for the following sub-basins as appropriate:
- Evans Creek Sub-basins (9)
  - Patterson Creek Sub-basin
  - Issaquah Creek Lower Sub-basin
- ECP-1.11 The City shall establish a schedule for the preparation and implementation of sub-basin management plans and policies.
- a. Each sub-basin planning process shall actively include representatives of local water and sewer districts; affected neighborhoods; local, state, and federal resource agencies; organizations or agencies with expertise in habitat conservation and restoration, ground water hydrology, fisheries, wildlife, botany, and land use.
  - b. The City shall review and update the boundaries of drainage basins in accordance with an established schedule. In addition, the City shall use updated studies as an interim measure to evaluate development proposals as appropriate.
- ECP-1.12 The City shall adopt development regulations to implement the sub-basin management plans and policies.
- a. Development proposals and approved land use applications shall be consistent with approved basin and sub-basin management plans and policies.

### **Incentives, Education, Planning and Regulations**

- ECP-1.13 The City shall apply regulations and coordinate with other governing agencies to minimize, and where practical, eliminate the release of substances into the air, water and soil that may degrade the quality of these resources.
- ECP-1.14 The City shall encourage the wise use of renewable natural resources and conserve nonrenewable natural resources through education programs and by example in its own plans, programs and activities.
- ECP-1.15 The City shall strive to minimize its own waste, reuse and recycle materials and dispose of all wastes in a safe and responsible manner. The City shall promote to its residents and businesses reuse, recycling materials and disposal of all waste in a safe and responsible manner.
- ECP-1.16 The City shall promote growth management strategies that protect air, water, land and energy resources.

### **Incentives**

- ECP-1.17 In addition to its regulatory authority, the City should use incentives to protect and restore the natural environment whenever practicable. Incentives should be monitored to



determine their effectiveness.

### **Environmental Stewardship/Education/Working Together**

- ECP-1.18 The City shall promote and lead education and involvement programs to raise the public awareness about environmental issues, advocate respect for the environment and demonstrate how individual actions and the cumulative effects of a community's actions can have significant effects on the environment.
- ECP-1.19 Sammamish should take a regional role in environmental stewardship through direct education, coordinating of educational efforts and establishing partnerships with other entities that share similar environmental concerns or stewardship opportunities.
- ECP-1.20 Sammamish should coordinate with local jurisdictions, federal and state agencies, federally-recognized tribes, citizen interest groups, special districts, and citizens in the development of Water Resource Inventory Area plans for all areas of the City.
- ECP-1.21 Development of environmental regulations and restoration projects should be coordinated with local jurisdictions, federal and state agencies, federally recognized tribes, special interest groups and citizens when protecting and restoring the natural environment.

### **Critical/Special Areas Management Policies**

- ECP-1.22 Critical and Special Areas shall be included in an open space system.
- ECP-1.23 There shall be no net loss of wetlands acreage or function. The City shall review its wetland regulations in consideration of Best Available Science and mitigation effectiveness research conducted by King County and the State Department of Ecology or others to determine appropriate regulatory measures to promote and make a priority of wetland avoidance, and where mitigation is allowed, ensure strict wetland mitigation standards apply.
- ECP-1.24
- a. The City should use its regulatory powers to conserve Critical and Special Areas. Where it is unfeasible during development to avoid or conserve a Critical or Special Area, those areas should be integrated into the developed landscape by using innovative planning, design, and management practices; these areas should be integrated into the developed landscape in a manner that conserves their integrity.
  - b. The City should require, and provide guidance to, private landowners and organizations to protect, restore, or enhance privately owned critical areas, natural areas, scenic areas and natural drainage areas in new developments.
- ECP-1.25 New development shall contribute its fair share to open space preservation through mitigation funds or acreage.
- ECP-1.26 The City should encourage the preservation of open space through the Current Use Taxation Open Space program and other incentives.

- ECP-1.27 The City shall provide Basin Plans for all areas of the City by either adopting existing plans or creating new ones, to assure that permitted development will not degrade the surface or ground water resources.
- ECP-1.28 The City should use a variety of land development techniques including density averaging and/or “clustering” to preserve and maintain open space corridors. These corridors define urban growth boundaries and provide separation between communities, and between differing land use densities.
- ECP-1.29 The City should provide diverse educational, interpretive and recreational programs to promote understanding and enjoyment of Critical and Special Areas by the public.
- ECP-1.30 The City should seek to develop effective partnerships between the City, other governmental organizations, and the private sector for the protection and preservation of critical and special areas. It should also seek the cooperation and assistance of citizens, business, community groups, conservation programs, and governmental agencies in the development and implementation of programs to protect and preserve local Critical and Special Areas.
- ECP-1.31 The City should manage, maintain, and enhance public Critical and Special Areas to ensure the conservation of native plants and animals in those ecosystems; control the invasion and spread of non-native plants and animals.
- ECP-1.32 The City should actively work with local, regional, and State agencies and private entities, to acquire larger tracts of key open lands in the region.
- ECP-1.33 The City should establish a system of publicly owned natural areas to:
- a. Protect the integrity of wildlife habitat and conservation sites,
  - b. Protect corridors between natural areas,
  - c. Preserve outstanding examples of Sammamish’s diverse natural heritage; and
  - d. Provide a broad range of opportunities for educational, interpretive, and recreational programs to meet community needs.
- ECP-1.34 Environmental standards for development may emphasize flexible development options to allow densities without compromising the intent of the standards to protect the quality of the critical area or natural resource.
- ECP-1.35 Mitigating measures should be utilized to serve multiple purposes, such as drainage control, ground water recharge, stream protection, open space, cultural and historic resource protection and landscaping.
- ECP-1.36 Critical area regulations should provide sufficient buffer widths consistent with the quality and class of the environmentally sensitive area.



likely cumulative habitat impacts of new roads and infrastructure that will be needed to serve areas if built out under different scenarios.

- ECP-1.43 Sammamish should incorporate the Best Management Practices Plan approved by King County, and ensure that all proposed projects are carried out in a manner which protects the critical resource and mitigates adverse impacts.
- ECP-1.44 City regulations should promote minimization of the amount of new impervious surfaces and reductions in existing impervious surface in re-development when feasible.
- ECP-1.45 The City shall review the R-1 through R-8 Zones, including the table of permitted uses and development standards to determine what, if any, revisions should be made to further protect the critical areas and other features found in these zones.
- ECP-1.46 The City shall periodically review and evaluate the effectiveness of critical area regulations and City enforcement efforts.

### **Interpretation and Application**

- ECP-1.47 The City should ensure that any variances and reasonable-use exceptions issued do not undermine the ecological functions and values that regulations are trying to protect. The City should monitor variances and reasonable-use exceptions for cumulative effects on achieving ecological objectives. If necessary, the City may provide funds to purchase property rights to avoid property-taking situations.

### **GOAL EC-2: Cooperate regionally and strive locally to improve air quality.**

- ECP-2.1 Air pollution associated with land uses should be reduced by:
- a. Promoting the use of clean and efficient burning fuels,
  - b. Educating citizens about air quality problems,
  - c. Encouraging the planting of trees,
  - d. Encouraging the proper use of wood stoves and fireplaces; and
  - e. Providing alternatives to burning yard waste, such as curbside collection services and convenient yard waste site collection facilities at a reasonable cost.
- ECP-2.2 Air quality impacts of proposed land use actions shall be assessed when developing local plans and transportation strategies.
- ECP-2.3 Sammamish shall join in the regional effort to improve indoor air quality.
- ECP-2.4 Emissions from construction and land clearing activities should be minimized.
- ECP-2.5 Sammamish should participate in, explore and support efforts to reduce or eliminate emissions of harmful pollutants and construction and land clearing policies, which favor

chipping debris instead of burning debris.

- ECP-2.6 Sammamish should coordinate with other agencies and groups to provide information to the public on air quality problems and measures that each person can take to improve air quality.

**GOAL EC-3: Maintain a surface water and groundwater system that serves the community, enhances the quality of life, and protects the environment.**

### **Water Resource Protection**

- ECP-3.1 Sammamish shall use incentives, regulations and programs to manage its water resources (streams, lakes, freshwater wetlands and ground water) and to protect and enhance their multiple beneficial uses-including fish and wildlife habitat, flood and erosion control, water quality control and sediment transport, water supply, transportation, recreational opportunities and scenic beauty. Use of water resources for one purpose should, to the fullest extent practical, preserve opportunities for other uses.
- ECP-3.2 Development shall support continued ecological and hydrologic functioning of water resources and should not have a significant adverse impact on water quality , or sediment transport and should maintain base flows, natural water level fluctuations, ground water recharge in Critical Aquifer Recharge Areas and fish and wildlife habitat.

### **Watersheds**

- ECP-3.3 Watershed plans shall integrate freshwater surface water, ground water, drinking water and wastewater planning to provide efficient water resource management.
- ECP-3.4 As watershed plans are developed, zoning, regulations and incentive programs may be developed, applied and monitored so that critical habitat in the Sammamish watershed is capable of supporting sustainable and fishable salmonid populations. Watershed-based plans should define how the natural functions of watersheds critical to salmonid are protected so that the quantity and quality of water entering the streams, lakes, wetlands and rivers support salmonid spawning, rearing, resting, and migration.
- ECP-3.5 Sammamish shall protect and enhance surface waters, including streams, lakes, wetlands and shorelines for and receiving waters to Lake Sammamish. Conditions of and impacts to the downstream receiving beaches and shorelines shall be included in watershed management efforts.
- ECP-3.6 Responsibility for the costs of watershed planning and project implementation including water quality, flood hazard reduction and fisheries habitat protection, should be shared between Sammamish and other jurisdictions within the watershed and surrounding Lake Sammamish.



- ECP-3.7 The City recognizes the environmentally sensitive areas within the shared Evans Creek and Patterson Creek basins, and shall work with adjacent local governments and agencies on issues of mutual concern regarding development and conservation efforts.

### **Cooperative Resource Planning and Protection**

- ECP-3.8 In partnership with other federal, state, regional, local, and tribal agencies the City should participate in watershed management plans, Water Resource Inventory Area plans, and master drainage plans. These plans should apply a tiered system of protection that affords a higher standard of protection for more significant resources. The City should consider other agency plans that identify resource categories including Regionally Significant Resource Areas (RSRAs), Locally Significant Resource Areas (LSRAs), Fish and Wildlife Habitat Conservation Areas, and remaining resources.
- ECP-3.9 For shared resource planning and protection efforts, the City should review its plans and regulations for compatibility with the Regionally Significant Resource Areas (RSRAs) and Locally Significant Resource Areas (LSRAs) designated by King County and protected within the basin and sub-basin plans as actions towards salmon conservation and recovery under the ESA.

### **Shorelines**

The County's Shoreline Master Program is considered the program in effect for the City of Sammamish. State law provides that Shoreline Master Programs of the prior governing body apply until a new Shoreline Master Program is prepared by the new jurisdiction and approved by the State.

The following Shoreline subsection includes the *King County Shoreline Master Program* goals and incorporates by reference the full Shoreline Master Program goals, objectives and policies as an interim approach.

- Goal EC-3a: Preserve or develop shorelines, adjacent uplands and adjacent water areas in a manner that assures a balance of shoreline uses with minimal adverse effect on the quality of life, water and environment.**
- Goal EC-3b: Shoreline dependent development should provide long range benefit to man and his economic pursuits while assuring compatibility with the environmental and physical goals for shoreline areas.**
- Goal EC-3c: Increase public access to shoreline areas provided that private rights, public safety and the natural shoreline character are not adversely affected.**
- Goal EC-3d: Assure preservation of unique and non-renewable natural resources and assure conservation of renewable natural resources for the benefit of existing and future generations and the public interest.**
- Goal EC-3e: Provide additional shoreline dependent and water oriented recreation opportunities**

that are diverse, convenient and adequate for the regional population, consistent with the carrying capacity of the land and water resource.

**Goal EC-3f:** Shoreline features having historic, cultural, scientific or educational value locally or regionally, should be designated and then retained and protected.

**Goal EC-3g:** Circulation systems in shoreline areas should be limited to those which are shoreline dependent or would serve shoreline dependent uses and the physical and social environment shall be protected from the adverse effect of those systems on the quality of water, life or environment.

**Goal EC-3h:** Shoreline residential areas shall permit a variety of housing types and design with densities and location consistent with the ability of physical and natural features to accommodate them.

**ECP-3.10** The City shall prepare a Shoreline Master Program in accordance with the Shoreline Management Act and the forthcoming State Department of Ecology Shoreline Master Program Guidelines. As an interim approach, the City shall implement the King County Shoreline Master Program, and hereby incorporates its full goals, objectives and policies into this Element.

### **Rivers and Streams**

**ECP-3.11** River and stream channels, stream outlets, headwater areas, and riparian corridors should be preserved, protected and enhanced for their hydraulic, hydrologic, ecological and aesthetic functions, including their functions in providing woody debris sources to salmonid-bearing streams.

### **General Lake and Water Policies**

**ECP-3.12** Lakes should be protected through management of lake watersheds and shorelines. Lakes sensitive to nutrients shall be protected through the management of nutrients that stimulate algae blooms and aquatic plant growth. Measurable standards for lake quality should be set and management plans established to meet the standards. Formation of lake management districts or other financing mechanisms should be considered to provide the financial resources necessary to support actions for protection of sensitive lakes.

**ECP-3.13** The City should restrict the runoff rate, volume and quality for all new development and redevelopment. Critical drainage or erosion areas within the City limits draining directly to Lake Sammamish, George Davis (a.k.a. Eden) Creek, Ebright Creek, Pine Lake, and Beaver Lake should be subject to stricter requirements and conditions. Such conditions may include the limitation of the volume of discharge from the subject property to predevelopment levels, preservation of wetlands or other natural drainage features or other controls necessary to protect against community hazard.

**ECP-3.14** The City shall use incentives, regulations and programs to manage its water resources



(rivers, streams, Lake Sammamish and other lakes, ponds, wetlands and ground water) and to protect and enhance their multiple beneficial uses-including fish and wildlife habitat, flood and erosion control, water quality control and sediment transport, water supply, energy production, transportation, recreational opportunities and scenic beauty. Use of water resources for one purpose should, to the fullest extent possible, preserve opportunities for other uses.

- ECP-3.15 Development shall support continued ecological and hydrologic functioning of water resources and shall not have a significant adverse impact on water quality or water quantity, or sediment transport and should maintain base flows, natural water level fluctuations, ground water recharge in Critical Aquifer Recharge Areas and fish and wildlife habitat.
- ECP-3.16 The City shall protect and should enhance surface waters, including streams, Lake Sammamish and other lakes, ponds, wetlands on a watershed and/or sub-basin basis by analyzing water quantity and quality problems and their impacts to beneficial uses, including fish and wildlife habitat and flood and erosion control. Conditions of and impacts to the downstream receiving waters shall be included in watershed and/or sub-basin management efforts. The City shall continue to participate in the Central Puget Sound Water Resource Planning effort.
- ECP-3.17 The City should protect beneficial uses where applicable including swimming, fishing, boating, aquatic habitat (fisheries and wildlife), water supply and aesthetics in Lake Sammamish, Pine Lake, Beaver Lake and all tributary waters and wetlands in all basins in the City.
- ECP-3.18 The City should enhance water quality through corrective and preventative methods including best management practices (BMPs), education, planning, regulation, enforcement, incentives, capital projects, natural and constructed system maintenance, and restoration of degraded natural and constructed systems.
- ECP-3.19 The City should explore creating a consolidated Beaver-Pine Lake Management District and/or other water quality entities or approaches for creating an efficient and effective water quality management strategy, such as a Citywide Water Quality Control Commission.

### **Non-Point Source-Specific Policies**

- ECP-3.20 Through City regulations and community involvement and participation, stormwater quality and quantity should be controlled before it is discharged into public drainage systems and natural water bodies by:
- a. Implementing and enforcing improved erosion control BMPs and water quality standards;
  - b. Implementing an education program for residents and businesses regarding their impacts on water quality;
  - c. Improving compliance with regulations prohibiting the disposal of toxic materials to natural water bodies and storm drains;

- d. Improving design and maintenance of existing and future stormwater systems;
- e. Improving training of field staff;
- f. Implementing and enforcing Critical Area regulations;
- g. Encouraging environmentally-friendly commercial/residential fertilizer use;
- h. Implementing pet waste recycle/disposal program; and
- i. Reducing the use of detergents and soaps containing phosphorus.

- ECP-3.21 The City should consider land use controls for development in areas of groundwater quality concern.
- ECP-3.22 The City should implement clearing and grading education program for developers, construction workers, enforcement officers, and citizens.
- ECP-3.23 The City should reduce erosion and sedimentation impacts to water quality from land clearing through BMP implementation.
- ECP-3.24 The City should encourage environmentally friendly road maintenance, commercial, and residential use of pesticides and fertilizers through development and implementation of education programs, technical assistance, and use of alternative methods.
- ECP-3.25 The City should, in conjunction with community leaders, encourage environmentally friendly types, application, and timing of pesticides and fertilizers.
- ECP-3.26 The City should improve commercial, public, and private compliance with existing regulations through education programs.
- ECP-3.27 With solid waste service providers and agencies, the City should implement an education program for watershed residents and businesses regarding the impacts of small quantity hazardous waste generation on water quality, facilitate the collection and proper disposal of household hazardous waste, and promote alternative cleaning products and hazardous waste substitutes.
- ECP-3.28 Together with responsible agencies and property owners, the City should encourage routine inspections of underground storage tanks for leakage and require replacement of older and failing underground storage tanks, ensure that all underground storage tanks are registered with the State Department of Ecology, and implement an education program for Underground Storage Tank users.
- ECP-3.29 The City should implement BMP programs to inform livestock owners about their impacts on water quality, focusing attention on areas such as:
- a. Animal access to streams,
  - b. Revegetation of denuded pastures and pasture management,
  - c. Proper disposal of animal waste,



- d. Use of environmentally-friendly pesticides and fertilizers,
- e. An incentives program to encourage the utilization of BMPs; and
- f. Animal density limitations.

ECP-3.30 With Utility Districts, the City should educate homeowners and other onsite septic operators regarding proper maintenance and functioning, and promote repair and replacement of septic systems and use of sewers where needed provided that any repair and replacement of septic systems is consistent with the City and Utility District regulations pursuant to Policy CFP-3.5 and CFP3.6.

ECP-3.31 With State and County agencies, the City should implement an education program for boat owners and users, including use, handling, storage, and transfer of above ground fuel.

ECP-3.32 To reduce erosion and phosphorous transport from individual buildings lots, the City should review and amend its building and clearing regulations as appropriate to limit the percent of building lots to be cleared, assuring environmentally-friendly revegetation of newly graded lots, and applying other erosion control best management practices.

### **Lake Sammamish**

ECP-3.33 a. The City shall support the management goals of the 1994 King County East Lake Sammamish Basin and Nonpoint Action Plan to:

- 1. Reduce surface water problems that threaten public health and safety;
- 2. Protect the value of waterbodies for recreation, fish and wildlife habitat, and aesthetic enjoyment; and
- 3. Reduce the contribution of nonpoint source pollution to these surface-water problems.

b. The City should incorporate the strategies within the 1994 King County East Lake Sammamish Basin and Nonpoint Action Plan in its plans and regulations as appropriate.

ECP-3.34 The City should review the City plans and regulations for consistency with the 1998 King County prepared Lake Sammamish Water Quality Management Project, and incorporate appropriate water quality improvement strategies to support the lake's recreational uses, ecological health, and scenic values.

### **Beaver Lake**

#### *Beaver Lake Watershed Management Goals*

Beaver Lake is sensitive to potential increases in phosphorus and other pollutant loading from existing and proposed residential development in the watershed. Therefore, the Beaver Lake Management Plan establishes a non-degradation policy interpreted in the context of the following specific goals:

**Goal EC-3i: Preserve Trophic Status: There should be no significant increase in the annual**

external phosphorus load to Beaver Lake and the present trophic status of each lake basin should be maintained.

- Goal EC-3j: Preserve Public Health Status:** There should be no significant increase in the concentration of fecal coliform bacteria in Beaver Lake.
- Goal EC-3k: Prevent Nuisance Aquatic Plant Infestation:** Introduction of nuisance aquatic plants to Beaver Lake should be prevented.
- Goal EC-3l: Preserve The Beaver Lake Fishery:** The water quality of Beaver Lake should be managed in such a manner as to continue to support a viable mixed fishery.
- Goal EC-3m: Educate And Involve The Beaver Lake Community:** The local community, in cooperation with the City of Sammamish, King County Metro, the Seattle-King County Department of Public Health, Washington Lake Protection Association, and the Washington State Departments of Health, Ecology and Wildlife, should develop and implement a program to educate and involve existing and future residents of the watershed regarding wise lake and watershed management practices at the individual household level.

*Beaver Lake Management Policies*

- ECP-3.35     Management Plan Adoption: The City of Sammamish should pursue incorporation of the Beaver Lake Management Plan by reference into the Comprehensive Land Use Plan.
- ECP-3.36     Phosphorus Removal: An 80 percent reduction of total phosphorus (above background levels) should be established as a stormwater treatment goal for all future development. AKART or “all known, available, and reasonable methods of prevention, control, and treatment” for phosphorus control should be employed as a standard to achieve this goal.
- ECP-3.37     Lake Classification System: The City of Sammamish should work with the Washington State Department of Ecology and King County to develop a county-wide lake classification system.
- ECP-3.38     Interim Monitoring: The City of Sammamish should work with local community groups to obtain funding for interim water quality monitoring and inspection.
- ECP-3.39     Construction Inspection and Monitoring: The City of Sammamish should provide increased construction inspection and monitoring surveillance before, during, and after the construction period of all new development in the watershed.
- ECP-3.40     Citizen Lake Monitoring: The City of Sammamish should establish an expanded citizens’ lake monitoring program with local community groups.
- ECP-3.41     Watershed Monitoring: The City of Sammamish should establish a watershed monitoring program to include streams and shallow groundwater.



- ECP-3.42     Inventory and Inspections: The City of Sammamish and Seattle-King County Department of Public Health should conduct inventories of existing on-site septic tank/drainfield systems; wetlands, streams, and native growth protection easements; and inspections of stormwater detention and treatment facilities.
- ECP-3.43     Beaver Lake Management District: The City of Sammamish should encourage and support the Beaver Lake Management District.
- ECP-3.44     Homeowner Education & Involvement Programs: Workshop handbooks, and videos should be used by the City of Sammamish and other organizations to convey homeowner BMPs (ECP-3.45) to existing and future residents in the watershed.
- ECP-3.45     Homeowner Best Management Practices (BMPs): A variety of homeowner BMPs should be conveyed by the City of Sammamish and Seattle-King County Department of Health to existing and future watershed residents.
- ECP-3.46     Modeling Analysis: The City of Sammamish should conduct updated watershed/lake modeling analyses to validate the model and to make new loading and lake condition forecasts.
- ECP-3.47     Beaver Lake Management Plan Update: The Beaver Lake Management Plan should be reviewed thoroughly at least once every five years (or more frequently if compelling reasons exist) and updated by the City of Sammamish if needed.
- ECP-3.48     Contingency Stormwater Treatment: The City of Sammamish should implement contingency measures to control nonpoint sources of pollution from site development construction and post-construction stormwater runoff as warranted by monitoring and inspection.
- ECP-3.49     Contingency Wastewater Management: Consistent with the City and Utility District regulations pursuant to Policy CFP-3.5 and CFP 3.6 the City of Sammamish should consider alternative on-site wastewater designs or extension of sewers, in the event that monitoring results indicate violation of either water quality standards or watershed goals resulting from conventional on-site wastewater disposal systems.
- ECP-3.50     In-Lake Contingency Plan: In the event that application of source controls and structural BMPs in the watershed fail to maintain lake management goals for trophic status, fisheries, or aquatic plant control, alternative in-lake control methods should be reviewed by the City of Sammamish, the State Department of Ecology and Wildlife, and the Beaver Lake Management District to determine the feasibility of implementation.

## **Pine Lake**

Interim Pine Lake Watershed Management Goals

The City recognizes the importance of Pine Lake as an environmentally sensitive natural resource that should be protected and enhanced. As an interim measure, pending the establishment of a Pine Lake Management District by the property owners in the Pine Lake Watershed, the City adopts the following non-degradation goals and policies:

- Goal EC-3n: Preserve Trophic Status:** There should be no significant increase in the annual external phosphorus load to Pine Lake and the present trophic status of the lake basin should be maintained or improved. Methods to reduce existing phosphorus load in the lake should be explored.
- Goal EC-3o: Preserve Public Health Status:** There should be no significant increase in the concentration of fecal coliform bacteria in Pine Lake.
- Goal EC-3p: Prevent Nuisance Aquatic Plant Infestation:** Introduction of nuisance aquatic plants to Pine Lake should be prevented.
- Goal EC-3q: Preserve the Pine Lake Fishery:** The water quality of Pine Lake should be managed in such a manner as to continue to support a viable mixed fishery.
- Goal EC-3r: Educate and Involve the Pine Lake Community:** The local community, in cooperation with the City of Sammamish, King County Metro, the Seattle-King County Department of Public Health, Washington Lake Protection Association, and the Washington State Departments of Health, Ecology and Wildlife, should develop and implement a program to educate and involve existing and future residents of the watershed regarding wise lake and watershed management practices at the individual household level.

Interim Pine Lake Watershed Management Policies

ECP-3.51 The City recognizes that there is no substitute for the direct involvement of property owners in the Pine Lake Watershed in the protection and enhancement of the water quality in Pine Lake. As a result, the following policies are adopted not as a substitute for the creation of a Pine Lake Management District, but rather to provide interim protections, pending the development of a Pine Lake specific water quality strategy:

- a. The City supports the creation of a Lake Management District by the Pine Lake community in a timely manner and community efforts to secure funding for a Pine Lake Water Quality Study,
- b. The City supports the preparation of a comprehensive and customized Pine Lake Water Quality Strategy and development regulations based on the approved findings of a Pine Lake Water Quality Study,
- c. The City should, as an interim measure, extend all appropriate Beaver Lake specific water quality regulations to the Pine Lake Drainage Basin,
- d. The City should, when adopting the interim Pine Lake Water Quality Standards, limit the interim extension to a specified period of time in order to provide an



appropriate opportunity to establish the Pine Lake Management District and to conduct the special studies necessary to prepare a Pine Lake specific strategy. In addition, the interim regulations should provide an opportunity to apply for variances in those instances where conditions in Pine Lake are clearly different than at Beaver Lake,

- e. The City should promote the use of educational materials and citizen meetings to foster an understanding of lake water quality and maintenance of septic systems, phosphate detergent alternatives, fertilizer and pesticide use, oil and grease impacts, bird feeding, and the use of waterside vegetation and benefits of natural shorelines,
- f. The City should carefully review potential rezones, and proposed land use actions such as short plats, subdivisions, and building permit applications to verify that these actions will not have a probable significant environmental effect that cannot be reasonably mitigated,
- g. The City should, in conjunction with other agencies with jurisdiction, play an active role monitoring and enforcing all water quality regulations in the Pine Lake Watershed. In addition, the City should periodically review the effectiveness of development regulations and enforcement efforts and make modifications as appropriate.
- h. The City shall adopt development regulation measures necessary to implement these goals and policies prior to the adoption of this Comprehensive Plan. If these regulations have not been adopted in this timeframe, the City shall adopt up to a six-month moratorium on new development in the Pine Lake drainage sub-basin to provide the time required to do so.

### **Ground Water and Aquifer Protection**

ECP-3.52      Areas identified as sole source aquifers or as areas with high susceptibility for ground water contamination where aquifers are used for potable water are designated as Critical Aquifer Recharge Areas, entitled Areas Highly Susceptible to Ground Water Contamination.

ECP-3.53      The City should protect the quality and quantity of ground water by:

- a. Implementing adopted Ground Water Management Plans;
- b. Reviewing and implementing approved Wellhead Protection zones as identified by the King County Ground Water Management Plan Protection Committees and the Water Districts.
- c. Developing, with affected jurisdictions, best management practices for development based on adopted Ground Water Management Plans and Wellhead Protection Programs. The goals of these practices should be to promote aquifer recharge quality and to strive for no net reduction of recharge to ground water quantity; and
- d. Refining regulations to protect critical aquifer recharge areas and wellhead protection areas using best management practices and infiltration.

- ECP-3.54 The City should protect ground water recharge quantity by promoting methods that infiltrate runoff where site conditions permit, except where potential ground water contamination cannot be prevented by pollution source controls and storm water pretreatment.
- ECP-3.55 Land use actions shall take into account the potential impacts on aquifers determined to serve as water supplies. The depletion and degradation of aquifers needed for potable water supplies shall be avoided or mitigated.
- ECP-3.56 The City shall support the development, adoption and implementation of Ground Water Management Plans. The City shall adopt a Groundwater Recharge Area map, incorporating information generated by Ground Water Management Plans and purveyor studies.
- ECP-3.57 The City shall determine which portions of mapped recharge areas and Wellhead Protection Areas should be designated as critical; and the City shall update critical area maps as new information about recharge areas and Wellhead Protection Areas becomes available.
- ECP-3.58 The City shall not permit the introduction of contaminants into ground water aquifers.
- ECP-3.59 The City should protect ground water by:
- a. Preferring land uses that retain a high ratio of permeable to impermeable surface area and that maintain or augment the infiltration capacity of the natural soils; and
  - b. Requiring standards for vegetation clearing limits, impervious surface limits, and where appropriate, infiltration of surface water and amended topsoils.

### **Surface Water Management**

- ECP-3.60 The City should encourage an open channel citywide storm water collection, treatment and conveyance approach, protecting natural systems and corridors (lakes, streams, and wetlands).
- ECP-3.61 The city shall require concurrency for development of necessary stormwater treatment facilities to obtain development approval.
- ECP-3.62 The City shall place high priority on both existing exceptional natural systems in need of protection, such as Ebright Creek, Beaver Lake and Pine Lake as well as high priority on natural systems not adequately protected in the past decade now in need of recovery, such as wetlands, Inglewood Sub-basin/George Davis Creek, and Lake Sammamish.
- ECP-3.63 The City shall strive to maintain the delicate balance between surface water and subsurface water natural systems.
- ECP-3.64 Through a City program of ongoing storm water facility planning, design and



maintenance the city will seek to create the best community fit within each sub-basin. (Natural Open Pond Systems in natural areas and Closed Underground Systems in more urban areas).

- ECP-3.65 For new and redevelopment, City regulations and programs should manage storm water to preserve natural hydrographs through low impact development standards, and/or best management practices and site design requirements that provide for active storm water management. Storm Water Management Programs shall closely emulate natural hydrologic processes and protect water quality. Such programs should outline standards for development activities for both the construction and post-construction phases, including management of storm water runoff and maintenance of storm water facilities.
- ECP-3.66 The City should adopt ordinances that will encourage the use of low impact drainage or development techniques. The ordinances may include incentives for the use of these techniques.

### **Surface Water Policies**

- ECP-3.67 The City should promote the retention of existing open surface water systems in a natural state and rehabilitation of degraded conditions.
- ECP-3.68 Where commercial and industrial uses and high levels of vehicular traffic are established, water quality should be protected and enhanced. Petroleum, solvents, and other potential water pollutants should be stored in such a way as to prevent entry into the natural drainage systems or ground water. Car washes shall be required to use biodegradable, environmentally friendly soaps, cleansers and related materials.
- ECP-3.69 Proper siting and maintenance of septic systems should continue to receive special attention for existing development to preserve the valuable ecological functions and public beneficial uses of water resources.
- ECP-3.70 Storm water runoff shall be managed through a variety of methods, with the goal of limiting impacts to aquatic resources, protecting and enhancing the viability of agricultural lands and promoting groundwater recharge. Methods of storm water management shall include temporary erosion and sediment control, flow control facilities, water quality facilities as required by the Surface Water Design Manual, and Best Management Practices as described in the Storm water Pollution Control Manual. Runoff caused by development shall be managed to prevent adverse impacts to water resources. Regulations shall be developed that favor non-structural storm water control measures when feasible including: vegetation retention and management; seasonal clearing limits; limits on impervious surface; and limits on soil disturbance.
- ECP-3.71 In partnership with other agencies as appropriate, surface waters designated by the State as Water Quality Impaired under the Clean Water Act (water bodies included on the State 303(d) list) should be improved through monitoring, source controls, best management practices, enforcement of existing codes, and Total Maximum Daily Load plans

(TMDLs). The water quality of all other state-classified water bodies should be maintained or improved through these same measures, and other additional measures that may be necessary to ensure there is no loss of existing beneficial uses. Any beneficial uses lost since November 1975 should be restored, consistent with the Federal Clean Water Act.

ECP-3.72 For planning and development regulation implementation purposes, recreationally used and salmonid bearing waters within and directly received from the City shall have their beneficial use determined.

ECP-3.73 A development project should not increase existing flood conditions.

ECP-3.74 Through regulations, maintenance, and enforcement prevent unmitigated significant adverse impacts to water resources caused by flow rates, flow volumes or pollutants.

ECP-3.75 The City should prepare regulations or rules that direct each development project proposing water treatment features to provide water chemistry data for a sufficient period, operations and maintenance (O&M) requirements, and a professional report indicating that the installation and O&M program will meet State water quality criteria.

**GOAL EC-4                    Protect wetlands from encroachment and degradation and encourage wetland restoration.**

ECP-4.1 The City shall preserve and maintain wetlands in a natural state.

ECP-4.2 The City shall use as minimum standards the Washington State Wetlands Identification and Delineation Manual, 1997 or its successor, which is adopted by the City Council, and is the scientifically accepted replacement methodology based on better technical criteria and field indicators.

ECP-4.3 The City's overall goal for the protection of wetlands is no net loss of wetland acreage and functions within each drainage sub-basin. Acquisition, enhancement, regulations, and incentive programs shall be used independently or in combination with one another to protect and enhance wetlands functions, avoiding wetland mitigation with the exception of public agency projects. Wetland mitigation, when permitted, should be located within the sub-basin. The City may authorize mitigation for public agency projects within a Federal, State, County, or City approved mitigation bank provided it is at a minimum located in the same basin within the City's incorporated boundaries and meets all City policies, regulations, and criteria.

ECP-4.4 Development adjacent to wetlands shall be sited such that wetland functions are protected, an adequate buffer around the wetlands is provided, and significant adverse impacts to wetlands are prevented. Education of abutting or adjacent property owners, signage and fencing should be considered as appropriate to maintain and protect wetlands and their buffers.



- ECP-4.5 Areas of native vegetation that connect wetland systems should be protected. Whenever effective, incentive programs shall be used.
- ECP-4.6 When feasible, City programs and regulations should promote the enhancement or restoration of riparian areas surrounding wetlands where functions have been lost or compromised.
- ECP-4.7 Public access to wetlands for scientific, recreational use, and traditional cultural use may be considered, providing that public access trails or viewing platforms are carefully sited, sensitive habitats and species are protected, public safety is not compromised, and hydrologic continuity is maintained.
- ECP-4.8 Enhancement or restoration of degraded wetlands may be allowed to maintain or improve wetland functions provided that all wetland functions are evaluated in a wetland management plan, and adequate monitoring, code enforcement and evaluation is provided and assured by responsible parties. Restoration or enhancement must result in a net improvement to the functions of the wetland system. Technical assistance to small property owners should be considered.
- ECP-4.9 Alterations to wetlands may be allowed to:
- Accomplish a public agency or utility development or road crossing,
  - Enhance the function of an existing wetland and/or consecutively connected wetlands and open water corridors; or
  - Avoid a denial of all reasonable use of the property.
- Provided, all wetland functions are evaluated, the least harmful and reasonable alternatives are pursued, affected significant functions are appropriately mitigated, and mitigation sites are provided with monitoring.
- ECP-4.10 Mitigation sites should replace or augment the functions to be lost as a result of the project proposal. Wetland mitigation proposals may be approved if they would result in improved overall wetland functions within a sub-basin as identified in ECP-4.3 and ECP-4.11. All wetland functions should be considered. Mitigation sites should be located strategically to alleviate habitat fragmentation.
- ECP-4.11 Mitigation projects should contribute to an existing wetland system or restore an area that was historically a wetland. The goal for these mitigation projects is no net loss of wetland acreage and functions per sub-basin. Wetland mitigation, when permitted, should be located within the sub-basin. The City may authorize mitigation for public agency projects within a Federal, State, County, or City approved mitigation bank provided it is at a minimum located in the same basin within the City's incorporated boundaries and meets all City policies, regulations, and criteria.
- ECP-4.12 Land used for wetland mitigation shall be preserved in perpetuity. The project proponent shall provide monitoring and maintenance in conformance with the City standards until the success of the site is established.

**GOAL EC-5                      Protect life and property in areas of natural hazards.****Floodplains**

- ECP-5.1            The existing flood storage and conveyance functions and ecological values of floodplains, wetlands, and riparian corridors shall be protected, and should, where possible, be enhanced or restored.
- ECP-5.2            Sammamish's floodplain land use and management activities shall be carried out in accordance with the King County Flood Hazard Reduction Plan.
- ECP-5.3            The City should promote bioengineering techniques (including placement of large woody debris) that protect and enhance salmon habitat into flood control and bank stabilization measures undertaken by agencies, developers, or other parties.
- ECP-5.4            The City should permit new development in the floodplain only when it has been demonstrated that the new development will not:
- a.    Increase flood elevations,
  - b.    Decrease storage capacity,
  - c.    Restrict the natural erosion and accretion processes associated with channel migration,
  - d.    Impair natural channel condition; and
  - e.    Restrict adult or juvenile access to habitat at any flow level.
- In addition, it should be demonstrated that no feasible alternative exists. If development is permitted in the floodplain, restoration and enhancement may be necessary.
- ECP-5.5            The City of Sammamish should coordinate with the Patterson Creek Flood Control Board to address issues of common concern within the Patterson Creek basin land in the City limits and in adjacent unincorporated areas.

**Erosion Hazard Areas**

- ECP-5.6            Land uses permitted in Erosion Hazard Areas shall minimize soil disturbance and should maximize retention and replacement of native vegetative cover.
- ECP-5.7            Slopes with a grade of 40 percent or more should not be developed. No disturbance zones shall be designated where basin plans identify the need to prevent erosion damages in areas that are extremely sensitive to erosion impacts. Properly designed storm water tightlines may be allowed within designated no-disturbance zones.

**Landslide Hazard Areas**

- ECP-5.8            Landslide Hazard Areas should not be developed. Development proposed adjacent to landslide hazard areas shall be reviewed and mitigated to ensure development does not increase landslide or erosion hazards that would adversely impact downstream properties



or natural resources.

### **Seismic Hazard Areas**

ECP-5.9 Utilizing relevant Federal, State and County resources, the City shall identify the location of seismically active areas (liquefaction areas) and fault zones susceptible to damage in the event of an earthquake. The City shall identify escape routes and evacuation alternatives for emergency preparedness.

**GOAL EC-6            Protect natural and environmentally sensitive areas, open space, trees, vegetation, natural terrain, and drainage.**

### **Soil Conservation**

ECP-6.1 Conservation of native soils should be accomplished through various mechanisms to ensure soils remain healthy and continue to function as a natural sponge and filter, minimizing erosion and surface water runoff. Native soils should be retained on site and reused on site to the maximum extent possible.

ECP-6.2 Areas in which the native soils have been disturbed should have uniformly pervious loamy or coarser soils for the finished grade surface soil material throughout the minimum thickness of 12 inches. Ideally, such soil material would be from the affected area; however, loamy soil materials may be imported. Care must be exercised to prevent compacting any of the finish grade soil material. If the soil/geologic material below the loamy surface soil is only slowly or very slowly permeable, the developer shall ensure adequate drainage of the affected area.

ECP-6.3 The City shall promote and encourage the beneficial use of organic materials, including but not limited to their use in the following activities: agriculture and silviculture; road, park and other public project development; site development and new construction; restoration and remediation of disturbed soils; nursery and sod production; and landscaping. Organic materials do not include fly ash.

### **Grading and Clearing**

ECP-6.4 The City shall review its clearing and grading regulations. These ordinances should set seasonal clearing restrictions that severely limit clearing and grading activities from October to April. Critical areas, including sloped and riparian areas, should not be exposed during this time.

ECP-6.5 City regulations and programs should support forest retention and impervious surface restrictions to maintain hydrologic function.

ECP-6.6 City regulations and programs should strive to reduce excess nutrient loading in areas that are sensitive to excessive nutrient loading, for example, Lake Sammamish, or excessive primary production.

ECP-6.7 Clearing and grading shall be limited on all short plats, plats, commercial projects, and all non-residential projects to protect water quality, maintain hydrologic functions or wetlands, attenuate surface water runoff, limit erosion, and maintain fish and wildlife habitat and visual buffers. Seasonal limits shall restrict clearing and grading to the driest months. Tree retention shall be required for soil stability, significant trees, and buffering of development.

ECP-6.8 Grading and construction activities shall implement erosion control Best Management Practices and other development controls as necessary to reduce sediment and pollution discharge from construction sites to minimal levels.

### **Vegetation**

ECP-6.9 The City should protect native plant communities by encouraging management and control of non-native invasive plants including aquatic plants.

ECP-6.10 The City should actively encourage the use of environmentally safe methods of vegetation control, and herbicides should be minimized.

ECP-6.11 The use of native plants should be encouraged in landscaping requirements, erosion control projects, and the restoration of stream banks, lakes, shorelines and wetlands.

ECP-6.12 The City shall prepare regulations to preserve and protect trees in easements, rights-of way, parks, and potentially, under certain circumstances, private property. These regulations shall include, but shall not be limited to, guidelines for utility providers, private firms, City contractors and staff, as well as private individuals and neighborhood associations regarding appropriate practices for the pruning, maintenance, and/or removal of trees.

### **GOAL EC-7 Maintain and promote a diversity of species and habitat within the City.**

Fish and Wildlife policy objectives are to 1) identify and protect critical fish and wildlife habitat conservation areas, 2) link those critical habitat areas and other protected lands through a network system, and 3) integrate fish and wildlife habitat and conservation goals into new and existing developments.

ECP-7.1 The City shall strive to maintain the existing diversity of fish and wildlife species and habitats in the City through maintenance of a quality environment.

ECP-7.2 Fish and wildlife should be maintained through conservation and enhancement of terrestrial, air, and aquatic habitats associated with such fish and wildlife.

ECP-7.3 Habitats for species, which have been identified as endangered, threatened, or sensitive by the state or federal government shall not be reduced and should be preserved.

ECP-7.4 The City shall analyze wildlife corridors identified during County planning efforts to determine the impact of historic and recent development on its function and value. Mitigation measures or actions that can be taken to restore the corridor functions and



values should be considered. Studies should also examine appropriate boundaries for the corridor and alternative boundaries, increasing or decreasing, and whether the corridor can function in two portions.

- ECP-7.5 The City shall designate and protect, through measures such as regulations, incentives, capital projects or acquisition, the following Fish and Wildlife Habitat Conservation Areas found in the City:
- a. Habitat for federal, state or county listed Endangered, Threatened or Sensitive species,
  - b. Wildlife habitat networks designated by the City and/or County,
  - c. Riparian corridors; and
  - d. Habitat for candidate species, as listed by the Washington Department of Fish and Wildlife, found in the City.
- ECP-7.6 The City should designate and protect species of local importance, as listed by the Washington Department of Fish and Wildlife and listed by the City. Protection should be accomplished through regulations, incentives or acquisition.
- ECP-7.7 Development proposals shall be assessed for the presence of fish and wildlife habitat conservation species and species of local importance. A comprehensive assessment should follow a standard procedure or guidelines and shall occur one time during the development review process.
- ECP-7.8 Stream and wetland buffer requirements may be increased to protect species of local importance and their habitats.
- ECP-7.9 The City should protect salmonid habitats by ensuring that land use and facility plans (transportation, water, sewer, electricity, gas) include riparian and stream habitat conservation measures developed by the county, cities, federally-recognized tribes, service providers, and/or state and federal agencies. Development within basins that contain fish enhancement facilities shall consider significant adverse impacts to those facilities.
- ECP-7.10 In addition to providing for fish passage, capital improvement, conservation or enhancement projects should provide for stream flows and transport of sediment and organic matter at stream crossings.
- ECP-7.11 Dedicated open spaces and designated sensitive areas help provide wildlife habitat. Habitat networks for Threatened, Endangered and Priority species of local importance shall be designated and mapped. Habitat networks for other Priority Species should be designated and mapped. Planning should be coordinated to ensure that connections are made with adjacent segments of the network. The City should provide incentives for new development within the networks to incorporate design techniques that protect and enhance wildlife habitat values.
- ECP-7.12 The City should promote voluntary wildlife habitat enhancement projects by private

individuals and businesses through educational and incentive programs.

- ECP-7.13 The City may use its authority under the Growth Management Act, including its authority to designate and protect critical areas, such as fish and wildlife habitat conservation areas, to preserve and protect critical habitat listed for salmonid species by developing and implementing development regulations and non-regulatory programs.

**GOAL EC-8 Protect and enhance unique, valuable and critical plants and wildlife.**

- ECP-8.1 The City should continue to participate in the Tri-County partnership and Water Resource Inventory Area planning efforts. These plans shall:

- a. Identify early actions and long-term projects and programs that will lead to information on habitat conditions in Sammamish which can enable the recovery of endangered or threatened salmonids, while maintaining the economic vitality and strength of the region,
- b. Be comprehensive and science-based,
- c. Address water quality, water quantity and channel characteristics,
- d. Be developed in coordination with key decision-makers and stakeholders; and
- e. Provide an adaptive management approach.

- ECP-8.2 The City should evaluate programs and regulations to determine their effectiveness in contributing to ESA listed species conservation and recovery, and update and enhance programs where needed including evaluation of the zoning code, the Sensitive Areas Code, the Shoreline Master Program, the Clearing and Grading Code, the landscaping Code, the Surface Water Design Manual, best management practices for vegetation management and use of insecticides, herbicides and fungicides. The City may amend these regulations and best management practices to enhance their effectiveness in protecting and restoring salmonid habitat.

- ECP-8.3 Through the Watershed Resource Inventory Area planning process, geographic areas vital to the conservation and recovery of listed salmonid species shall be identified. The City shall evaluate this information to determine appropriate short and long-term strategies, including, but not limited to: designation of Fish and Wildlife Habitat Conservation Areas, development regulations (special district overlays, zoning, etc.), acquisitions, and capital improvement projects.

- ECP-8.4 The City may use its authority under the Growth Management Act, including its authority to designate and protect critical areas, such as fish and wildlife habitat conservation areas, to preserve and protect critical habitat listed for salmonid species by developing and implementing development regulations and non-regulatory programs.

- ECP-8.5 City regulations should prohibit the removal of in-channel large woody debris as well as large woody debris on adjacent banks, except in situations where public health and safety and/or significant infrastructure are threatened. In these cases, relocate large woody debris to sites, preferably within the same basin where it can provide similar benefits.



- ECP-8.6 City regulations should promote avoidance of new bank hardening projects in locations where natural bank conditions currently exist. Where and when opportunities exist, the City should promote the removal or retrofit of existing hardened bank stabilization projects with softer, more environmentally compatible bank treatments to increase riparian functional values. City regulations should promote the minimization of construction, fill, armoring, dikes and overwater structures that would either disrupt normal migration rates and patterns or limit access to shallow-feeding and refuge areas.
- ECP-8.7 For new or redevelopment, City regulations should require establishment, enhancement, restoration, and/or protection of appropriately sized riparian buffers around rivers, streams, wetlands, lakes, and near shore areas such that salmon conservation is not compromised. Buffers should be based on scientific data, principles of landscape ecology and ecosystem and conservation biology, and long-term feasibility. Riparian buffers should be required to be re-established and replanted during redevelopment of streamside properties.
- ECP-8.8 Shoreline plans, programs, and regulations should strive to maintain the existing natural shorelines of rivers, lakes, and near shore areas by evaluating whether existing policies, regulations, and enforcement are adequate to protect them and shallow water habitats used by juvenile salmon.

**GOAL EC-9 Recognize and protect historical and cultural resources in the Community.**

**Tribes and Agencies**

- ECP-9.1 The City should coordinate with local jurisdictions, federal and state agencies, federally-recognized tribes, citizen interest groups, special districts, and citizens to develop a Historical and Cultural Preservation Plan.
- ECP-9.2 Development of Preservation and Conservation regulations and restoration projects should be coordinated with adjacent jurisdictions, federal and state agencies, federally recognized tribes, special interest groups and citizens when protecting and restoring existing sites and facilities.

**Structures and Landmarks**

- ECP-9.3 The City should establish a Landmark Preservation Board.
- ECP-9.4 The preservation, restoration, acquisition, and adaptive re-use of historic, archeological, and cultural resources should be encouraged in order to maintain the unique character of the Sammamish community and to preserve tangible reminders of the area's history and cultural roots.

- ECP-9.5      The City should create criteria for Key Historic Landmarks that meet the following:
- a. The structure or site is either 40 years old or is less than 40 years old but commemorates an important aspect of Sammamish's cultural history,
  - b. The structure or site has an important connection to a historic person, historic event, or was designed or built by a notable builder, designer, or architect,
  - c. The structure or site makes an important contribution to the visual character of Sammamish due to its location or design; and
  - d. The structure or site possesses integrity of location or design.
- ECP-9.6      The City should form a partnership with King County, State of Washington, tribes, other governmental agencies, and local historical societies to conduct a comprehensive historic resources survey that inventories historical sites 40 years or older and archaeological resources for the purpose of identifying any of potential historic significance to the Sammamish community and to guide resource planning and decision making. The City should strive to utilize volunteer resources to the extent feasible to promote community involvement and to make efficient use of resources.
- ECP-9.7      An ongoing process of survey and evaluation should be established by the City in partnership with King County, State of Washington, tribes, other governmental agencies, and local historical societies.
- ECP-9.8      The City may provide incentives such as tax reductions, current use taxation, technical assistance, and transfers of development rights to protect significant historic and archeological resources and Historic Landmarks. An evaluation system shall be established to prioritize the use of incentives based on the importance of the site. Public and semi-public uses should not be granted transfers of development rights.
- ECP-9.9      The development of parks and trails and acquisition of open space should be coordinated with the preservation, restoration, and use of heritage sites.
- ECP-9.10      When opportunities arise to acquire historic or cultural resources, the City should evaluate feasibility of purchase or lease. This may include exploration of cost sharing of acquisition, restoration, or maintenance with other public or private agencies or governments.

## REFERENCES

This element was developed with data from: the Bellevue Comprehensive Plan, the King County Comprehensive Plan, the East Sammamish Community Plan, the East Lake Sammamish Basin Plan, the King County Countywide Planning Policies, Lake Washington/Cedar/Sammamish Watershed WRIA8, Sammamish Heritage society, the Beaver Lake Management District and other sources. Specific data sources also include:



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## **V. TRANSPORTATION ELEMENT**

The purpose of the Transportation Element is to establish goals and policies that will guide the development of surface transportation in the City of Sammamish, in a manner consistent with the overall goals of the Comprehensive Plan. Based upon existing and projected land use and travel patterns, the Transportation Element addresses roadway classifications, levels of service, transit and non-motorized modes, future travel forecasts, transportation system improvements, financing strategies, and concurrency management. It establishes policy for transportation system development, and for existing and future improvement of transportation programs and facilities.

### **PRIMARY ISSUES**

#### **Planning Context**

The Plan's Transportation Element has been developed to be consistent with transportation policy and plans that have been adopted at the State and local levels, as described in the following sections.

#### *State of Washington*

#### **Growth Management Act**

Transportation planning at the State, County and local levels is mandated by the State of Washington Growth Management Act (GMA) [RCW 36.70A]. The GMA contains many requirements for the preparation of a Comprehensive Plan's Transportation Element. In addition to requiring consistency with the land use element, specific GMA requirements for a Transportation Element include [RCW 36.70A.070(6)]:

- Inventory of facilities by mode of transport.
- Level-of-service calculations to aid in determining the existing and future operating conditions of the facilities.
- Proposed actions to bring these deficient facilities into compliance with adopted level-of-service standards.
- Traffic forecasts, based upon land use.
- Identification of transportation infrastructure needs to meet current and future demands.
- Funding analysis for needed improvements, as well as possible additional funding sources.
- Identification of intergovernmental coordination efforts.
- Identification of transportation demand management strategies as available.

In addition to these elements, GMA mandates that development cannot occur unless existing infrastructure either exists or is built concurrent with development. In addition to construction of new capital facilities, infrastructure may include transit service, transportation demand management (TDM) strategies, or transportation system management (TSM) strategies.

### **Washington Transportation Plan**

The Washington Transportation Plan (WTP) presents the State of Washington's strategy for implementation programs and budget development over a 20-year planning horizon. The WTP contains an overview of the current conditions of the statewide transportation system, as well as an assessment of the State's future transportation investment needs. The WTP policy framework sets the course for meeting those future needs. The goals of the WTP are grouped into three major categories: Vibrant Communities, Vital Economy, and Sustainable Environment.

- Under **Vibrant Communities**, goals are directed at maintaining and operating the transportation system to provide all citizens access to basic services; providing seamless multimodal statewide transportation system with minimal congestion; providing a transportation system that is safe and secure; and building communities through community-based design and collaborative decision-making.
- Under **Vital Economy**, goals are directed toward promoting the State's general prosperity through competitive freight movement and support for tourism.
- Under **Sustainable Environment**, goals are directed toward stewardship of the environment through maintenance of air quality, water quality, habitats, watershed quality, and connectivity; and by reuse and recycling resource materials.

The WTP addresses the essential and interconnected roles of the Regional Planning Organizations and their local jurisdictions, and the important transportation issues of tribal governments in Washington State. It highlights the role of the Washington State Department of Transportation (WSDOT) to maintain, preserve and improve the transportation system while meeting the other societal defined above. Although not included in the current update, future updates of the WTP will include a 10-year prioritized implementation plan for meeting the transportation needs of the people of Washington State.

### ***Puget Sound Region***

#### **Puget Sound Regional Council – Destination 2030**

Destination 2030 is the 30-year transportation plan for the central Puget Sound Region of Washington State, which is comprised of King, Pierce, Snohomish, and Kitsap Counties. The plan was developed to maintain and expand the regional vision of a growth management strategy supporting compact urban areas connected by a high capacity transportation system. *Destination 2030* focuses upon preserving and managing the existing transportation system; and ensuring development of a balanced multi-modal transportation system that includes choices for private vehicles, public transit, ride sharing, walking and bicycling, as well as freight modes. The plan coordinates the diverse ambitions of the region's counties, cities, towns and neighborhoods, and emphasizes the connection between land use and transportation to reduce long-term infrastructure costs and provide better links between home, work, and other activities.

The multi-county framework policies adopted by *Destination 2030* include concentrating development in urban growth areas to conserve natural resources; provision of necessary public facilities to support development and to implement local planning objectives; adequate consideration of alternatives to new facilities, including but not limited to TDM; preservation of the character of identified rural areas; support of effective and efficient mobility for people and goods that are consistent with the region's growth and transportation strategies; and development of a transportation system that emphasizes accessibility and includes a variety of mobility options. (PSRC 2001)



## **Sound Transit**

Sound Move is the 10-year regional transit system plan adopted by Sound Transit, the Regional Transit Authority (RTA) that provides regional transit service to Snohomish, King, and Pierce Counties within the central Puget Sound Region. Sound Move is the first step toward a long range Regional Transit Vision, which is to expand the capability of the region's major transportation corridors by adding new high-capacity transportation services and facilities.

Sound Move includes a mix of transportation improvements that include high occupancy vehicle (HOV) expressways, regional express bus routes, commuter rail, and light rail. The principles and commitments of the RTA, as expressed by Sound Move, include recognition of regional as well as local transit needs throughout the three-county RTA district; equitable distribution of resources throughout the RTA district; simultaneous work on projects in all sub-areas; coordination between regional and local transit services; and public accountability. (Sound Transit 1996)

## *King County*

### **King County Planning Policies**

King County's Countywide Planning Policies provide direction for the County and the 39 jurisdictions contained within it. Policies are directed at providing a balanced multimodal transportation system within the County, based upon regional priorities and consistent with adopted land use plans. The County defines the balanced transportation system as one that promotes all modes, including automobiles, heavy trucks, rail, transit, bicycles, pedestrians, equestrian, and air travel, as efficiently as possible. TDM should be included in addition to capacity improvements. Movement of freight as well as people should be considered in comprehensive plans.

Washington State, King County, Puget Sound Regional Council (PSRC), and cities, as well as transit operators, airport officials, etc., should work together to provide an efficient region-wide transportation system. Transportation impacts to individual cities generated by the State, County, and/or neighboring jurisdictions must be taken into account. All levels of jurisdictions should coordinate when planning and financing projects to ensure State, regional, County, and city visions and land use plans are consistently achieved. Consistency of plans, projects, and thresholds with regional, State, and neighboring jurisdictions should also be considered.

Where appropriate, the County and its cities should adopt a clear definition of level-of-service and concurrency requirements, and structure impact fees to ensure that new development contributes its fair share of the resources needed to mitigate the impact on the transportation system. Future improvement needs for all modes should be considered and included in Comprehensive Plans, with special interest in completing the regional systems. Additionally, level-of-service calculations should be consistent with those of adjacent agencies to aid in determining accountability and impacts of projects. Mode-split goals for each mode of transportation should be determined by local agencies to ensure services are adequate.

Comprehensive plans should include timelines for all improvements, focusing on maintenance and preservation of existing infrastructure with additions as necessary to accommodate future growth. Furthermore, alternative funding sources should be sought when funding falls short of projected needs. Sources may include developer contributions, impact fees, and Local Improvement Districts (LIDS). (King County Growth Management Planning Council 2002)

### **King County Six-Year Transit Development Plan**

The King County Six-Year Transit Development Plan provides the policy framework for identifying and prioritizing transit investments for the county, with a focus on congestion relief and improved mobility. The Six-Year Plan also emphasizes service efficiency, which includes improvement of capacity utilization, reducing duplication of services, improving or reallocating unproductive service, and creating transit-oriented development projects.

The objectives of the Six-Year Plan describe the areas of emphasis of the long-range vision for the transit system during the period from 2002 to 2007. The objectives, which form the basis for specific plan strategies, include:

- Improved public transportation access to travel destinations by reconfiguring current service, adding new services and facilities, and pursuing innovative solutions and partnerships,
- Higher levels of bus service to established urban and industrial activity centers within the County,
- Enhanced service to and within jurisdictions that aggressively implement local land use plans, growth management strategies, and transit-oriented development,
- Provision and support of TDM strategies for employers, local jurisdictions, and other agencies,
- Design and modification of services and infrastructure to be more efficient and effective,
- Coordinate with Sound Transit, Community Transit, Pierce Transit, and the Washington State Ferry System to provide integrated efficient service to major destinations throughout the region,
- Improve the transit operating environment in locations and along corridors where actual or potential for high ridership exists, and where local jurisdictions provide necessary supporting plans, policies, permits, and/or funding to do so; and
- Improve access for pedestrians (with and without disabilities) and bicyclists, as well as the waiting environment at transit facilities with the highest use.

Based upon these objectives, 27 strategies provide direction for service and system development. The current update of the Six-Year Plan places particular emphasis on strengthening transit service along the core freeway and arterial network that serves major destinations throughout the county, as well as continued expansion of Park-and-Ride lots in the suburban areas of the county. (King County Metro 2002)

### **Public Input**

The input of the citizens of the City of Sammamish has been significant in the development of the Recommended Transportation Plan.

### **Planning Advisory Board**

A Planning Advisory Board (PAB) made up of citizen volunteers has steered development of the City of Sammamish Comprehensive Plan. Specifically, the Transportation Sub-Committee of the PAB has guided development of the Transportation Element. The transportation sub-committee developed a list of transportation priorities by which the relative priority of transportation improvement projects will be determined. The transportation priorities are listed as follows:

Improve the ability of City of Sammamish residents to enter and exit the City via roadways (within and adjacent to the City), transit, and non-motorized facilities;



- Enter into inter-local agreements,
- Focus on commute routes.

Provide concurrency management;

- Mitigate development impacts within the time frame presented in the Transportation Plan,
- Develop a management system.

Improve traffic flow within the City;

- Improve the basic overall internal transportation system,
- Focus on major north-south and east-west corridors,
- Provide a balanced internal transportation system,
- Balance traffic flow across numerous routes rather than splitting the community with one or two, major routes.

Improve quality of life and safety concerns;

- Improve existing facilities to meet current standards,
- Consider community lifestyle impacts,
- Make safety improvements to existing facilities that may include but are not limited to sidewalks and sight lines.

Enhance internal connectivity of non-motorized facilities;

- Address connectivity of pathways, sidewalks, trails, and bicycle facilities,
- Provide connections between parks, schools, shopping, community centers, and neighborhoods.

Enhance internal connectivity of roadways;

- Address connectivity within and between neighborhoods,
- Provide connections between parks, schools, shopping, community centers, and neighborhoods.

### **Other Citizen Input**

Citizens have had three other primary means by which to provide input to the development of the Transportation Element.

- Written or verbal comments regarding this document and the May 2002 Review Drafts of the Transportation Element, as provided to City staff.
- Written or verbal comments provided to City staff at the Open Houses that coincide with the completion of this document and the May 2002 Review Drafts.
- Results of the City of Sammamish 2002 Community Survey, which was mailed to 900 households in early May 2002, and is available at the City of Sammamish web site. In addition to relating their general level of satisfaction with regard to transportation in Sammamish, survey respondents identified which type of street, non-motorized, and transit improvements they favor.

## **Existing Conditions**

The primary objective of this section of the report is to assess existing traffic conditions within and adjacent to the City of Sammamish. In order to identify existing traffic conditions, a comprehensive data collection process has been undertaken. The data was primarily collected from the City of Sammamish, King County, and WSDOT. The assessment of existing conditions serves as a baseline for measurement of capacity for future land use and transportation planning.

The following categories are included in this section:

- Identification of State Highways,
- Roadway Inventory,
- Traffic Signal Inventory,
- Roadway Design Standards,
- Traffic Level-of-Service Analysis,
- Accident Analysis,
- Analysis of Access to the City,
- Traffic Calming,
- Current Six-Year Transportation Improvement Program (TIP),
- Existing Transit Service,
- Existing Non-Motorized Conditions.

## **Identification of State Highways**

### *Identification of State Highways*

No state highways are located within the Sammamish city limits. However, three State-controlled highways, Interstate 90 (I-90), State Route 520 (SR 520), and State Route 202 (SR 202), run near or adjacent to Sammamish, providing the primary means of access into and out of the City. Improvements on these facilities will highly impact traffic conditions in Sammamish and in turn, conditions on the highways will be impacted by transportation conditions and improvements in Sammamish.

I-90 is a limited-access freeway that consists of three lanes in each direction and runs east-west, approximately one mile south of the southern Sammamish city limits. From just west of Issaquah to Seattle, I-90 also has an HOV lane in each direction. I-90 serves as the primary east-west freeway for regional travel within and beyond western Washington. To the west, it provides direct connection to the Cities of Bellevue, Mercer Island, and Seattle. To the east, it serves as the major east-west freeway across the State of Washington, connecting to Spokane at the eastern state border, and running beyond to the eastern coast of the United States.

SR 520 is a limited access freeway that consists primarily of two lanes in each direction and runs east west between the Cities of Redmond, Bellevue and Seattle. HOV lanes are present along various stretches of this highway, but are not continuous. SR 202, which runs adjacent to the northern Sammamish city limits, connects to SR 520 west of the City. SR 202 (also called Redmond-Fall City Road in the area adjacent to Sammamish) consists of one lane in each direction, widening to two lanes in each direction in the City of Redmond. SR 520/SR 202 is the primary east-west highway alternative to I-90. This highway



corridor provides direct connection to the Cities of Redmond, Bellevue, Kirkland, and Seattle to the west, and to the Cities of Fall City, Snoqualmie, and North Bend to the east.

Both I-90 and SR 520 connect directly to Interstate 405 (I-405) and Interstate 5 (I-5) to the west, which are the primary north-south freeways within the region.

### *Highways of Statewide Significance*

In 1998, Highways of Statewide Significance (HSS) legislation was passed by the Washington State Legislature and codified as RCW 47.06.140. Highways of Statewide Significance are those facilities deemed to provide and support transportation functions that promote and maintain significant statewide travel and economic linkages. The legislation emphasizes that these significant facilities should be planned from a statewide perspective (WSDOT 2002). Thus, level-of-service requirements for HSS highways are established by WSDOT, not by local standards.

Adjacent to the City of Sammamish, I-90 carries the HSS designation (Washington State Transportation Commission 1998) and thus is controlled by State level-of-service requirements.

## **Roadway Inventory**

### *Roadway Functional Classification System*

Transportation roadway systems consist of a hierarchy of streets that provide the dual functions of access to land and development, and through movement for travelers. Streets are classified based upon the relative degree to which they provide these functions. Land use policies and street standards typically vary according to the street function. For example, most jurisdictions designate minimum right-of-way requirements, stopping and entering sight distances, roadway width, design speed, design traffic volumes, access control, and sidewalk requirements in accordance with an adopted classification system. These requirements are usually codified in the jurisdiction's municipal code and/or adopted as street standards.

Based on state law, cities and counties are required to adopt a street classification system that is consistent with state and federal guidelines. In the State of Washington, these requirements are codified in RCW 35.78.010 and RCW 47.26.090. Each local jurisdiction is responsible for defining its transportation system into the following functional classifications: freeway, principal arterial, minor arterial, and collector. All other roadways are assumed to be local access streets. **Figure V-1** shows the existing classification of roadways for the City of Sammamish. The classifications are summarized as follows.

- **Freeway/Interstate** is a multi-lane, high-speed, high-capacity roadway intended exclusively for motorized traffic. All access is controlled by interchanges and bridges separate road crossings. While I-90 to the south and SR 520 to the northwest are classified as freeways, no roadways of this designation exist within the Sammamish city limits.
- **Principal Arterial** is a roadway that connects major community centers and facilities, and is often constructed with limited direct access to abutting land uses. Principal arterials serve high-volume corridors, carrying the greatest portion of through or long-distance traffic within a city. The selected routes should provide an integrated system for complete circulation of traffic, including ties to the major rural highways entering the urban area. The following is a list of roadways currently designated as principal arterials in the City of Sammamish:
  - Sahalee Way NE, between 228th Avenue NE and the north city limits,

- 228th Avenue, between SE 43rd Way and Sahalee Way NE,
  - SE 43rd Way, between the south city limits and 228th Avenue SE,
  - Issaquah-Pine Lake Road, between SE 48th Street and 228th Avenue SE,
  - Issaquah-Fall City Road, between SE 32nd Street and SE Duthie Hill Road.
- **Minor Arterial** is a roadway connecting centers and facilities within the community and serving some through traffic, while providing a greater level of access to abutting properties. Minor arterials connect with other arterial and collector roads extending into the urban area, and serve less concentrated traffic-generating areas, such as neighborhood shopping centers and schools. Minor arterial streets serve as boundaries to neighborhoods and collect traffic from collector streets. Although the predominant function of minor arterial streets is the movement of through traffic, they also provide for considerable local traffic with origins or destinations at points along the corridor. The following is a list of roadways currently designated as minor arterials in the City of Sammamish:
    - E Lake Sammamish Parkway, between the south city limits and the north city limits,
    - NE Inglewood Hill Road, between E Lake Sammamish Parkway and 228th Avenue NE,
    - NE 8th Street, between 228th Avenue NE and 244th Avenue NE,
    - 244th Avenue NE, between NE 8th Street and the north city limits,
    - East Sammamish/244th Avenue SE Corridor, between SE 24th Street and NE 8th Street (note, this will be a Minor Arterial only if the connection through this corridor is constructed in the future, but it does not currently exist as a continuous roadway),
    - 244th Avenue SE, between SE 32nd Street and SE 24th Street,
    - SE 32nd Street, between Issaquah-Pine Lake Road and Issaquah-Fall City Road.





### Legend

-  Principal Arterial  
 Minor Arterial  
 Collector  
 Future Collector
-  Alignment to be selected within this corridor

0.5 0 0.5 Miles

Scale: 1" = 1 mile



DISCLAIMER: This map is derived from various data sources. While care has been taken to insure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided, "as is".

### Figure V-1

Back of Figure V-1



- **Collector** is a roadway that connects two or more neighborhoods or commercial areas, while also providing a high degree of property access within a localized area. These roadways “collect” traffic from local neighborhoods and carry it to the arterial roadways. Additionally, collectors provide direct access to services and residential areas, local parks, churches and areas with similar uses of the land. Collectors may be separated into principal and minor designations according and the degree of travel between areas and the expected traffic volumes. The following is a list of roadways currently designated as collectors in the City of Sammamish:
  - Louis Thomson Rd, between 212th Avenue SE and E Lake Sammamish Parkway NE,
  - 216th Avenue NE, between NE Inglewood Hill Road and NE 20th Place,
  - 212th Ave, between E Lake Sammamish Parkway NE and Louis Thomson Road,
  - SE 8th St, between 212th Avenue SE and 218th Avenue SE,
  - 218th Avenue SE, between SE 8th Street and SE 4th Street,
  - SE 4th St, between 218th Avenue SE and 228th Avenue SE,
  - SE 8th Ave, between 228th Avenue SE and 244th Avenue SE,
  - E Main Dr, between 244th Avenue SE and east city limits,
  - SE 20th St, between 212th Avenue SE and 228th Avenue SE,
  - SE 24th Ave, between 228th Avenue SE and 244th Avenue SE,
  - Trossachs Boulevard SE, between SE Duthie Hill Road and north city limits.

**Table V-A** provides a comparison of the City of Sammamish arterial and collector roadway miles to Federal Highway Administration (FHWA) guidelines (FHWA 1989), which must be followed to qualify the City of Sammamish streets for State and Federal grant programs.

**TABLE V-A**  
**MILES OF ROADWAY BY FUNCTIONAL CLASSIFICATION**

| FUNCTIONAL CLASSIFICATION      | EXISTING MILES OF ROADWAY IN SAMMAMISH <sup>1</sup> | TYPICAL RANGE OF PERCENTAGE OF TOTAL ROADWAY <sup>2</sup> | TYPICAL RANGE OF MILES BASED UPON FHWA GUIDELINES |
|--------------------------------|-----------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------|
| Freeway and Principal Arterial | 11.7                                                | 5% - 10%                                                  | 8 – 16                                            |
| Minor Arterial                 | 16.1                                                | 10% - 15%                                                 | 16 – 24                                           |
| Collector                      | 11.1                                                | 5% - 10%                                                  | 8 – 16                                            |
| <b>Sub Total</b>               | <b>38.9</b>                                         | ---                                                       | ---                                               |
| Local Access                   | 121.1                                               | ---                                                       | 104 – 128                                         |
| <b>Total</b>                   | <b>160.0</b>                                        | ---                                                       | 160                                               |

1. Source: City of Sammamish 2002  
2. Source: FHWA 1989

The topography and development patterns within the City of Sammamish limit the opportunity to add Principal or Minor Arterial routes. Some additional Collector mileage could be added and the totals would still remain within the FHWA guidelines.

### **City Street Inventory**

A street inventory has been summarized for the City of Sammamish, based upon the Roadway Network Inventory System (RNIS) that is tabulated by King County. The RNIS database for the City of Sammamish contains over 27,000 records of roadway features such as pavement types, sidewalks and shoulders, curb and gutter, guardrail, traffic control devices, and drainage features. A summary of this tabular data indicates an approximate total of 284.5 lane-miles of roadway within Sammamish. Of this length, 252.1 lane-miles (89 percent) are paved with asphalt concrete, 31.8 lane-miles (11 percent) are light bituminous roadway, and 0.6 lane-miles (less than 1 percent) are gravel road. **Table V-B** shows the County summary of roadway lane-miles, as well as inventories of existing curb and gutter, sidewalk, and traffic signals. Note, this King County data is complete only through 1999, and does not include new roadways, mostly constructed as part of new developments. The City's best current estimate is 160 miles of roadway (80 miles of public road and 80 miles of private road). Almost all roads consist of two lanes, resulting in approximately 320 lane-miles of roadway.

**TABLE V-B**  
**STREET INVENTORY FOR CITY OF SAMMAMISH**

| <b>INVENTORY ITEM</b>           | <b>QUANTITY</b>                           |
|---------------------------------|-------------------------------------------|
| Roadway - Total                 | <b>284.5 lane-miles</b>                   |
| - Asphalt concrete              | 252.1 lane-miles                          |
| - Light bituminous              | 31.8 lane-miles                           |
| - Gravel                        | 0.6 lane-miles                            |
| Curb and Gutter                 | <b>532,047 linear feet (~100.8 miles)</b> |
| Concrete Sidewalk, one side     | <b>72.7 miles</b>                         |
| Asphalt Concrete Walk, one side | <b>0.4 miles</b>                          |
| Gravel Shoulder                 | <b>109.8 miles</b>                        |
| Paved Shoulder                  | <b>52.9 miles</b>                         |
| Traffic Signals (Each)          | <b>14</b>                                 |

Source: King County 1999

### **Video Inventory**

As part of the development of the Comprehensive Plan, the City implemented a video inventory process that is tied to the City Geographical Information System (GIS). All arterial and collector roadways were videotaped with special equipment that allows the various features of the roadway (curb, gutter, shoulder, guardrail, sidewalks, inlets, traffic control devices, etc.) captured on the video to be directly transferred into the GIS. The City will regularly update the roadway inventory using this method.



### **Traffic Signal Inventory**

An inventory of the signalized intersections was conducted by the City of Sammamish. The locations of the fourteen existing traffic signals, along with five intersections with flashing signals, are shown in **Figure V-2**.

### **Roadway Design Standards**

The City has adopted interim standards for development of City streets, as documented in the *Interim Public Works Standards* (April 2000). As the City reconstructs roadways to improve vehicular capacity and safety, they will become more urban in nature. The Goals, Objectives and Policies of the Transportation Element relate street design to the desires of the local community, and advise that design be at a scale commensurate with the function that the street serves. Guidelines are therefore important to provide designers with essential elements of street design as desired by the community.

**Figure V-3** illustrates typical street sections for Arterial and Collector Street design. This design is consistent with most municipalities' urban roadway design standards. In this illustration, the vertical curbs provide access control and the overall character suggests a "city" driving behavior with lower travel speeds.

### **Traffic Level-of-Service Analysis**

Level-of-Service (LOS) is the primary measurement used to determine the operating condition of a roadway segment or intersection. In general, LOS is determined by comparing traffic volumes (counted or modeled) to the carrying capacity of the intersection or roadway segment. The following section describes the traffic volumes that were collected, the approaches used for LOS analysis, and the results of the analyses under existing conditions.

#### ***Average Weekday Daily Traffic***

Daily traffic counts were collected by the City of Sammamish in 2002 at sixteen locations throughout the City. Average weekday daily traffic (AWDT) counts were calculated by averaging the daily traffic counts of Tuesday, Wednesday, and Thursday during a typical week. Locations and volumes for existing AWDTs are listed in **Table V-C** and illustrated in **Figure V-4**.

The highest traffic volumes shown occur outside of the city limits, at SR 202, E Lake Sammamish Parkway and Issaquah-Fall City Road. Within the City, 228th Avenue and E Lake Sammamish Parkway carry the highest volumes of traffic, which is expected since they serve as the City's primary north-south corridors leading into and out of the City.

**TABLE V-C  
EXISTING AVERAGE WEEKDAY DAILY TRAFFIC (AWDT)**

| LOCATION                                               | EXISTING AWDT |
|--------------------------------------------------------|---------------|
| E Lake Sammamish Pkwy, south of 187th Ave NE           | 18,500        |
| Sahalee Way NE, south of NE 50th St                    | 15,800        |
| 244th Ave SE, south of SR 202                          | 4,200         |
| E Lake Sammamish Pkwy, north of NE Inglewood Hill Rd*  | 17,600        |
| Sahalee Way NE, north of NE 25th Way*                  | 9,500         |
| 244th Ave NE, north of NE 22nd St*                     | 3,400         |
| NE Inglewood Hill Rd, west of 216th Ave NE*            | 11,200        |
| 228th Ave NE, south of NE Inglewood Hill Rd/NE 8th St* | 18,600        |
| NE 8th St, east of 228th Ave NE*                       | 5,500         |
| SE 8th St, east of 228th Ave SE*                       | 8,800         |
| E Lake Sammamish Pkwy, south of SE 8th St              | 9,800         |
| 212th Ave SE, south of SE 8th St                       | 3,400         |
| 228th Ave SE, south of SE 10th St                      | 21,200        |
| E Lake Sammamish Pkwy, south of 212th Ave SE           | 16,700        |
| 228th Ave SE, south of SE 32nd Way                     | 15,400        |
| Issaquah-Pine Lake Rd, north of SE 32nd Way            | 14,600        |
| 244th Ave SE, north of SE 32nd Way                     | 2,700         |
| 256th Ave SE, north of Issaquah-Beaver Lake Rd         | 2,100         |
| SE Duthie Hill Rd, north of Issaquah-Beaver Lake Rd    | 8,900         |
| E Lake Sammamish Pkwy, south of SE 43rd St             | 31,300        |
| Issaquah-Fall City Rd, south of Issaquah-Pine Lake Rd  | 31,800        |
| Issaquah-Pine Lake Rd, south of SE 32nd St             | 12,400        |
| Trossachs Blvd SE, north of SE Duthie Hill Rd          | 4,700         |

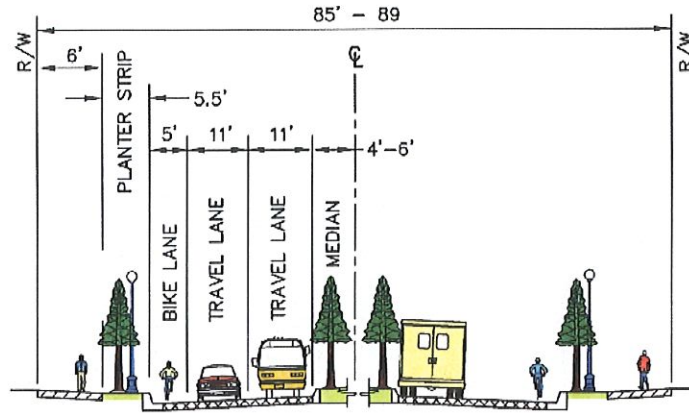
\*Locations marked with asterisks show AWDTs based on modeled volumes under existing conditions. All other volumes shown are based upon traffic counts conducted in 2002.



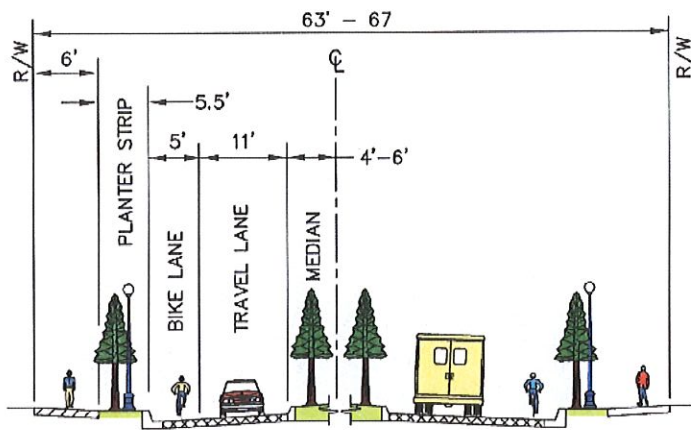


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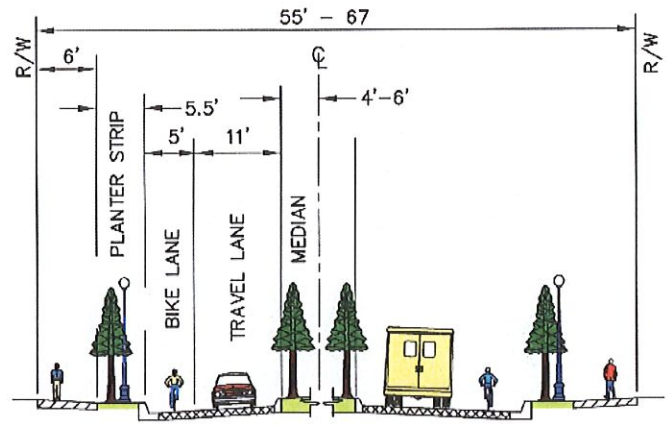




**Principal Arterial Roadway Section**



**Minor Arterial Roadway Section**



**Collector Arterial Roadway Section**

## Existing Roadway Design Standards

September 2003

SOURCES: City of Sammamish, 2002.

DISCLAIMER: This map is derived from various data sources. While care has been taken to insure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided, "as is".

**Figure V-3**

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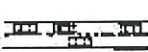

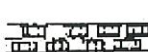

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### LOS Analysis

The Highway Capacity Manual (HCM 2000) is the recognized source for the techniques used to measure transportation facility performance. Using the HCM procedures, the quality of traffic operation is graded into one of six levels-of-service: A, B, C, D, E, or F. **Table V-D** summarizes the characteristic traffic flow for the varying levels-of-service. As the table shows, LOS A and B represent the best traffic operation. LOS C and D represent intermediate operation and LOS E and F represent high levels of traffic congestion.

**TABLE V-D**  
**CHARACTERISTIC TRAFFIC FLOW FOR LEVEL-OF-SERVICE MEASURES**

| LEVEL-OF-SERVICE |                                                                                     | CHARACTERISTIC TRAFFIC FLOW                                                                                            |
|------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| A                |    | Free flow, low volumes and no delays                                                                                   |
| B                |    | Stable flow, speeds restricted by travel conditions, minor delays,                                                     |
| C                |    | Stable flow, speeds and maneuverability closely controlled due to higher volumes.                                      |
| D                |  | Stable flow, speeds and maneuverability closely controlled due to higher volumes.                                      |
| E                |  | Unstable flow, low speeds, considerable delay, volume at or near capacity, freedom to maneuver is extremely difficult. |
| F                |  | Forced flow, very low speeds, volumes exceed capacity, long delays with stop-and-go traffic.                           |

Source: HCM 1997

### Intersection LOS Criteria

LOS for intersections is determined by the average amount of delay experienced by vehicles at the intersection. **Table V-E** summarizes the LOS criteria for signalized intersections.

For two-way stop-controlled (TWSC) intersections, LOS depends on the amount of delay experienced by drivers on the minor (stop-controlled) approach. LOS for a TWSC intersection is determined by the average computed or measured delay for each minor movement. All-way stop-controlled (AWSC) intersections require drivers on all approaches to stop before proceeding into the intersection. LOS for AWSC intersections is determined by the average computed or measured delay for all movements.

**TABLE V-E**  
**LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS**

| LEVEL-OF-SERVICE (LOS) | AVERAGE DELAY PER VEHICLE<br>(SECONDS/VEHICLE) |
|------------------------|------------------------------------------------|
| A                      | = 10                                           |
| B                      | > 10 – 20                                      |
| C                      | > 20 – 35                                      |
| D                      | > 35 – 55                                      |
| E                      | > 55 – 80                                      |
| F                      | > 80                                           |

Source: HCM 2000

The LOS criteria for stop-controlled intersections have different threshold values than those for signalized intersections, primarily because drivers expect different levels of performance from distinct types of transportation facilities. In general, stop-controlled intersections are expected to carry lower volumes of traffic than signalized intersections. Thus for the same LOS, a lower level of delay is acceptable at stop-controlled intersections than it is for signalized intersections. **Table V-F** summarizes the LOS thresholds for both TWSC and AWSC intersections.

**TABLE V-F**  
**LEVEL-OF-SERVICE CRITERIA FOR TWSC AND AWSC INTERSECTIONS**

| LEVEL-OF-SERVICE (LOS) | AVERAGE DELAY PER VEHICLE<br>(SECONDS/VEHICLE) |
|------------------------|------------------------------------------------|
| A                      | = 10                                           |
| B                      | > 10 – 15                                      |
| C                      | > 15 – 25                                      |
| D                      | > 25 – 35                                      |
| E                      | > 35 – 50                                      |
| F                      | > 50                                           |

Source: HCM 2000

The Intersection Capacity Utilization (ICU) method is used to estimate LOS of roundabouts. ICU provides a straightforward method for calculating an intersection's LOS, by simply taking the ratio of the critical movements volume to saturation flow rates, analogous to the intersection volume to capacity ratio. In the ICU method, LOS is determined by the percent of capacity utilized by measured or estimated traffic volumes. LOS is designated as follows: 0 to 60 percent utilization is LOS A; greater than 60 to 70 percent utilization is LOS B; greater than 70 to 80 percent utilization is LOS C; greater than 80 to 90 percent utilization is LOS D; greater than 90 to 100 percent utilization is LOS E; and greater than 100 percent utilization is LOS F (Trafficware 2001).

### Intersection LOS Standards

LOS standards are used to evaluate the transportation impacts of long-term growth and concurrency. In order to monitor concurrency, the City must adopt standards by which the minimum acceptable roadway operating conditions are determined and deficiencies may be identified. The intersection LOS standards adopted in this Transportation Element are LOS D for intersections that include Principal Arterials, and LOS C for intersections that include Minor Arterial or Collector roadways. For intersections of roadways



with different functional classifications, the higher classification (and thus the lower standard) applies. Intersection LOS is calculated using the standard analysis procedures described in this section for whichever is worse between the AM or PM peak hour. Intersections with LOS below these defined standards will be considered deficient.

### PM Peak-Hour Intersection LOS

LOS analysis was performed for existing PM peak-hour conditions at 25 intersections within and adjacent to the Sammamish city limits. **Table V-G** summarizes the intersection locations, the existing traffic control for each intersection, and the calculated LOS, based upon existing traffic counts for the PM peak hour. The intersection LOS is also illustrated in **Figure V-5**. The results shown in the table represent LOS based upon average delay for all traffic movements at signalized and all-way stop intersections. At two-way stop controlled intersections, the LOS is based on the average delay for the minor leg movement at the intersection. Thus, there may be significantly longer delays for certain directions of traffic movements than the composite LOS measure shows.

The table shows that during the PM peak hour under existing conditions, most intersections are operating at or better than their defined standard. Six intersections are shown to operate at congested levels during the peak hour: three within the city limits and three outside the City. Inside the City, one intersection is operating at LOS E and two are at LOS F. In all three cases, the intersection is currently a TWSC intersection, indicating that vehicles that are approaching on the minor (stop-controlled) leg(s) of the intersection are experiencing high levels of delay. Analysis also shows that outside the city limits, three major access points to the City of Sammamish are operating at LOS F: the intersections of E Lake Sammamish Parkway with SR 202 to the north and Issaquah-Fall City Road to the south, as well as the intersection of Sahalee Way NE with SR 202. These results clearly indicate that collaboration with the neighboring Cities of Redmond and Issaquah will be required to address some of the most pressing traffic problems for the City.

**TABLE V-G**  
**EXISTING INTERSECTION LOS – PM PEAK HOUR**

|    | INTERSECTION                                        | LOS STANDARD <sup>1</sup> | TRAFFIC CONTROL <sup>2</sup> | DELAY <sup>3</sup> (SEC) | LOS <sup>4</sup> |
|----|-----------------------------------------------------|---------------------------|------------------------------|--------------------------|------------------|
| 1  | 228th Ave NE and NE 12th St                         | D                         | TWSC                         | 36                       | E*               |
| 2  | Sahalee Way NE and NE 37th St                       | D                         | S                            | 11                       | B                |
| 3  | Sahalee Way NE and NE Redmond-Fall City Rd (SR 202) | D                         | S                            | 161                      | F*               |
| 4  | 228th Ave NE and SE 4th St                          | D                         | TWSC                         | 73                       | F*               |
| 5  | 228th Ave NE and SE 8th St                          | D                         | S                            | 6                        | A                |
| 6  | 228th Ave NE and SE 20th St                         | D                         | S                            | 9                        | A                |
| 7  | 228th Ave NE and SE 24th St                         | D                         | S                            | 17                       | B                |
| 8  | 228th Ave SE and Issaquah-Pine Lake Rd SE           | D                         | S                            | 13                       | B                |
| 9  | Issaquah-Pine Lake Rd SE and SE Klahanie Blvd       | D                         | S                            | 9                        | A                |
| 10 | E Lake Sammamish Pkwy NE and NE Inglewood Hill Rd   | C                         | S                            | 20                       | B                |
| 11 | E Lake Sammamish Pkwy SE and 212th Way SE           | C                         | S                            | 5                        | A                |
| 12 | Issaquah-Pine Lake Rd SE and SE Issaquah-Fall       | D                         | S                            | 14                       | B                |

**TABLE V-G  
EXISTING INTERSECTION LOS – PM PEAK HOUR**

|    | INTERSECTION                                                | LOS STANDARD <sup>1</sup> | TRAFFIC CONTROL <sup>2</sup> | DELAY <sup>3</sup> (SEC) | LOS <sup>4</sup> |
|----|-------------------------------------------------------------|---------------------------|------------------------------|--------------------------|------------------|
|    | City Rd                                                     |                           |                              |                          |                  |
| 13 | 228th Ave NE and NE 8th St (NE Inglewood Hill Rd)           | D                         | S                            | 37                       | D                |
| 14 | 192nd Dr NE and NE Redmond-Fall City Rd (SR 202)            | D                         | S                            | 12                       | B                |
| 15 | 244th Ave NE and NE Redmond-Fall City Rd (SR 202)           | D                         | TWSC                         | 34                       | D                |
| 16 | Issaquah-Pine Lake Rd SE and SE 32nd Way                    | D                         | TWSC                         | 62                       | F*               |
| 17 | E Lake Sammamish Pkwy NE and Louis Thompson Rd NE           | C                         | TWSC                         | 19                       | C                |
| 18 | 212th Ave SE and SE 20th St                                 | C                         | TWSC                         | 13                       | B                |
| 19 | SE Duthie Hill Rd and SE Issaquah-Beaver Lake Rd            | D                         | TWSC                         | 22                       | C                |
| 20 | Trossachs Blvd SE and SE Duthie Hill Rd                     | D                         | TWSC                         | 11                       | B                |
| 21 | E Lk Sammamish Pkwy SE and SE 24th Way                      | C                         | TWSC                         | 20                       | C                |
| 22 | 244th Ave NE and NE 8th St                                  | C                         | AWSC                         | 8                        | A                |
| 23 | E Lk Sammamish Pkwy NE and NE Redmond-Fall City Rd (SR 202) | D                         | S                            | 140                      | F*               |
| 24 | E Lk Sammamish Pkwy SE and SE 56th St                       | D                         | S                            | 51                       | D                |
| 25 | E Lk Sammamish Pkwy SE and SE Issaquah-Fall City Rd         | D                         | S                            | 132                      | F*               |

1. LOS standards are based upon the functional classifications of the intersecting roadways. Intersections that include Principal Arterials have a standard of LOS D. Intersections that include Minor Arterials or Collectors have a standard of LOS C.

2. Intersections: S=signalized; TWSC=two-way stop-controlled; AWSC=all-way stop-controlled

3. Delay is measured in seconds per vehicle. At S and AWSC intersections, it represents average delay for all movements in the intersection. For TWSC intersections, it represents average delay for the minor leg movements. Analysis is based on 2002 traffic counts.

4. LOS is the level-of-service based on the methodology outlined in the Highway Capacity Manual (HCM 2000). (\*) Denotes an LOS below the defined standard, indicating that the intersection is considered deficient.

#### AM Peak-Hour Intersection LOS

An order-of-magnitude LOS analysis was also performed for existing AM peak-hour conditions at four intersections where congested conditions are known to occur. Table V-H summarizes the intersection locations, the existing traffic control for each intersection, and the calculated LOS, based upon estimated traffic counts for the AM peak hour. The table shows that on a typical day under existing conditions, these intersections should perform adequately, at LOS B or C.





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**TABLE V-H**  
**EXISTING INTERSECTION LOS – AM PEAK HOUR**

|   | INTERSECTION                                       | LOS STANDARD <sup>1</sup> | TRAFFIC CONTROL <sup>2</sup> | LOS <sup>3</sup> |
|---|----------------------------------------------------|---------------------------|------------------------------|------------------|
| 1 | Sahalee Way NE and Redmond-Fall City Rd (SR-202)   | D                         | S                            | C                |
| 2 | 228th Ave NE and Issaquah-Pine Lake Rd SE          | D                         | S                            | B                |
| 3 | Issaquah-Pine Lake Rd SE and Issaquah-Fall City Rd | D                         | S                            | B                |
| 4 | Issaquah-Pine Lake Rd SE and SE 32nd Way           | D                         | TWSC                         | C                |

1. LOS standards are based upon the functional classifications of the intersecting roadways. Intersections that include Principal Arterials have a standard of LOS D. Intersections that include Minor Arterials or Collectors have a standard of LOS C.

2. Intersections: S=signalized; TWSC=two-way stop-controlled; AWSC=all-way stop-controlled.

3. LOS is the level-of-service based on the methodology outlined in the Highway Capacity Manual (HCM 2000). (\*) Denotes an LOS below the defined standard, indicating that the intersection is considered deficient.

### **Roadway Segment AWDT Thresholds**

The City has expressed concerns not only for the amount of delay experienced along roadways, but for safety, access and urban amenities. Definition of LOS thresholds that include shoulder widths, left-turn lanes, bicycle lanes, curb and gutter, and sidewalks addresses some of these concerns. Adequate shoulders increase safety by providing refuge for disabled vehicles, additional width outside of the traffic flow for walking or bicycling, or a buffer between the traffic flow and sidewalks. Left-turn pockets provide safer waiting space for left turning vehicles, and allow following vehicles to avoid delay. Curbs, gutters, and sidewalks or other similar facilities improve safety by providing access control and safer locations for walking. As traffic volumes increase on the primarily rural roads of the City of Sammamish, urban amenities such as these become more important.

The typical roadway segment LOS measures used by traffic engineers, and for most Comprehensive Plans, are determined by HCM procedures that calculate operational efficiency of the roadway. Rural two-lane roadway LOS is described by average travel speeds and the average percentage of time spent following other vehicles. As the average travel speed declines or the average following time increases, the LOS declines. These measures help define deficiencies that may be used to guide the design of road improvements. Typical improvements might include roadway alignments, widening shoulders, and providing passing zones. Using these HCM procedures, features such as left-turn lanes, curb and gutter, sidewalks and other similar facilities have little to no impact on the defined roadway LOS.

State law prescribes that LOS shall be measured, but does not describe or define the means. Though many communities rely on the HCM procedures, others have defined LOS through use of travel time, average congestion, or level of improvement. Most of the roadways within the City of Sammamish originated as rural roads. Many have been improved using rural road design standards to carry higher traffic volumes, but are inconsistent with the character and desires of an urban community.

To address these issues, the City set forth to describe a policy that relates roadway capacity to existing characteristics, and future desired improvements. Through this evaluation they established thresholds for acceptable traffic volumes for a range of existing conditions, described as follows.

The LOS standards developed by the City for roadway segments are based on the allowable AWDT volumes, as a function of each roadway's characteristics. The 45 segments defined for segment analysis

are shown in **Figure V-6**. The AWDT thresholds for each of these roadway segments, based upon their existing roadway characteristics, are defined in **Table V-I**. After adoption of the Comprehensive Plan, these thresholds will be adopted by ordinance by the City Council. The table also shows the existing modeled AWDT volumes for each of the segments. These values differ somewhat from the values summarized in **Table V-C** because they are all modeled volumes, while the majority of volumes presented in **Table V-C** are based upon 24-hour traffic counts. Modeled volumes are utilized for the segment threshold analysis because the City does not have current counts for all 45 segments. Based upon the existing volumes and the policy-defined thresholds summarized in **Table V-I** three roadway segments (all along East Lake Sammamish Parkway) have volumes that exceed their thresholds, and thus would be considered deficient under existing conditions.

To arrive at the segment thresholds, the City reviewed current HCM measures for capacity, as they related to various roadway features. The adequacy of traffic conditions and design features of existing City of Sammamish roadways was also assessed. Design features included shoulder width, sidewalks, left-turn lanes, and access control. For each functional classification of roadway, base capacities were derived from standard per-lane capacities, as defined in the HCM, *Road Diets Fixing the Big Roads* (By Dan Burden and Peter Lagerway, [www.walkable.org](http://www.walkable.org)), and in the City of Sammamish Interim Transportation Plan (EarthTech 2000). The City arrived at a base capacity value of 1220 vehicles per hour for a two-lane Arterial roadway with 10-foot lane widths, and without shoulders or walkways. This value was converted to an AWDT volume of 12,850 vehicles per day. The base capacity of a two-lane Collector roadway without shoulders or walkways was determined to be 9020 AWDT. A Four-lane roadway base capacity was determined in a similar means and established at 25,950 vehicles per day for Arterial roadways and 18,100 vehicles per day for Collector roadways.

These base (or minimum) capacities would be applied to roadways with 10-foot wide lanes, and no curb and gutter, shoulders, medians, turn lanes, sidewalks or bicycle lanes. Additional capacity was determined for each of the design features, based upon guidelines in the HCM and in the City's Interim Transportation Plan. These capacity enhancement values are added to the base capacity incrementally for each of the features that the roadway includes.

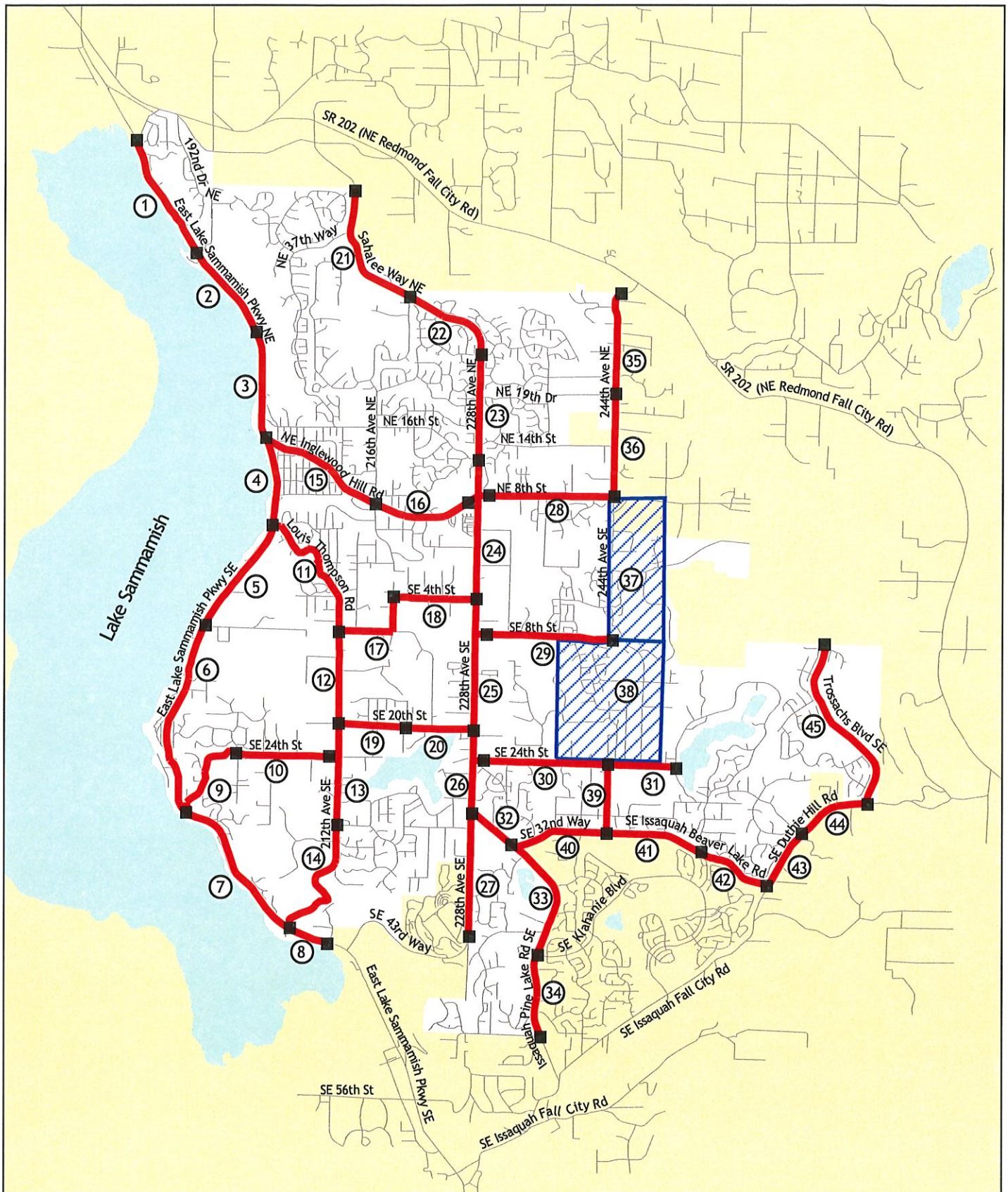
The base and incremental capacities used to determine the AWDT thresholds are summarized in **Table V-J**. Maximum capacity would be assigned to a roadway with a fully developed cross section: 12-foot lanes, 8-foot shoulders or bike lanes, curb and gutter, center median or left-turn lane, sidewalk or other similar facilities.



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## Concurrency Segments

September 2003

### Legend

- Existing Roadway
- Future connection along alignment to be selected within this corridor

0.5 0 0.5 Miles  
Scale: 1" = 1 mile



SOURCES: King County GIS, 2002 and City of Sammamish, 2002.  
DISCLAIMER: This map is derived from various data sources. While care has been taken to insure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided, "as is".

**Figure V-6**



**TABLE V-1**  
**PROPOSED AWDT CONCURRENCY THRESHOLDS AND EXISTING VOLUMES FOR ROADWAY SEGMENTS**

|    | SEGMENT                                                       | EXISTING ROADWAY CHARACTERISTICS |            |                   |                       |        |                 | EXISTING              |            |
|----|---------------------------------------------------------------|----------------------------------|------------|-------------------|-----------------------|--------|-----------------|-----------------------|------------|
|    |                                                               | Functional Class                 | # of Lanes | Lane Width (feet) | Shoulder Width (feet) | Median | Walkway Bikeway | Concurrency Threshold | AWDT Fails |
| 1  | E Lk Sammamish Pkwy, City limits – 196th Ave NE (Weber Point) | Minor Arterial                   | 2          | 11                | 5                     | None   | None            | 17,370                | 18,500 X   |
| 2  | E Lk Sammamish Pkwy, 196th Ave NE – NE 26th Pl                | Minor Arterial                   | 2          | 11                | 5                     | None   | None            | 17,370                | 17,600 X   |
| 3  | E Lk Sammamish Pkwy, NE 26th Pl – NE Inglewood Hill Rd        | Minor Arterial                   | 2          | 11                | 5                     | None   | None            | 17,370                | 17,600 X   |
| 4  | E Lk Sammamish Pkwy, Inglewood Hill Rd – Louis Thompson Rd    | Minor Arterial                   | 2          | 11                | 5                     | None   | None            | 17,370                | 11,100     |
| 5  | E Lk Sammamish Pkwy, Louis Thompson Rd NE – SE 8th St         | Minor Arterial                   | 2          | 11                | 5                     | None   | None            | 17,370                | 9,100      |
| 6  | E Lk Sammamish Pkwy, SE 8th St – SE 24th Way                  | Minor Arterial                   | 2          | 11                | 5                     | None   | None            | 17,370                | 9,000      |
| 7  | E Lk Sammamish Pkwy, SE 24th Way – 212th Ave SE               | Minor Arterial                   | 2          | 11                | 5                     | None   | None            | 17,370                | 11,900     |
| 8  | E Lk Sammamish Pkwy, 212th Ave SE – City Limit                | Minor Arterial                   | 2          | 11                | 5                     | None   | None            | 17,370                | 15,700     |
| 9  | SE 24th St, E Lk Sammamish Pkwy – 200th Ave SE                | Collector                        | 2          | 10                | 1                     | None   | None            | 9,420                 | -          |
| 10 | SE 24th St, 200th Ave SE – 212th Ave SE                       | Collector                        | 2          | 10                | 1                     | None   | None            | 9,420                 | -          |
| 11 | Louis Thompson Rd, E Lk Sammamish Pkwy – SE 8th St            | Collector                        | 2          | 10                | 2                     | None   | None            | 9,820                 | 3,000      |
| 12 | 212th Ave SE, SE 8th St – SE 20th St                          | Collector                        | 2          | 10                | 2                     | None   | None            | 9,820                 | 2,400      |
| 13 | 212th Ave SE, SE 20th St – SE 32nd St                         | Collector                        | 2          | 11                | 3                     | None   | None            | 11,350                | 2,400      |
| 14 | 212th Ave SE, SE 32nd St – E Lk Sammamish Pkwy                | Collector                        | 2          | 11                | 1                     | None   | None            | 10,550                | 3,800      |
| 15 | NE Inglewood Rd, E Lk Sammamish Pkwy – 216th Ave NE           | Minor Arterial                   | 2          | 11                | 4                     | None   | None            | 16,790                | 11,200     |
| 16 | NE Inglewood Rd, 216th Ave NE – 228th Ave NE                  | Minor Arterial                   | 2          | 11                | 5                     | None   | None            | 17,370                | 9,600      |
| 17 | SE 8th St/218th Ave SE, 212th Ave SE – SE 4th St              | Collector                        | 2          | 10                | 1                     | None   | None            | 9,420                 | -          |
| 18 | SE 4th St, 218th Ave SE – 228th Ave SE                        | Collector                        | 2          | 10                | 1                     | None   | None            | 9,420                 | 900        |



**TABLE V-1  
PROPOSED AWDT CONCURRENCY THRESHOLDS AND EXISTING VOLUMES FOR ROADWAY SEGMENTS**

| SEGMENT                                                | EXISTING ROADWAY CHARACTERISTICS |            |                   |                       |                |                   | EXISTING              |            |
|--------------------------------------------------------|----------------------------------|------------|-------------------|-----------------------|----------------|-------------------|-----------------------|------------|
|                                                        | Functional Class                 | # of Lanes | Lane Width (feet) | Shoulder Width (feet) | Median         | Walkway Bikeway   | Concurrency Threshold | AWDT Fails |
| 19 SE 20th St, 212th Ave SE – 219th Pl SE              | Collector                        | 2          | 11                | 2                     | None           | None              | 10,950                | 3,600      |
| 20 SE 20th St, 219th Pl SE – 228th Ave SE              | Collector                        | 2          | 11                | 3                     | None           | None              | 11,350                | 3,600      |
| 21 Sahalee Wy/228th Ave NE, City Limit – 220th Ave NE  | Principal Arterial               | 2          | 11                | 4                     | None           | None              | 16,790                | 12,200     |
| 22 Sahalee Wy/228th Ave NE, 220th Ave NE – NE 25th Way | Principal Arterial               | 2          | 11                | 4                     | None           | None              | 16,790                | 9,500      |
| 23 228th Ave, NE 25th Way – NE 12th St                 | Principal Arterial               | 2          | 11                | 5                     | None           | None              | 17,370                | 9,500      |
| 24 228th Ave, NE 12th St – SE 4th St <sup>1</sup>      | Principal Arterial               | 4          | 11                | None                  | Median         | Walkway           | 34,950                | 18,600     |
| 25 228th Ave, SE 4th St – SE 20th St <sup>2</sup>      | Principal Arterial               | 4          | 11                | None                  | Median         | Walkway           | 34,950                | 22,000     |
| 26 228th Ave, SE 20th St – Issaquah Pine Lake Rd SE    | Principal Arterial               | 4          | 11                | None                  | Median         | Walkway           | 34,950                | 23,700     |
| 27 228th Ave, Issaquah Pine Lake Rd SE – SE 43rd Way   | Principal Arterial               | 2          | 11                | 4                     | Left-Turn Lane | None              | 21,430                | 14,800     |
| 28 NE 8th St, 228th Ave NE – 244th Ave NE              | Minor Arterial                   | 2          | 11                | 4                     | Left-Turn Lane | Walkway           | 21,430                | 5,500      |
| 29 SE 8th St, 228th Ave SE – 244th Ave SE              | Collector                        | 2          | 11                | None                  | Left-Turn Lane | Walkway / Bikeway | 15,390                | 8,800      |
| 30 SE 24th St, 228th Ave SE – 244th Ave SE             | Collector                        | 2          | 11                | 1                     | None           | None              | 10,550                | 3,100      |
| 31 SE 24th St, 244th Ave SE – W Beaver Lk Dr SE        | Collector                        | 2          | 11                | 1                     | None           | None              | 10,550                | -          |
| 32 Issaquah-Pine Lk Rd, 228th Ave SE – SE 32nd Way     | Principal Arterial               | 4          | 11                | 4                     | None           | None              | 31,480                | 15,000     |
| 33 Issaquah-Pine Lk Rd, SE 32nd Way – SE Klahanie Blvd | Principal Arterial               | 2          | 11                | 4                     | None           | None              | 16,790                | 10,800     |
| 34 Issaquah-Pine Lk Rd, SE Klahanie Blvd – SE 48th St  | Principal Arterial               | 2          | 11                | 4                     | None           | None              | 16,790                | 16,600     |
| 35 244th Ave NE, NE 30th Pl – NE 20th St               | Minor Arterial                   | 2          | 11                | 1                     | None           | None              | 15,050                | 3,400      |
| 36 244th Ave NE, NE 20th St – NE 8th St                | Minor Arterial                   | 2          | 11                | 1                     | None           | None              | 15,050                | 2,900      |

**TABLE V-1  
PROPOSED AWDT CONCURRENCY THRESHOLDS AND EXISTING VOLUMES FOR ROADWAY SEGMENTS**

| SEGMENT                                                                      | EXISTING ROADWAY CHARACTERISTICS |            |                   |                       |        |                 | EXISTING              |            |
|------------------------------------------------------------------------------|----------------------------------|------------|-------------------|-----------------------|--------|-----------------|-----------------------|------------|
|                                                                              | Functional Class                 | # of Lanes | Lane Width (feet) | Shoulder Width (feet) | Median | Walkway Bikeway | Concurrency Threshold | AWDT Fails |
| 37 East Sammamish/244th Ave NE Corridor, NE 8th St – SE 8th St <sup>3</sup>  | Minor Arterial                   | n/a        | n/a               | n/a                   | n/a    | n/a             | n/a                   | n/a        |
| 38 East Sammamish/244th Ave NE Corridor, SE 8th St – SE 24th St <sup>3</sup> | Minor Arterial                   | n/a        | n/a               | n/a                   | n/a    | n/a             | n/a                   | n/a        |
| 39 244th Ave NE, SE 24th St – SE 32nd Way                                    | Minor Arterial                   | 2          | 11                | 2                     | None   | None            | 15,630                | 2,200      |
| 40 SE 32nd Way, Issaquah-Pine Lk Rd – 244th Ave SE                           | Minor Arterial                   | 2          | 11                | 4                     | None   | None            | 16,790                | 6,500      |
| 41 SE 32nd St, 244th Ave SE – W Beaver Lk Dr SE                              | Minor Arterial                   | 2          | 11                | 4                     | None   | None            | 16,790                | 5,600      |
| 42 Issaquah-Beaver Lk Rd, W Beaver Lk Dr SE – SE Duthie Hill Rd              | Minor Arterial                   | 2          | 11                | 6                     | None   | None            | 17,950                | 3,100      |
| 43 SE Duthie Hill Rd, SE Issaquah-Beaver Lk Rd – 266 <sup>th</sup> Ave SE    | Principal Arterial               | 2          | 11                | 4                     | None   | None            | 12,300                | 10,000     |
| 44 SE Duthie Hill Rd, 266 <sup>th</sup> Ave SE – Trossachs Blvd SE           | Principal Arterial               | 2          | 11                | 4                     | None   | None            | 12,300                | 10,000     |
| 45 Trossachs Blvd SE, SE 9 <sup>th</sup> St – SE Duthie Hill Rd              | Collector                        | 2          | 12                | None                  | None   | None            | 10,520                | 4,300      |

1. The four-lane width represents the predominant width of this segment. The width of 228<sup>th</sup> Avenue is four lanes from SE 4<sup>th</sup> Street to 400-feet north of NE 8<sup>th</sup> Street. Between NE 8th Street and NE 12th Street, the roadway tapers back to two lanes.

2. The widening of 228<sup>th</sup> Avenue between SE 4<sup>th</sup> Street and SE 8<sup>th</sup> Street is currently under construction, and expected to be completed in 2003.

3. These will be future segments if the East Sammamish/244th Avenue Corridor connections are constructed, but currently do not exist as continuous roadway segments



**TABLE V-J  
BACKGROUND ASSUMPTIONS FOR CONCURRENCY AWDT THRESHOLD DEFINITIONS**

| <b>TWO-LANE ROADWAY</b>                    |                                    |                                             |           |                        |
|--------------------------------------------|------------------------------------|---------------------------------------------|-----------|------------------------|
|                                            |                                    | TWO-DIRECTIONAL CAPACITY (VEHICLES PER DAY) |           |                        |
|                                            |                                    | PRINCIPAL OR MINOR ARTERIAL                 | COLLECTOR | NEIGHBORHOOD COLLECTOR |
| Base Capacity                              |                                    | 12,850                                      | 9,020     | 2,850                  |
| Lane Width                                 | 10 feet                            | 0                                           | 0         | 0                      |
|                                            | 11 feet                            | 1,620                                       | 1,130     | 320                    |
|                                            | 12 feet                            | 3,240                                       | 2,260     | 640                    |
| Striped Bike Lane or Shoulder <sup>1</sup> | per foot (maximum width of 8 feet) | 580                                         | 410       | 120                    |
| Median                                     | None                               | 0                                           | 0         | 0                      |
|                                            | Median                             | 4,640                                       | 3,240     | 920                    |
|                                            | Left-Turn Lane                     | 4,640                                       | 3,240     | 920                    |
| Walkway/Bikeway <sup>2</sup>               | None                               | 0                                           | 0         | 0                      |
|                                            | Walkway                            | 1,160                                       | 810       | 230                    |
|                                            | Bikeway                            | 1,620                                       | 1,130     | 320                    |
|                                            | Both                               | 1,620                                       | 1,130     | 320                    |
| Maximum Capacity                           |                                    | 25,370                                      | 17,800    | 5,100                  |
| <b>FOUR-LANE ROADWAY</b>                   |                                    |                                             |           |                        |
|                                            |                                    | TWO-DIRECTIONAL CAPACITY (VEHICLES PER DAY) |           |                        |
|                                            |                                    | PRINCIPAL OR MINOR ARTERIAL                 | COLLECTOR | NEIGHBORHOOD COLLECTOR |
| Base Capacity                              |                                    | 25,920                                      | 18,100    | 5,180                  |
| Lane Width                                 | 10 feet                            | 0                                           | 0         | 0                      |
|                                            | 11 feet                            | 3,240                                       | 2,260     | 640                    |
|                                            | 12 feet                            | 6,480                                       | 4,540     | 1,300                  |
| Striped Bike Lane or Shoulder <sup>1</sup> | per foot (maximum width of 8 feet) | 580                                         | 410       | 120                    |
| Median                                     | None                               | 0                                           | 0         | 0                      |
|                                            | Median                             | 4,630                                       | 3,240     | 930                    |
|                                            | Left-Turn Lane                     | 4,630                                       | 3,240     | 930                    |
| Walkway/Bikeway <sup>2</sup>               | None                               | 0                                           | 0         | 0                      |
|                                            | Walkway                            | 1,160                                       | 810       | 230                    |
|                                            | Bikeway                            | 1,620                                       | 1,130     | 330                    |
|                                            | Both                               | 1,620                                       | 1,130     | 330                    |
| Maximum Capacity                           |                                    | 41,670                                      | 29,160    | 8,370                  |

1. To qualify as a bike lane, the pavement must be marked as such, and have a minimum width of 5 feet.
2. For the purpose of these calculations, a bikeway is defined as a bicycle facility that is physically separated from the roadway. Walkway and bikeway values only apply if the roadway has shoulders of less than 4-foot width.

## Accident Analysis

Accident analysis was performed, based upon two years (1999 and 2000) of accident data collected and compiled by the WSDOT Transportation Data Office for the City of Sammamish. This WSDOT database records accidents only by location, not by type or severity. The existing accident data was summarized in two different ways. First, accidents were summarized within major corridors, and converted to a rate per million vehicle-miles-traveled (VMT), based upon the estimated existing Average daily Traffic (ADT) for that corridor. The number of accidents per million VMT is a typical measure for expressing accident rates within a corridor. The calculated values could then be compared to County averages, as compiled by King County Department of Transportation. The calculated accident rates for City of Sammamish corridors, along with the corresponding County averages for the same facility type, are shown in **Table V-K**. The table shows that all roadway corridors except one have accident rates well under the average accident rates for the County. The one exception is the 228th Avenue Corridor, where the average number of 2.5 accidents per million VMT is somewhat higher than the County average of 1.75.

The second accident summary method consisted of compiling the total number of accidents that were recorded at each intersection within the City, over the two-year recorded period. **Figure V-7** shows the intersections that were identified as high accident locations, meaning that five or more accidents were recorded at the intersection over the two-year period. The figure shows seven intersections that meet the high accident criterion. Only one intersection, 228th Avenue NE and NE 8th Street/Inglewood Hill Road, is shown to be a very high accident location, with 34 accidents recorded over the two-year period.

**TABLE V-K  
CORRIDOR ACCIDENT SUMMARY**

| CORRIDOR                                   | FROM                        | TO                          | ACCIDENTS<br>(PER 1,000,000 VMT) |                                |
|--------------------------------------------|-----------------------------|-----------------------------|----------------------------------|--------------------------------|
|                                            |                             |                             | SAMMAMISH <sup>1</sup>           | COUNTY<br>AVERAGE <sup>2</sup> |
| 228th Ave                                  | Sahalee Way                 | South city limits           | 2.5                              | 1.75                           |
| E Lake Sammamish<br>Pkwy NE                | 187th Ave NE                | 212th Way SE                | 1.0                              | 1.81                           |
| Inglewood Hill Rd                          | E Lake Sammamish<br>Pkwy NE | 228th Ave NE                | 1.3                              | 1.81                           |
| Issaquah-Pine Lake Rd                      | 228th Ave NE                | Issaquah-Fall City Rd       | 0.7                              | 1.75                           |
| 244th Ave NE                               | Redmond-Fall City Rd        | NE 8th St                   | 1.5                              | 1.81                           |
| Louis Thompson/ 212th<br>Ave/ 212th Way SE | E Lake Sammamish<br>Pkwy NE | E Lake Sammamish<br>Pkwy SE | 1.2                              | 2.24                           |
| Sahalee Way                                | Redmond-Fall City Rd        | 228th Ave NE                | 0.4                              | 1.75                           |
| SE 8th St                                  | 228th Ave SE                | East end of road            | 1.5                              | 2.24                           |
| NE 8th St                                  | 228th Ave NE                | 244th Ave NE                | 0.7                              | 1.81                           |

<sup>1</sup>Based upon two years (1999 and 2000) of recorded accident data by the WSDOT.

<sup>2</sup>Source: 2000 Accident Rates for Arterial Highways, King County Department of Transportation, Road Services Division, Traffic Engineering Section.



### **Analysis of Access to the City**

As part of the public comment process, access to and from the City has been identified as one of the City's most critical transportation issues. The results of the LOS analysis of existing conditions confirm that the most congested traffic conditions for Sammamish residents occur at the north and south access points to and from the City, restricting the flow of traffic in the commute direction of traffic (out of the City in the morning, and into the City in the evening). Since these choke points are located outside the city limits, the City may only pursue mitigation by forming inter-local agreements with Washington State, King County, and the neighboring Cities of Redmond to the north and Issaquah to the south, and pursuing joint solutions to these traffic problems. **Figure V-8** identifies the roadway segments and intersections that are critical to access to the City. Deficiencies identified along these locations will be a high priority for transportation improvements within the city limits, and for pursuance of inter-local agreements for mitigation outside the city limits.

### **Traffic Calming**

As population and employment in the Sammamish region continue to grow, City streets are experiencing increased traffic pressure. City policy can accommodate growth in a way that can protect neighborhoods from unsafe impacts of traffic through the following measures:

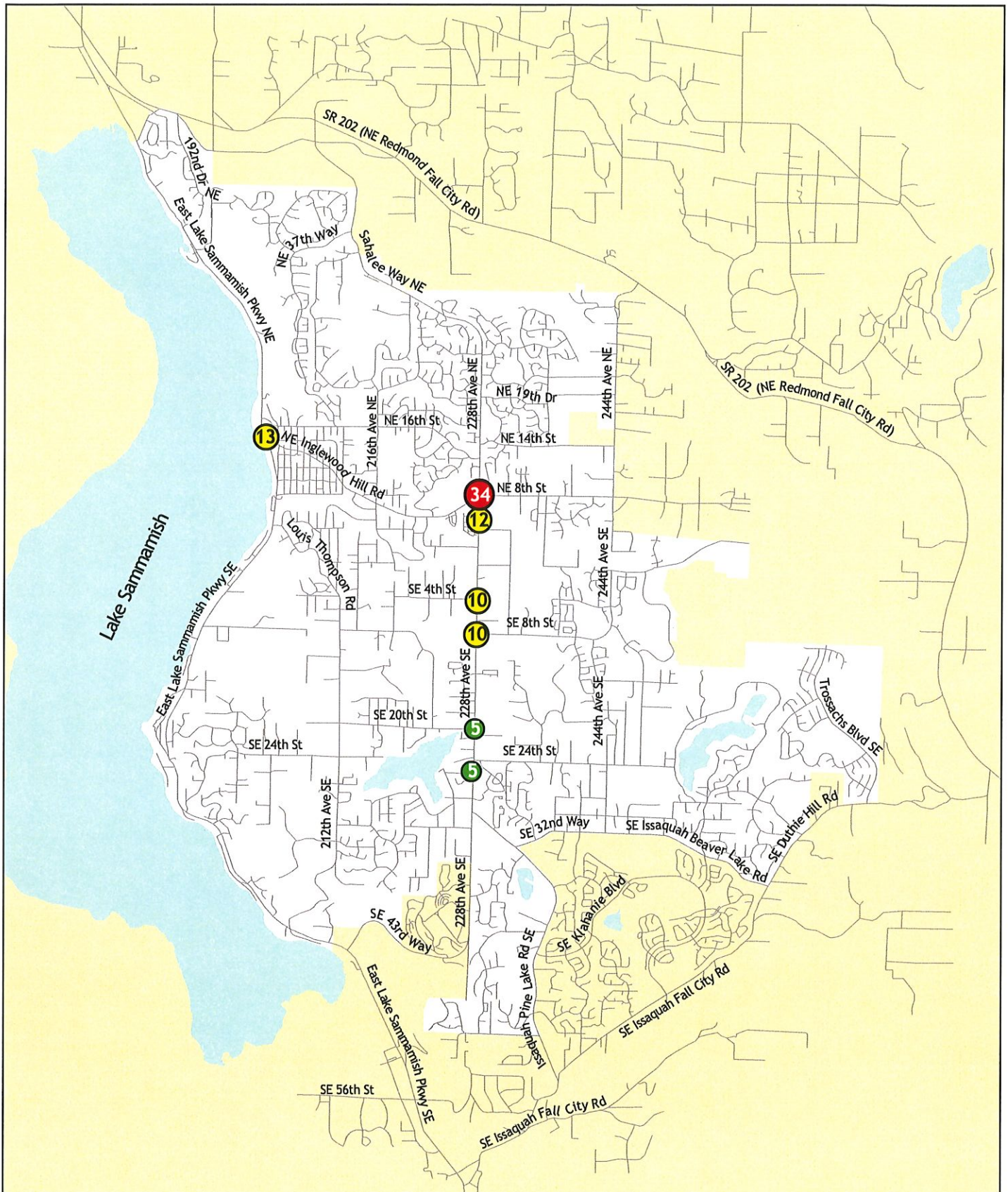
- Develop standards to improve the function, safety, and appearance of the City street system,
- Develop facilities for pedestrians and bicyclists as alternative travel modes to the automobile,
- Protect the quality of life in residential neighborhoods by limiting vehicular traffic and monitoring traffic volumes on collector streets,
- Encourage improvements in vehicular and pedestrian traffic circulation within the City,
- Maintain a consistent LOS on the arterial system that mitigates impacts of new growth and is adequate to serve adjoining land uses,
- Maintain the public street system to promote safety, comfort of travel, and cost-effective use of public funds.

Traffic calming programs serve to deter through-traffic on local residential streets, protect neighborhoods from vehicular traffic moving at excessive speeds, and discourage parking unrelated to residential activities.

### ***Neighborhood Traffic Management Program***

The Neighborhood Traffic Management Program (NTMP) for neighborhood streets has been adopted by the City of Sammamish as Ordinance 02000-61. The NTMP represents the commitment of the City to the safety and livability of residential neighborhoods. It is one component of the Public Works Department's joint effort with neighborhood residents to reduce the impact of traffic on neighborhoods. The NTMP provides a process for identifying and addressing problems related to speeding and safety on neighborhood streets. Under the program, City staff works with residents within neighborhoods to evaluate the type and severity of traffic problems. If the required approval by residents is obtained, and the required funding is available, the City will install traffic management devices to manage the pattern and flow of neighborhood traffic.





## Existing High Accident Locations

September 2003

### Legend

- Two-Year Accident Total (1999-2000)
- 16+ Accidents
  - 10-15 Accidents
  - 5-9 Accidents

0.5 0 0.5 Miles  
Scale: 1" = 1 mile



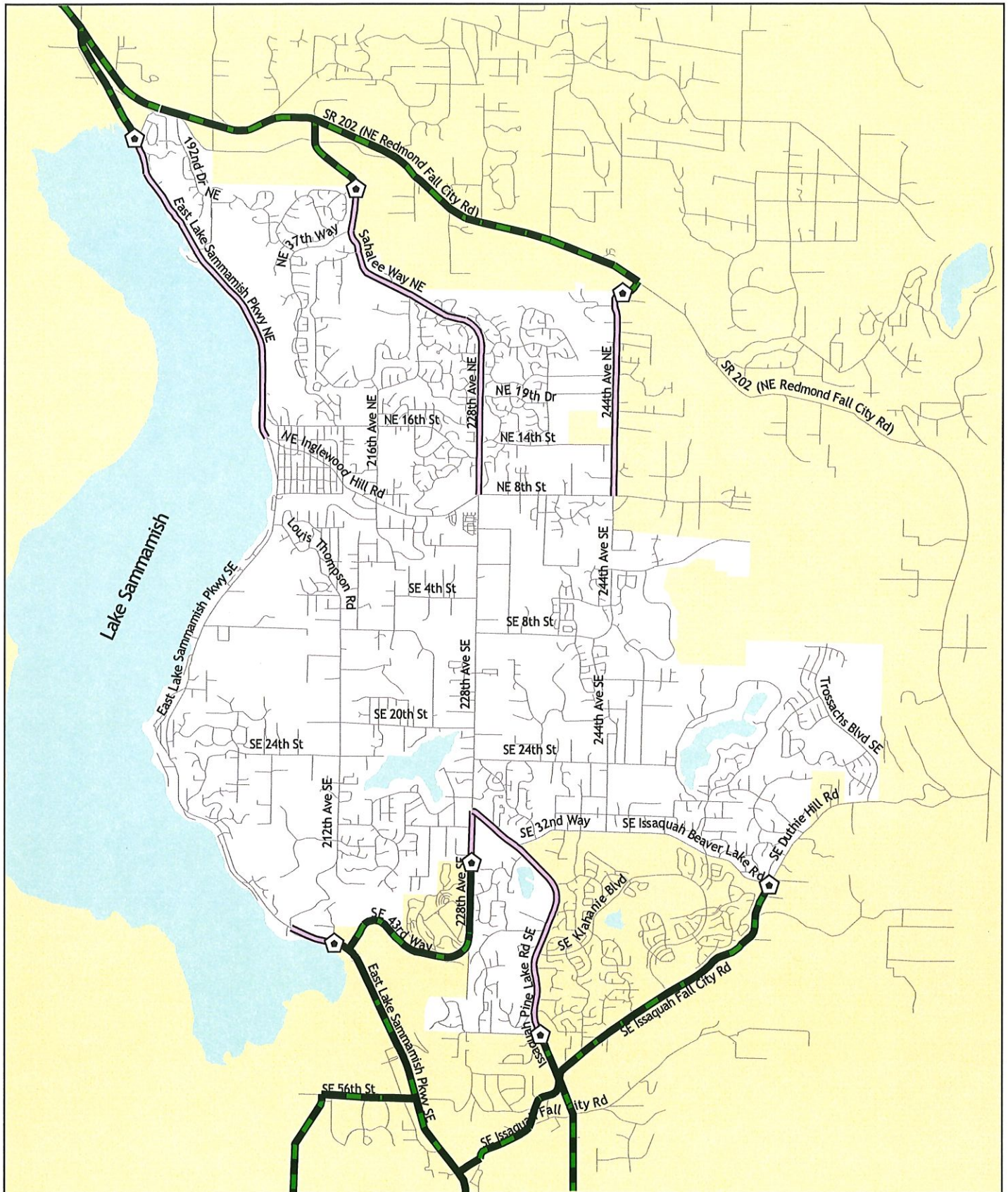
SOURCES: King County GIS, 2002 and City of Sammamish, 2002.

DISCLAIMER: This map is derived from various data sources. While care has been taken to insure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided, "as is".

**Figure V-7**






Back of Figure V-7



## Access Routes to the City of Sammamish

September 2003

### Legend

-  City Limits
-  Access Routes Inside City Limits
-  Access Routes outside City Limits

0.5 0 0.5 Miles  
Scale: 1" = 1 mile



SOURCES: King County GIS, 2002 and City of Sammamish, 2002.

DISCLAIMER: This map is derived from various data sources. While care has been taken to insure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided, "as is".

**Figure V-8**



Back of Figure V-8

The City of Sammamish places a high value on neighborhood livability. Although livability has no precise definition, it can be thought of as encompassing the following characteristics:

- The ability of residents to feel safe and secure in their neighborhood,
- The opportunity to interact socially with neighbors without distractions or threats,
- The ability to experience a sense of home and privacy,
- A sense of community and neighborhood identity,
- A balanced relationship between multiple uses and needs of a neighborhood.

Traffic management plays a vital role in promoting these characteristics. The NTMP recognizes that vehicular traffic is only one element of a neighborhood, and that other residential needs must be given careful consideration. Through the NTMP, residents can evaluate the various requirements, benefits, and trade-offs of projects within their own neighborhood and can become actively involved in the decision-making process. This program provides information and guidelines to help citizens participate in the process.

The NTMP can be applied to Local Access streets and Neighborhood Collector streets. It was developed to give Sammamish neighborhoods a process through which Public Works staff assists the neighborhoods in resolving traffic concerns related to excessive speed and volume. Important objectives of the program include:

- Working with neighborhoods to develop an action plan that satisfies their needs and resolves the identified traffic concerns,
- Installation of temporary devices identified in the neighborhood action plan to determine their effectiveness and the appropriateness before installing the devices permanently,
- Discouragement of arterial traffic from using Local Access streets, with a secondary result of reducing traffic volumes related to through-traffic.

The City has established the following 12-step procedure for implementing an NTMP project.

**STEP 1: Project Request and Preliminary Review** – NTMP projects can be requested by individual citizens or by neighborhood associations. An application may include a request to install new traffic control devices or remove or modify existing devices.

The Public Works Department gathers preliminary data about the traffic request, including volume, speed, and accident information. A numerical score is developed for each NTMP project request. Scores are used to rank requests on a citywide basis. A minimum of 30 points is required for a project to be eligible for the program. A high ranking score, available budget, and other factors are used to determine which projects will proceed to the petition-to-study stage. Scores are developed according to the following criteria:

- Traffic Volume (30 points maximum):** Average daily volume (on the segment of the project street having the highest volume) divided by 100,
- Speed (30 points maximum):** Percent of vehicles over the speed limit (on the segment of the project street having the highest percentage over the limit) divided by 3,
- Accidents (30 points maximum):** Ten points per correctable accident in the most recent three-year period,



- d. **Schools (10 points maximum):** Five points for each private or public school in the affected neighborhood,
- e. **Other Pedestrian Areas (10 points maximum):** Five points for each individual pedestrian-oriented facility such as churches, daycare facilities, elderly housing, or a park in the affected neighborhood,
- f. **Pathways (10 points maximum):** Five points for a subject street that is not bordered by a sidewalk or pathway,
- g. **Designated Bicycle Routes (10 points maximum):** Five points for a subject street or cross street designated as a bicycle route in the City of Sammamish's arterial streets classifications and policies.

**STEP 2: Priority Ranking** – Projects are ranked citywide, based on the point score from Step 1. Typically the highest ranked projects are undertaken first. The number of projects initiated each year depends on City resources. Public Works staff notifies all project requestors of the status of their request after completion of this step. Once in the process, a project is considered in the annual priority-ranking step for up to three years. This time limitation ensures that the project request has not become obsolete because of changing traffic conditions and/or new residents in the area. The project requestor is notified when the three-year limit expires. At that time, a new request may be made to re-enter the project in the program. Step 1 is then repeated to obtain current information.

**STEP 3: Petition-to-Study** – If a project is ranked high enough to proceed, a petition-to-study is circulated within a defined project area. The Public Works Department establishes the petition-to-study area, based on the information obtained during the preliminary review. This area is generally defined as those households and businesses fronting on the affected segments of the project street. In the case of a single intersection problem, the minimum area would be approximately one block in all directions.

The purpose of the petition-to-study is to determine the level of agreement among residents on the project street that there is a problem they want to address. Public Works staff prepares the petition, describing the problem and the procedures to be followed if a study is undertaken. The project requestor(s) is responsible for circulating the petition. Each resident household and business within the study area is entitled to one signature. Signatures representing 51 percent of the households and businesses within the petition-to-study area are needed to move the project forward.

**STEP 4: Plan Development** – Public Works staff hold a public meeting with the affected area to inform residents of the pending project, to describe the NTMP process, and to gather additional information about the traffic problems and related neighborhood needs.

To assist in notifying the neighborhoods and residents, public meeting notices are mailed to residents in the study area. The notices include a message that states what the meeting is for along with the time, date, and location of the meeting. A contact telephone number is available for additional information. Public Works staff assists the affected neighborhood throughout the remainder of the project. Plan development consists of the following steps:

- a. Gathering data (traffic volumes, road conditions, speed and accident data),
- b. Assessment of problems and needs,
- c. Identification of project goals and objectives,
- d. Development of alternative plans or solutions,

e. Selection of a proposed plan.

**STEP 5: Test Installation** – Once a plan is agreed upon by the affected neighborhood and the City staff, the Public Works Department prepares a petition describing the proposed project and calling for a temporary test installation. Members of the affected neighborhood circulate the petition within a defined area. The petition-to-test area shall include the current names and addresses of residents located within the established affected area. Each resident shall be contacted, permitted to read and acknowledge the petition, and allowed to indicate their preference. This assures all resident owners have the opportunity to read and sign the petition. Signatures representing approval of 60 percent of the households and businesses within the petition-to-test area are required for the test to proceed. Each household and business is entitled to one signature. Non-resident property owners are not included in the petition-to-test process.

Public Works staff proposes solutions based on citizen input and sound engineering principles. Possible solutions and their impacts are evaluated by the affected neighborhood, City departments, and other affected agencies (transit, school district, etc.).

**STEP 6: Project Evaluation** – Following the test period, Public Works staff evaluates how well the test has performed in terms of the previously defined problems and objectives. The evaluation includes the subject street as well as other area streets impacted by the project. Evaluation includes before and after speeds and volumes, impacts on emergency vehicles or commercial uses, and other evaluation criteria determined by the affected neighborhood during Step 4. If the evaluation criteria are not met to the satisfaction of the affected neighborhood and Public Works staff, the traffic plan may be modified and additional testing conducted.

The final test results are reviewed with the affected neighborhood, relevant City departments, and other affected agencies. The information is then distributed during the balloting stage. The Public Works Department will not forward a project to a ballot if the test results show it is unsafe or it violates NTMP or other City policies.

**STEP 7: Ballot** – To place the project in the funding priority, approval from households, businesses, and non-resident property owners within a defined ballot area must be obtained via a mail ballot administered by the City. The ballot area includes all properties located in the established affected area. Of eligible ballots returned, 60 percent must respond favorably within the time frame allowed for the project to proceed. For example, with 100 eligible ballots returned, 60 ballots must be affirmative for the project to proceed. Each household and business, and non-resident property owner is entitled to one ballot.

**STEP 8: Reporting** – Based on the project evaluation and a positive ballot, Public Works staff prepares a report and recommendations. The report outlines the process followed, includes the project findings, and states the reasons for the recommendations.

**STEP 9: Design and Construction** – Final design and construction is administered by the City and is contingent on funding.

**STEP 10: Landscaping** – If landscaping of NTMP devices is feasible and desired by the neighborhood, the City shall fund initial landscaping costs. Responsibility for maintaining landscaping in conformance with the Public Works Department criteria on the permanent devices rests with the benefited neighborhood. The resident who agrees to maintain the landscaping shall be required to obtain a Street-Use Permit. If the neighborhood fails to fulfill the responsibility and the landscaping obstructs the view of traffic (becomes unsightly or is otherwise potentially unsafe), the Public Works Department shall have the authority to remove the landscaping.



**STEP 11: Monitoring / Maintenance** – The Public Works Department monitors the constructed devices and is responsible for the physical appearance of the project.

**STEP 12: Follow Up Evaluation** – Within three to five years after construction of an NTMP project, the Public Works Department conducts a follow-up evaluation to determine if the project's goals and objectives continue to be met. This evaluation may entail traffic studies of volumes, speeds, and accidents, as well as public opinion surveys.

### *Potential Traffic Calming Features*

A variety of treatments have been established to accomplish traffic calming objectives. Possible features include the following (Ewing 1999):

- **Speed humps** are rounded raised areas placed across the roadway. The Institute of Transportation Engineers (ITE) recommended practice suggests speed humps be 12 feet long in the direction of travel (this length minimizes “bottoming out” of vehicles), 3 to 4 inches high, parabolic in shape, with a design speed of 15 to 20 mph.
- **Speed tables** are basically flat-topped speed humps, commonly constructed with brick or other textured material. Often they are marked for pedestrian crossing, in which case they are called **raised crosswalks**. Speed tables are typically long enough that the entire wheelbase of a passenger vehicle may rest on top. Most commonly, they are 22 feet long (6-foot ramps on either end and a 10-foot table on top) and 3 to 4 inches high. With typical design speeds of 25 to 30 mph, speed tables allow for higher speeds than do speed humps, but they are often considered to be in better proportion with the street and more aesthetically pleasing.
- **Raised intersections** are flat raised areas that cover entire intersections, with ramps on all approaches and frequently paved with bricks or some other textured material. Their purpose is to pedestrianize the entire intersection, and they are typically raised at or just below sidewalk level.
- **Textured pavements** are entire roadway surfaces paved with brick, concrete pavers, stamped asphalt, or other surface materials that create small constant deviations in vertical roadway alignment. Even though they produce only small variations, textured pavements are typically effective in slowing traffic down. One design consideration is that extreme textures such as cobblestone can impede pedestrians and bicyclists, particularly in wet conditions.
- **Traffic circles** are raised islands placed in the center of intersections, around which traffic circulates. They are typically round in shape and controlled by yield signs on all approaches, and often the island is landscaped. Traffic circles prevent drivers from speeding through intersections by impeding straight-through movement. The radius of traffic circles can vary widely, and the primary design consideration is to strike the proper balance between slowing traffic down, and reasonably accommodating the vehicles (including large vehicles) that will utilize the intersection.
- **Chicanes** are curb extensions that alternate from one side of the street to the other, forming S-shaped curves. They are less common than traffic circles, primarily due to the high cost of curb realignment. A less expensive chicane-like effect may be achieved by alternating on-street parking from one side of the street to the other. Chicanes must be well designed to prevent drivers from still speeding by crossing the centerline, or testing their skills on the curves.
- **Bulb-outs** are curb extensions at intersections that reduce roadway width curb to curb. Their primary purpose is to make intersections more pedestrian friendly by shortening the roadway

crossing distance and drawing attention to pedestrians via raised peninsula. Additionally, a bulb-out often tightens the curb radius at the corner, which reduces the speeds of turning vehicles.

- **Center islands** are raised islands located at the centerline of a street, narrowing the travel lanes at that location. They have been particularly effective in slowing vehicles down on curves and when placed downstream of intersections. In both applications, they prevent wide turning vehicles by channeling them right. Center islands are more effective when used as short interruptions. If they are too long, they will serve to separate and channel opposing directions, which can result in actually speeding traffic up. Center islands are often landscaped. When placed at the entrance to a neighborhood, and typically designed in conjunction with landscaping, monument signs and textured pavement, they are called **gateways**.
- **Chokers** are curb extensions located at mid-block. They narrow the roadway by widening the sidewalk or planting strip, and are often marked with pedestrian crosswalks. Like bulb-outs, their primary purpose is to make intersections more pedestrian friendly by shortening the roadway crossing distance, drawing attention to pedestrians via raised peninsula.

In establishing a neighborhood traffic calming program, the City must take into account the restriction that no deviation from WSDOT design standards is permitted on principal arterials, minor arterials, and collector streets without express approval of the local programs engineer (RCW 35.78). This limitation does not apply to local access streets, which are defined by RCW 35.78.010 as streets "...generally limited to providing access to abutting property... tributary to major and secondary thoroughfares... generally discouraging through traffic..." Therefore, only local residential streets (Local Access and Neighborhood Collector) can be eligible for neighborhood traffic calming programs.

#### *Existing Traffic Calming with the City*

Presently, traffic calming devices within the City of Sammamish are located primarily along 216th Avenue NE. These include speed humps, traffic circles, and chokers.

#### **Current Six-Year Transportation Improvement Program (TIP)**

**Table V-L** summarizes the list of projects that make up the current Six-Year Transportation Improvement Program (TIP), 2003 – 2008. Funding for some of these projects is secured, while funding for other projects is not. Detailed evaluation of future conditions should assume completion only of financially committed projects.

**TABLE V-L**  
**CURRENT SIX YEAR TRANSPORTATION IMPROVEMENT PROGRAM (TIP) 2003 – 2008**

| TIP # | PROJECT TITLE                     | PROJECT EXPENDITURE (X \$1,000) |       |       |       |       |       | 6-YEAR TOTAL |
|-------|-----------------------------------|---------------------------------|-------|-------|-------|-------|-------|--------------|
|       |                                   | 2003                            | 2004  | 2005  | 2006  | 2007  | 2008  |              |
| 1     | 228th Ave SE, Phase 1C            | 3,530                           |       |       |       |       |       | 3,530        |
| 2     | 228th Ave, NE 8th St – NE 12th St | 500                             |       |       |       |       |       | 500          |
| 3     | 244th Ave, Phase 1                | 50                              | 700   | 3,000 | 3,500 |       |       | 7,250        |
| 4     | Issaquah-Pine Lake Rd Extension   | 270                             | 1,980 |       |       |       |       | 2,250        |
| 5     | SE 24th St Walkway Project        | 688                             |       |       |       |       |       | 688          |
| 6     | Overlay program                   | 250                             | 250   | 250   | 250   | 250   | 250   | 1,500        |
| 7     | 244th Ave, Phase 2                |                                 |       |       | 500   | 1,700 | 6,000 | 8,200        |



|       |                                         |       |       |       |       |       |       |        |
|-------|-----------------------------------------|-------|-------|-------|-------|-------|-------|--------|
| 8     | Sidewalk projects                       | 200   | 200   | 200   | 200   | 200   | 200   | 1,200  |
| 9     | Intersection improvements               | 80    | 80    | 80    | 80    | 80    | 80    | 480    |
| 10    | Neighborhood CIP                        | 100   | 100   | 100   | 100   | 100   | 100   | 600    |
| 11    | Street lighting program                 | 10    | 10    | 10    | 10    | 10    | 10    | 60     |
| 12    | Trossachs Blvd SE Extension             |       |       |       |       |       | 350   | 350    |
| 13    | E Lake Sammamish Pkwy, Phase 1          |       |       | 150   | 240   | 2,150 |       | 2,540  |
| 14    | GMA capital facilities program          | 15    | 15    | 15    | 15    | 15    | 15    | 90     |
| 15    | Project development and pre-design      | 15    | 15    | 15    | 15    | 15    | 15    | 90     |
| 16    | Mitigation and concurrency program      | 10    | 5     | 5     | 5     | 5     | 5     | 35     |
| 17    | SE 20th St, 212th Ave – 228th Ave       |       |       |       | 300   | 3,000 |       | 3,300  |
| 18    | 212th Ave SE/Louis Thompson Rd          |       |       | 50    | 650   |       |       | 700    |
| 19    | E Lk Sammamish Pkwy/SE 24th St          |       |       |       |       |       | 300   | 300    |
| 20    | City entrance signs                     |       | 5     | 5     | 5     | 5     | 5     | 25     |
| 21    | Transit program                         |       | 2,500 | 70    | 50    | 70    | 50    | 2,740  |
| 22    | SE 8th/218th/4th, 212th Ave – 228th Ave |       | 200   | 2,000 |       |       |       | 2,200  |
| 23    | Sahalee Way NE, Phase 1                 |       |       |       | 15    | 90    | 100   | 205    |
| 24    | Sahalee Way NE, Phase 2                 |       |       |       |       | 10    | 90    | 100    |
| 25    | SR 202 with HOV                         | 10    |       |       |       |       |       | 10     |
| 26    | E Lk Sammamish Pkwy, Phase 2            |       |       |       |       | 100   | 200   | 300    |
| 27    | E Lk Sammamish Pkwy, Phase 3            |       |       |       |       | 50    | 50    | 100    |
| 28    | Roadway stability studies               | 75    |       |       |       |       |       | 75     |
| Total |                                         | 5,803 | 6,060 | 5,950 | 5,935 | 7,850 | 7,820 | 39,418 |

## Existing Transit Service

### Bus Service

King County Metro provides bus service to the City of Sammamish. Three bus routes currently serve the City, with service as summarized in **Table V-M**.

**TABLE V-M**  
**EXISTING TRANSIT SERVICE FOR THE CITY OF SAMMAMISH**

| ROUTE NUMBER | ROUTE DESCRIPTION                                                                      | SERVICE                      | AVERAGE HEADWAY (MINUTES) |        |
|--------------|----------------------------------------------------------------------------------------|------------------------------|---------------------------|--------|
|              |                                                                                        |                              | PEAK                      | MIDDAY |
| 216          | Service from Sahalee Way to Pine Lake to Issaquah to Mercer Island to downtown Seattle | Weekday AM and PM peak hours | 30                        | —      |

|     |                                                                                                                 |                              |          |          |
|-----|-----------------------------------------------------------------------------------------------------------------|------------------------------|----------|----------|
| 269 | Service from Issaquah Park-and-Ride to Sammamish Park-and-Ride to Bear Creek Park-and-Ride to Overlake          | Weekday AM and PM peak hours | 50 – 70  | –        |
| 927 | Service from Providence Point on Sammamish Plateau to Pine Lake to Issaquah Park-and-Ride and downtown Issaquah | Weekday                      | 60 – 120 | 60 – 120 |
|     |                                                                                                                 | Saturday                     | 60 – 120 | 60 – 120 |

Route 216 utilizes a 42-seat coach. According to ridership statistics provided by King County Metro, Route 216 carries an average load per trip of 25 passengers in the morning and 19 passengers in the evening. The typical maximum load is comprised of 34 passengers in the morning and 36 passengers in the evening.

Route 269 utilizes an 18-seat coach. According to Metro's ridership statistics, Route 269 carries an average load per trip of 9 passengers in the morning and 7 passengers in the evening. The typical maximum load is comprised of 15 passengers in the morning and 20 passengers in the evening.

Route 927 is a DART service operated by a contractor. Ridership information is not currently available for this route, which provides the only midday weekday service, as well as the only Saturday service, within the city limits.

### *Park-and-Ride Facilities*

One park-and-ride facility is currently located within the City of Sammamish, which is a leased lot at Sammamish Hills Lutheran Church at SE 8th Street and 228th Avenue SE. The lot contains 100 parking spaces, and is served by the three transit routes described in the previous section.

The existing transit routes and location of the park-and-ride lot within the Sammamish city limits is shown in **Figure V-9**.

Outside of the city limits, the nearest park-and-ride lots to the south of the City of Sammamish are:

- Klahanie Park-and-Ride at SE Klahanie Boulevard and 244th Place SE, King County (30 spaces),
- Tibbitt's Valley Park-and-Ride at 12th NW and Newport Way, Issaquah (94 spaces),
- Issaquah Park-and-Ride at SR 900 and Newport Way, Issaquah (397 spaces).

The 927 DART Route serves the Tibbitt's Park-and-Ride. The other park-and-ride lots are served by several Metro routes that provide service to North Bend, Snoqualmie, Fall City, Preston, Bellevue, Redmond, Factoria, Eastgate, Overlake, University of Washington, and downtown Seattle. Additionally, they are served by two Sound Transit routes, 554 and 555, that provide express bus service to Eastgate, Bellevue, Factoria, Mercer Island, Rainier and I-90, downtown Seattle, and Northgate.

The nearest park-and-ride lot to the north of the Sammamish city limits is:

- Bear Creek Park-and-Ride at 178th Place NE and NE Union Hill Road, Redmond (334 spaces).

Several Metro routes that provide service to Overlake, Bellevue, Kirkland, Woodinville, Carnation, Bothell, and downtown Seattle serve this lot. Additionally, two Sound Transit routes, 540 and 545, which



provide express bus service to Kirkland, Overlake, Redmond, and the University of Washington, serve the lot.

### **Existing Non-Motorized Conditions**

The Goals, Objectives and Policies of the Transportation Element emphasize provision of adequate facilities for recreational and commuter bicycling within the City of Sammamish. To that end, the City is currently developing the Sammamish Trails, Bikeways and Paths (TBP) Plan, with anticipated adoption in 2003. The TBP Plan schedule precludes it from being included in the Transportation Element. The adopted plan will significantly contribute to the non-motorized component of comprehensive transportation planning in the City.

Pedestrian facilities exist in Sammamish as sidewalks, walkways, and on many roads as shared facilities. According to the King County database, which reflects data collected from 1996 through 1999, a total of 72.7 miles of concrete sidewalk (one side) exists in Sammamish. This equates to roughly 25 percent of the existing roadway network having concrete sidewalk. For the remainder of the roadways, gravel or paved shoulders or the actual roadways provide for pedestrian transport. The majority of the existing concrete sidewalk is located within residential neighborhoods and subdivisions. According to the RNIS database, only 2 percent of the total estimated sidewalks are located along designated arterial streets. The TBP Plan, as described in the previous section, will also contain a significant pedestrian element.





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## **PROJECTED NEEDS (FUTURE CONDITIONS)**

In order to evaluate future transportation needs, forecasts must be made of future travel demand. Developing traffic forecasts for existing streets based on future land use allows the adequacy of the street system to be evaluated. Alternative land use and transportation improvements may then also be evaluated.

### **Travel Forecasting Model**

For the City of Sammamish Transportation Element, a transportation computer model was developed to analyze future travel demand and traffic patterns. The major steps of the modeling process are as follows:

- Current Land Use Assessment,
- Trip Generation,
- Trip Distribution,
- Network Assignment,
- Model Calibration,
- Forecast of Future Land Use,
- Model of Future Traffic Conditions.

These general steps of the modeling process are described in the following sections, and the technical aspects of the model are described in detail in the Traffic Forecasting Model Documentation Report (EarthTech 2003), which has been produced for the City as a supplemental document to the Comprehensive Plan.

### **Current Land Use Assessment**

The primary method of determining future travel demand is based on future land use patterns and community growth. The entire study area is divided into Transportation Analysis Zones (TAZs) that have similar land use characteristics. The TAZ boundaries that were established for the City of Sammamish travel-forecasting model are shown in **Figure V-10**. For each zone, land use characteristics of population and employment were estimated based on the City of Sammamish Comprehensive Land Use Plan and discussions with City staff. In order to establish an accurate base map of existing land use, consultants to the City began with the King County Assessor records, supplemental aerial photos, and field verification of a subset of lots. City staff compiled unit counts of multi-family dwellings and commercial building square feet based on King County records supplemented with some field review. A summary of the existing land use is included in **Appendix E** of this Comprehensive Plan.

### **Trip Generation**

The trip generation step estimates the total number of trips produced by and attracted to each TAZ in the study area. The trips are estimated using statistical data that take into account population and household characteristics, employment information, economic model output, and land-use information. Trips generated are categorized by their general purpose, which are:

- Home-based-work: any trip with home as one end and work as the other end
- Home-based-other: any non-work trip with home as one end



- Non-home-based: any trip that does not have home at either end

The trip generation model generally estimates the number of trips that are generated per household or non-residential square feet during the analysis period for each of the purposes under consideration. For its output, the trip generation model estimated the total number of trips produced in each TAZ and the total number of trips attracted to each TAZ, categorized by trip purpose.

### **Trip Distribution**

The trip distribution step allocates the trips estimated by the trip generation model to create a specific zonal origin and destination for each trip. This is accomplished through use of the gravity model, which distributes trips according to two basic assumptions: (1) more trips will be attracted to larger zones (the size of a zone is defined by the number of attractions estimated in the trip generation phase, not the geographical size), and (2) more trip interchanges will take place between zones that are closer together than the number that will take place between zones that are farther apart. The result is a trip matrix (for each of the trip purposes specified in trip generation) that estimates how many trips are taken from each zone to every other zone. The trips are often referred to as trip interchanges.

### **Network Assignment**

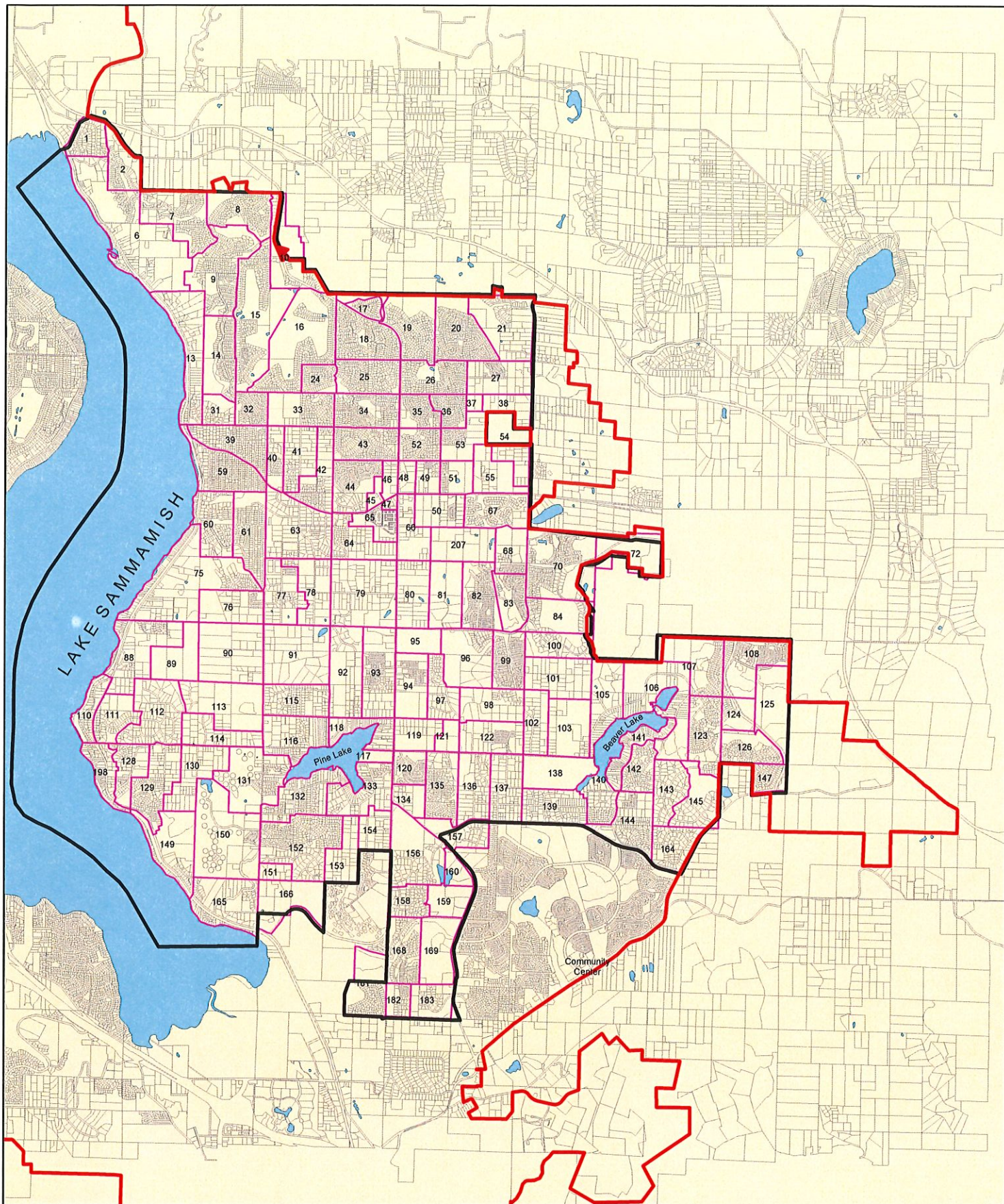
The arterial street system is coded into the computer model as a series of links that represent roadways and nodes that represent the intersection of those roadways. Each roadway link and intersection node is entered into the model with an assigned a functional classification, with associated characteristics such as length, capacity, and speed. This information is then used to determine the optimum path between all the zones based on travel time and distance. A model then distributes the trips from each of the zones onto the street network.

The estimated trips are assigned to the transportation network using an incremental assignment process. This means that the total traffic is assigned to the network, one increment at a time. The paths for the assigned vehicles are those that reflect the best travel time between each origin and destination. After a portion of the vehicles is assigned, the zone-to-zone travel times with the additional traffic are recalculated. The next increment of traffic is assigned to the network, and the optimal paths are determined based upon the adjusted travel times. The zone-to-zone travel times are calculated again, reflecting the added traffic. The cycle of network assignment and travel time recalculation is repeated, until all vehicles have been assigned to the roadway network. The result is a computerized road network with traffic volumes calculated for each segment of roadway, which takes into account the effects of increasing traffic congestion on the system.

### **Model Calibration**

A crucial step in the modeling process is the calibration of the model. This is accomplished by taking the existing street system defined as a model network and applying trip patterns based on existing land use. This information is then compared to existing traffic counts to see if the information reproduces accurate conditions. Adjustments are made to the model inputs until the modeled existing conditions replicate actual existing conditions, within accepted parameters. Once the model is calibrated for existing conditions, it can be used as the basis for analyzing future traffic conditions, as well as potential improvements to address existing and future deficiencies.





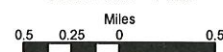
## Traffic Analysis Zone (TAZ) Boundaries

Plot Date: September 2003

### Legend:

- UGA
- City Limits
- Lakes
- City Tax Lots
- Taz Boundary

Scale 1 Inch = 1 Mile



NOTE: Along 228th Ave. some TAZ zones were reconfigured during the traffic modeling process to better locate future land use roadway access, and the reconfiguration does not appear on the map.

SOURCES: King County GIS CD #1, Standard Data dated April 2003.

DISCLAIMER: This map is derived from various data sources. While care has been taken to insure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided "as is".

**Figure V-10**



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### **Forecast of Future Land Use**

Once the transportation model was calibrated, future land use or alternative transportation systems were evaluated. The transportation impacts of five future land use alternatives were tested. The No Action, Preferred and Preferred plus Special Study Area land use alternatives are summarized in **Appendix I**. The Final land use and 3000 scenario alternatives are summarized below:

### **Final Comprehensive Plan Land Use**

A final land use plan was developed after public comment and deliberation by the City Council. The Plan (July 2003) targets future commercial growth and mixed-use development in three designated community centers, the Inglewood and Pine Lake Centers and Sammamish Commons. It includes the development of a City Hall and City Park project as a key gathering place, in accordance with an approved master plan, in the Sammamish Commons. The Plan focuses on the protection of the character and development patterns in existing single-family neighborhoods in outlying areas, and the protection of particularly environmentally sensitive areas. In capacity, the plan would support approximately 5,383 dwellings.

An additional land use scenario was developed only for assessment in the Transportation Element:

- The 3000 Scenario reflects partial development of the buildable land within the City of Sammamish. Rather than the 5000+ residential units that are planned in the Final land use alternative, this scenario assumes the addition of approximately 3,136 residential units to existing development. The distribution of the approximately 3,136 units was determined by assuming completion of all development in the permit pipeline, and the infill of one home per vacant lot. The 3000 Scenario allows analysis of the intermediate impacts of additional development on the transportation system. It also approximately reflects the City's 20-year planning growth target.

The land use alternatives were prepared for each TAZ, which was input into the model to obtain an assessment of the impact of the possible land use alternatives on the transportation system. A summary of the future land use forecasts is included in **Appendix E** of this Comprehensive Plan.

### **Model of Future Traffic Conditions**

Once future land use conditions were input, the model was run to forecast PM peak hour traffic conditions that are expected to result from the projected land use. The PM peak hour is modeled since it is the most congested time of day. However, since the segment analysis requires projected daily traffic volumes, the PM peak hour volumes had to be converted to AWDT volumes. The conversion to daily volumes was accomplished by applying a post-processing method, based primarily upon application of a peak-to-daily conversion factor. The method that was used to estimate the AWDT volumes is described in **Appendix F** of this Comprehensive Plan.

### **Level-of-Service Analysis for Future Conditions**

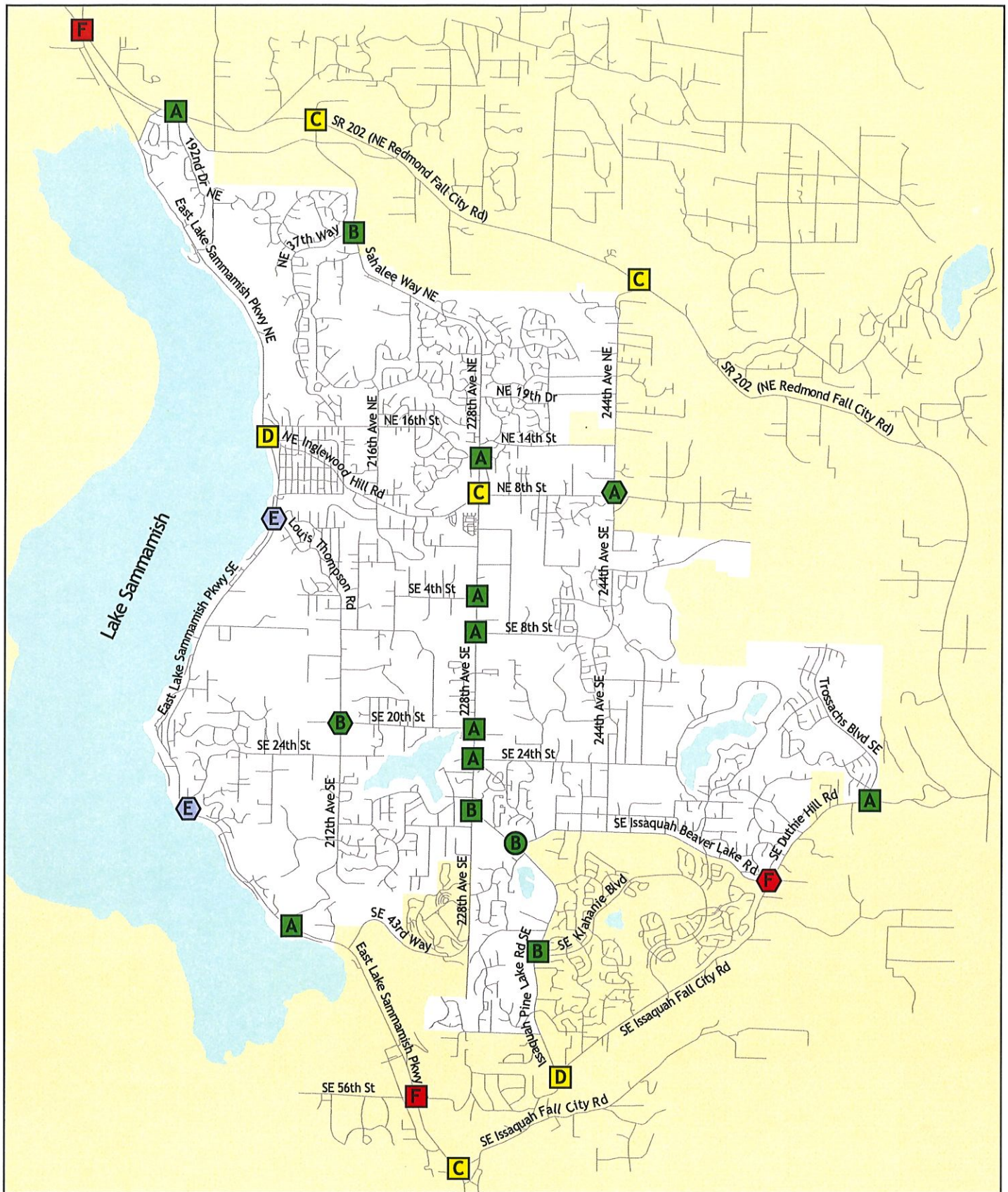
**Table V-N** lists the future improvements that were assumed to be in place for analysis of future conditions. This list presents those projects for which funding is secure, so they are assumed to be completed. In addition to financially committed projects from the City TIP (**Table V-L**), this table also presents County and State projects with committed funding.

**TABLE V-N**  
**COMMITTED CAPITAL IMPROVEMENT PROJECTS (CIP)**



| LOCATION                                         | CIP IMPROVEMENT                                                               |
|--------------------------------------------------|-------------------------------------------------------------------------------|
| 228th Ave NE and NE 12th St                      | Traffic signal added                                                          |
| 228th Ave NE and SE 4th St                       | Traffic signal added                                                          |
| 244th Ave NE and Redmond-Fall City Road (SR 202) | Traffic signal added (King County project)                                    |
| 228th Ave NE and Main St                         | Traffic signal added                                                          |
| Trossachs Blvd and SE Duthie Hill Rd             | Traffic Signal added (King County project)                                    |
| 228th Ave – Issaquah-Pine Lake Rd to NE 12th St  | Completion of improvement to 5 lanes                                          |
| 228th Ave SE and SE 8th St                       | Addition of west leg to intersection (at future Civic Center)                 |
| Issaquah-Pine Lake Rd and SE 32nd Way            | Roundabout added                                                              |
| SR 202 from E Lake Sammamish Pkwy to Sahalee Way | Completion of improvement to 5 lanes (WSDOT project)                          |
| Issaquah-Pine Lake Rd and Issaquah-Fall City Rd  | Added south leg spur connection from Sunset Interchange (King County project) |

**Table V-O** summarizes the intersection LOS expected under the 3000 scenario land use alternative - if no additional transportation improvements are made beyond the committed CIP. The LOS for the alternative is additionally illustrated in **Figure V-11**.



## 2022 LOS - Committed Transportation Improvements, 3000 Land Use

September 2003

### Legend

- Level of Service A or B
- Level of Service C or D
- Level of Service E
- Level of Service F

- Signalized
- Stop Controlled
- Roundabout

0.5 0 0.5 Miles  
Scale: 1" = 1 mile



SOURCES: King County GIS, 2002 and City of Sammamish, 2002.  
DISCLAIMER: This map is derived from various data sources. While care has been taken to insure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided, "as is".

**Figure V-11**



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The committed improvements listed in **Table V-N** address most of the deficiencies identified in the existing conditions analysis, primarily through the replacement of TWSC intersections with traffic signals, and the widening of SR 202. However, analysis shows that the increase in traffic resulting from additional development would cause heavy congestion at other locations, if no additional improvements were made. Additional TWSC intersections expected to degrade to congested conditions include E Lake Sammamish Parkway NE at Louis Thompson Road NE, SE Duthie Hill Road at SE Issaquah-Beaver Lake Road, and E Lake Sammamish Parkway SE at SE 24th Way. The two access intersections outside the city limits that are congested under existing conditions, the intersections of E Lake Sammamish Parkway with SR 202 to the north and SE Issaquah-Fall City Road to the south, would remain congested. Analysis indicates that the intersection of E Lake Sammamish Pkwy and Inglewood Road, which is already signalized, would also be highly congested.

**Table V-P** summarizes the concurrency status for each of the 45 roadway segments, under the 3000 scenario land use alternative with only committed improvements, based upon the policy-defined AWDT thresholds previously described. Measuring the forecasted volumes against the policy-defined segment concurrency thresholds, six segments will fail under the 3000 scenario land use alternative, if no additional improvements are made. These are defined as future deficiencies. Three have been previously identified as existing deficiencies, and the remaining three are do to new development.



**TABLE V-O**  
**ESTIMATED INTERSECTION LOS FOR 3000 SCENARIO LAND USE ALTERNATIVE - PM PEAK HOUR -**  
**COMMITTED IMPROVEMENTS ONLY**

|    | INTERSECTION                                                             | LOS STANDARD <sup>1</sup> | TRAFFIC CONTROL <sup>2</sup> | 3000 SCENARIO               |                  |
|----|--------------------------------------------------------------------------|---------------------------|------------------------------|-----------------------------|------------------|
|    |                                                                          |                           |                              | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> |
| 1  | 228th Ave NE and NE 12th St                                              | D                         | S                            | 9                           | A                |
| 2  | Sahalee Way NE and NE 37th St                                            | D                         | S                            | 18                          | B                |
| 3  | Sahalee Way NE and NE Redmond-Fall City Rd (SR 202)                      | D                         | S                            | 23                          | C                |
| 4  | 228th Ave NE and SE 4th St                                               | D                         | S                            | 7                           | A                |
| 5  | 228th Ave NE and SE 8th St                                               | D                         | S                            | 9                           | A                |
| 6  | 228th Ave NE and SE 20th St                                              | D                         | S                            | 9                           | A                |
| 7  | 228th Ave NE and SE 24th St                                              | D                         | S                            | 10                          | A                |
| 8  | 228th Ave SE and Issaquah Pine-Lake Rd SE                                | D                         | S                            | 12                          | B                |
| 9  | Issaquah-Pine Lake Rd SE and SE Klahanie Blvd                            | D                         | S                            | 17                          | B                |
| 10 | E Lk Sammamish Pkwy NE and NE Inglewood Hill Rd                          | C                         | S                            | 50                          | D*               |
| 11 | E Lk Sammamish Pkwy SE and 212th Way SE                                  | C                         | S                            | 7                           | A                |
| 12 | Issaquah-Pine Lake Rd SE and SE Issaquah-Fall City Rd                    | D                         | S                            | 40                          | D                |
| 13 | 228th Ave NE and NE 8th St (NE Inglewood Hill Rd)                        | D                         | S                            | 24                          | C                |
| 14 | 192nd Dr NE and NE Redmond-Fall City Rd (SR 202)                         | D                         | S                            | 8                           | A                |
| 15 | 244th Ave NE and NE Redmond-Fall City Rd (SR 202)                        | D                         | S                            | 22                          | C                |
| 16 | Issaquah-Pine Lake Rd SE and SE 32nd Way                                 | D                         | RAB                          | 62% <sup>5</sup>            | B                |
| 17 | E Lk Sammamish Pkwy NE and Louis Thompson Rd NE                          | C                         | TWSC                         | 39                          | E*               |
| 18 | 212th Ave SE and SE 20th St                                              | C                         | TWSC                         | 12                          | B                |
| 19 | SE Duthie Hill Rd and SE Issaquah-Beaver Lake Rd                         | D                         | TWSC                         | 176                         | F*               |
| 20 | Trossachs Blvd SE and SE Duthie Hill Rd                                  | D                         | S                            | 6                           | A                |
| 21 | E Lk Sammamish Pkwy SE and SE 24th Way                                   | C                         | TWSC                         | 43                          | E*               |
| 22 | 244th Ave NE and NE 8th St                                               | C                         | AWSC                         | 8                           | A                |
| 23 | E Lk Sammamish Pkwy NE and NE Redmond-Fall City Rd (SR 202) <sup>6</sup> | D                         | S                            | 155                         | F*               |
| 24 | E Lk Sammamish Pkwy SE and SE 56th St <sup>6</sup>                       | D                         | S                            | 89                          | F*               |

|    |                                                                  |   |   |    |   |
|----|------------------------------------------------------------------|---|---|----|---|
| 25 | E Lk Sammamish Pkwy SE and SE Issaquah-Fall City Rd <sup>6</sup> | D | S | 30 | C |
|----|------------------------------------------------------------------|---|---|----|---|

1. LOS standards are based upon the functional classifications of the intersecting roadways. Intersections that include Principal Arterials have a standard of LOS D. Intersections that include Minor Arterials or Collectors have a standard of LOS C.
2. Intersections: S=signalized; TWSC=two-way stop-controlled; AWSC=all-way stop-controlled.
3. Delay is measured in seconds per vehicle. At S and AWSC intersections, it represents average delay for all movements in the intersection. For TWSC intersections, it represents average delay for the minor leg movements. Analysis is based on 2002 traffic counts.
4. LOS is the level-of-service based on the methodology outlined in the Highway Capacity Manual (HCM 2000). (\*) denotes an LOS below the defined standard, indicating that the intersection is considered deficient.
5. Roundabout LOS is calculated using the Intersection Capacity Utilization (ICU) method.<sup>6</sup> These intersections are outside the City of Sammamish.



**TABLE V-P**  
**SEGMENT CONCURRENCY STATUS – 3000 SCENARIO LAND USE - COMMITTED**  
**IMPROVEMENTS ONLY**

| SEGMENT | ROADWAY CHARACTERISTICS WITH COMMITTED IMPROVEMENTS           | Functional Class   | # of Lanes | Lane Width (feet) | Shoulder Width (feet) | Median | Walkway Bikeway | Concurrency Threshold | FUTURE LAND USE ALTERNATIVES 3000 |       |
|---------|---------------------------------------------------------------|--------------------|------------|-------------------|-----------------------|--------|-----------------|-----------------------|-----------------------------------|-------|
|         |                                                               |                    |            |                   |                       |        |                 |                       | AWDT                              | Fails |
| 1       | E Lk Sammamish Pkwy, City limits – 196th Ave NE (Weber Point) | Minor Arterial     | 2          | 11                | 5                     | None   | None            | 17,370                | 24,000                            | X     |
| 2       | E Lk Sammamish Pkwy, 196th Ave NE – NE 26th Pl                | Minor Arterial     | 2          | 11                | 5                     | None   | None            | 17,370                | 22,500                            | X     |
| 3       | E Lk Sammamish Pkwy, NE 26th Pl – NE Inglewood Hill Rd        | Minor Arterial     | 2          | 11                | 5                     | None   | None            | 17,370                | 22,500                            | X     |
| 4       | E Lk Sammamish Pkwy, Inglewood Hill Rd – Louis Thompson Rd    | Minor Arterial     | 2          | 11                | 5                     | None   | None            | 17,370                | 14,700                            |       |
| 5       | E Lk Sammamish Pkwy, Louis Thompson Rd NE – SE 8th St         | Minor Arterial     | 2          | 11                | 5                     | None   | None            | 17,370                | 12,200                            |       |
| 6       | E Lk Sammamish Pkwy, SE 8th St – SE 24th Wy                   | Minor Arterial     | 2          | 11                | 5                     | None   | None            | 17,370                | 12,100                            |       |
| 7       | E Lk Sammamish Pkwy, SE 24th Way – 212th Ave SE               | Minor Arterial     | 2          | 11                | 5                     | None   | None            | 17,370                | 15,200                            |       |
| 8       | E Lk Sammamish Pkwy, 212th Ave SE – City Limit                | Minor Arterial     | 2          | 11                | 5                     | None   | None            | 17,370                | 19,500                            | X     |
| 9       | SE 24th St, E Lk Sammamish Pkwy – 200th Ave SE                | Collector          | 2          | 10                | 1                     | None   | None            | 9,420                 | -                                 |       |
| 10      | SE 24th St, 200th Ave SE – 212th Ave SE                       | Collector          | 2          | 10                | 1                     | None   | None            | 9,420                 | -                                 |       |
| 11      | Louis Thompson Rd, E Lk Sammamish Pkwy – SE 8th St            | Collector          | 2          | 10                | 2                     | None   | None            | 9,820                 | 3,500                             |       |
| 12      | 212th Ave SE, SE 8th St – SE 20th St                          | Collector          | 2          | 10                | 2                     | None   | None            | 9,820                 | 3,300                             |       |
| 13      | 212th Ave SE, SE 20th St – SE 32nd St                         | Collector          | 2          | 11                | 3                     | None   | None            | 11,350                | 3,300                             |       |
| 14      | 212th Ave SE, SE 32nd St – E Lk Sammamish Pkwy                | Collector          | 2          | 11                | 1                     | None   | None            | 10,550                | 4,300                             |       |
| 15      | NE Inglewood Rd, E Lk Sammamish Pkwy – 216th Ave NE           | Minor Arterial     | 2          | 11                | 4                     | None   | None            | 16,790                | 12,000                            |       |
| 16      | NE Inglewood Rd, 216th Ave NE – 228th Ave NE                  | Minor Arterial     | 2          | 11                | 5                     | None   | None            | 17,370                | 11,600                            |       |
| 17      | SE 8th St/218th Ave SE, 212th Ave SE – SE 4th St              | Collector          | 2          | 10                | 1                     | None   | None            | 9,420                 | -                                 |       |
| 18      | SE 4th St, 218th Ave SE – 228th Ave SE                        | Collector          | 2          | 10                | 1                     | None   | None            | 9,420                 | 1,300                             |       |
| 19      | SE 20th St, 212th Ave SE – 219th Pl SE                        | Collector          | 2          | 11                | 2                     | None   | None            | 10,950                | 4,600                             |       |
| 20      | SE 20th St, 219th Pl SE – 228th Ave SE                        | Collector          | 2          | 11                | 3                     | None   | None            | 11,350                | 4,600                             |       |
| 21      | Sahalee Wy/228th Ave NE, City Limit – 220th Ave NE            | Principal Arterial | 2          | 11                | 4                     | None   | None            | 16,790                | 14,600                            |       |
| 22      | Sahalee Wy/228th Ave NE, 220th Ave NE – NE 25th Way           | Principal Arterial | 2          | 11                | 4                     | None   | None            | 16,790                | 11,700                            |       |
| 23      | 228th Ave, NE 25th Way – NE 12th St                           | Principal Arterial | 2          | 11                | 5                     | None   | None            | 17,370                | 11,700                            |       |
| 24      | 228th Ave, NE 12th St – SE 4th St <sup>1</sup>                | Principal Arterial | 4          | 11                | None                  | Median | Walkway         | 34,950                | 23,900                            |       |
| 25      | 228th Ave, SE 4th St – SE 20th St <sup>2</sup>                | Principal Arterial | 4          | 11                | None                  | Median | Walkway         | 34,950                | 27,600                            |       |



|    |                                                                           |                    |     |     |      |                |                   |        |        |     |
|----|---------------------------------------------------------------------------|--------------------|-----|-----|------|----------------|-------------------|--------|--------|-----|
| 26 | 228th Ave, SE 20th St – Issaquah Pine Lake Rd SE Ave                      | Principal Arterial | 4   | 11  | None | Median         | Walkway           | 34,950 | 30,500 |     |
| 27 | 228th Ave, Issaquah Pine Lake Rd SE – SE 43rd Way Ave                     | Principal Arterial | 2   | 11  | 4    | Left-Turn Lane | None              | 21,430 | 15,200 |     |
| 28 | NE 8th St, 228th Ave NE – 244th Ave NE                                    | Minor Arterial     | 2   | 11  | 4    | Left-Turn Lane | Walkway           | 21,430 | 8,100  |     |
| 29 | SE 8th St, 228th Ave SE – 244th Ave SE                                    | Collector          | 2   | 11  | None | Left-Turn Lane | Walkway / Bikeway | 15,390 | 11,100 |     |
| 30 | SE 24th St, 228th Ave SE – 244th Ave SE                                   | Collector          | 2   | 11  | 1    | None           | None              | 10,550 | 4,700  |     |
| 31 | SE 24th St, 244th Ave SE – W Beaver Lk Dr SE                              | Collector          | 2   | 11  | 1    | None           | None              | 10,550 | -      |     |
| 32 | Issaquah-Pine Lk Rd, 228th Ave SE – SE 32nd Way                           | Principal Arterial | 4   | 11  | 4    | None           | None              | 31,480 | 20,200 |     |
| 33 | Issaquah-Pine Lk Rd, SE 32nd Way – SE Klahanie Blvd                       | Principal Arterial | 2   | 11  | 4    | None           | None              | 16,790 | 17,300 | X   |
| 34 | Issaquah-Pine Lk Rd, SE Klahanie Blvd – SE 48th St                        | Principal Arterial | 2   | 11  | 4    | None           | None              | 16,790 | 25,500 | X   |
| 35 | 244th Ave NE, NE 30th Pl – NE 20th St                                     | Minor Arterial     | 2   | 11  | 1    | None           | None              | 15,050 | 5,200  |     |
| 36 | 244th Ave NE, NE 20th St – NE 8th St                                      | Minor Arterial     | 2   | 11  | 1    | None           | None              | 15,050 | 4,500  |     |
| 37 | East Sammamish/244th Ave NE Corridor, NE 8th St – SE 8th St <sup>3</sup>  | Minor Arterial     | n/a | n/a | n/a  | n/a            | n/a               | n/a    | n/a    | n/a |
| 38 | East Sammamish/244th Ave NE Corridor, SE 8th St – SE 24th St <sup>3</sup> | Minor Arterial     | n/a | n/a | n/a  | n/a            | n/a               | n/a    | n/a    | n/a |
| 39 | 244th Ave NE, SE 24th St – SE 32nd Way                                    | Minor Arterial     | 2   | 11  | 2    | None           | None              | 15,630 | 3,400  |     |
| 40 | SE 32nd Way, Issaquah-Pine Lk Rd – 244th Ave SE                           | Minor Arterial     | 2   | 11  | 4    | None           | None              | 16,790 | 7,300  |     |
| 41 | SE 32nd St, 244th Ave SE – W Beaver Lk Dr SE                              | Minor Arterial     | 2   | 11  | 4    | None           | None              | 16,790 | 6,100  |     |
| 42 | Issaquah-Beaver Lk Rd, W Beaver Lk Dr SE – SE Duthie Hill Rd              | Minor Arterial     | 2   | 11  | 6    | None           | None              | 17,950 | 4,000  |     |
| 43 | SE Duthie Hill Rd, SE Issaquah-Beaver Lk Rd – 266th Ave SE                | Principal Arterial | 2   | 11  | 4    | None           | None              | 16,790 | 15,000 |     |
| 44 | SE Duthie Hill Rd, 266th Ave SE – Trossachs Blvd SE                       | Principal Arterial | 2   | 11  | 4    | None           | None              | 16,790 | 15,000 |     |
| 45 | Trossachs Blvd SE, SE 9th St – SE Duthie Hill Rd                          | Collector          | 2   | 12  | None | None           | Walkway           | 13,680 | 6,400  |     |

1. The four-lane width represents the predominant width of this segment. The width of 228th Avenue is four lanes from SE 4th Street to 400-feet north of NE 8th Street. Between NE 8th Street and NE 12th Street, the roadway tapers back to two lanes.
2. The widening of 228<sup>th</sup> Avenue between SE 8th Street and SE 12th Street is currently under construction, and expected to be completed in 2003.
3. These will be future segments if the East Sammamish/244<sup>th</sup> Avenue Corridor connections are constructed, but currently do not exist as continuous roadway segments.



## **Recommended Plan**

Based upon evaluation of existing conditions, estimation and evaluation of future conditions that result from the adopted final land use alternative, and the concurrency standards and priorities stated by the City, the Recommended Plan contains the following elements:

- Recommended Transportation Improvements
- Functional Classification Assessment
- Connectivity Assessment
- Roadway Design Guidelines
- Traffic Calming Program
- Transportation Demand Management
- Transit Service and Facilities
- Non-Motorized Facilities

## **Recommended Transportation Improvements**

### ***Recommended Projects***

Based upon the analysis of existing and projected future roadway conditions, and an evaluation of potential improvements, a list of recommended projects was developed for the 20-year planning horizon. The total list of projects is summarized in **Table V-Q**.

Planning level estimates were prepared for each of the projects under consideration. The cost estimates (in current dollars) are included as **Appendix G** of this Plan. Estimates were prepared for roadway segments based on a generic three-lane 36-foot wide roadway, with 5-foot bicycle lanes, 5.5-foot planter strips, and 6-foot sidewalks on both sides. Additions for retaining walls were included when topography deemed it appropriate. The financially constrained (funded) plan includes the recommended projects that add up to the estimated total 20-year revenue of \$170,269,000 (which is presented in more detail later in this section). The funded plan requires the passage of General Obligation Bonds or development of some other funding source.

**Table V-Q** shows which projects are necessary to meet concurrency requirements, based upon the policy-defined AWDT thresholds. Under the Concurrency Project column in the table, "Existing" indicates that by the defined concurrency standards, the project addresses deficiencies already in existence. "3000" concurrency projects address deficiencies that occur at the 3000- scenario land use development level. (Note projects labeled, as 3000 would also be concurrency projects under the final land use alternative.)

TABLE V-Q

## SUMMARY OF RECOMMENDED TRANSPORTATION IMPROVEMENTS

| PROJECT # | 2003-2008 TIP PRIORITY # | LOCATION                                                  | IMPROVEMENT                                                                                                                              | CONCURRENCY PROJECT <sup>2</sup>        | PRIORITY CRITERIA <sup>3</sup> |             |              |                 |               |                 | PROJECT COST (Current Dollars) | TOTAL COST (Current Dollars) |
|-----------|--------------------------|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------------------------------|-------------|--------------|-----------------|---------------|-----------------|--------------------------------|------------------------------|
|           |                          |                                                           |                                                                                                                                          |                                         | City Access                    | Concurrency | Traffic Flow | Quality of Life | Non-motorized | Roadway Connect |                                |                              |
| 1         |                          | I-90 and SR 202 access improvements <sup>1</sup>          |                                                                                                                                          |                                         | ✓                              |             |              |                 |               |                 | \$6,000,000                    | \$6,000,000                  |
| 2         | 13                       | E Lake Sammamish Pkwy - NE 187th Ave to Inglewood Hill Rd | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                        | ✓ existing (Segments 1 - 3)             | ✓                              |             |              |                 |               |                 | \$28,612,000                   | \$34,612,000                 |
| 3         |                          | E Lake Sammamish Pkwy - 212th Ave SE to SE 43rd Way       | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                        | ✓ 3000 (Segment 8)                      | ✓                              |             |              |                 |               |                 | \$2,375,000                    | \$36,987,000                 |
| 4         |                          | Issaquah-Pine Lake Rd - SE Klahanie Blvd to City Limit    | Widen to 5 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                        | ✓ 3000 (Segment 34)                     | ✓                              |             |              |                 |               |                 | \$4,841,000                    | \$41,828,000                 |
| 5         |                          | Issaquah-Pine Lake Rd - SE 32nd Way to SE Klahanie Blvd   | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                        | ✓ 3000 (Segment 33)                     | ✓                              |             |              |                 |               |                 | \$4,283,000                    | \$46,111,000                 |
| 6         |                          | 244th Ave NE - City Limit to NE 8th St                    | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                        | (Segment 35 & 36)                       | ✓                              |             |              |                 |               |                 | \$7,077,000                    | \$53,188,000                 |
| 7         | 23<br>24                 | Sahalee Way - City Limit to 220th Ave NE                  | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                        | (Segment 21)                            | ✓                              |             |              |                 |               |                 | \$7,837,000                    | \$61,025,000                 |
| 8         | 23<br>24                 | Sahalee Way - 220th Ave NE to NE 25th Way                 | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                        | (Segment 22)                            | ✓                              |             |              |                 |               |                 | \$3,496,000                    | \$64,521,000                 |
| 9         |                          | 228th Ave NE - NE 25th Way to NE 12th St                  | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                        | (Segment 23)                            | ✓                              |             |              |                 |               |                 | \$3,496,000                    | \$68,017,000                 |
| 10        |                          | 228th Ave SE - Issaquah-Pine Lake Rd to City Limit        | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                        | (Segment 27)                            | ✓                              |             |              |                 |               |                 | \$1,748,000                    | \$69,765,000                 |
| 11        | 16                       | Mitigation and Concurrency Program                        | Provides partial funding to create and maintain programs required to operate on-going transportation mitigation and concurrency programs |                                         |                                | ✓           |              |                 |               |                 | \$105,000                      | \$69,870,000                 |
| 12        |                          | E Lake Sammamish Pkwy and Inglewood Hill Rd               | Add protected right turn arrow to westbound signal, and optimize phasing                                                                 | (Intersection 10)                       | ✓                              |             |              |                 |               |                 | \$48,000                       | \$69,918,000                 |
| 13        |                          | E Lake Sammamish Pkwy and Louis Thompson Rd               | Install traffic signal                                                                                                                   | ✓ at mid range - 3000 (Intersection 17) | ✓                              |             |              |                 |               |                 | \$367,000                      | \$70,285,000                 |
| 14        | 19                       | E Lake Sammamish Pkwy and SE 24th Way                     | Install traffic signal                                                                                                                   | ✓ at mid range - 3000 (Intersection 21) | ✓                              |             |              |                 |               |                 | \$367,000                      | \$70,652,000                 |



**TABLE V-Q**  
**SUMMARY OF RECOMMENDED TRANSPORTATION IMPROVEMENTS**

| PROJECT # | 2003-2008 TIP PRIORITY # | LOCATION                                                                    | IMPROVEMENT                                                                                                                                                                                          | CONCURRENCY PROJECT <sup>2</sup>        | PRIORITY CRITERIA <sup>3</sup> |             |              |                 |               |                 | PROJECT COST (Current Dollars) | TOTAL COST (Current Dollars) |
|-----------|--------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------------------------------|-------------|--------------|-----------------|---------------|-----------------|--------------------------------|------------------------------|
|           |                          |                                                                             |                                                                                                                                                                                                      |                                         | City Access                    | Concurrency | Traffic Flow | Quality of Life | Non-motorized | Roadway Connect |                                |                              |
| 15        |                          | Duthie Hill Rd and Issaquah-Beaver Lake Rd                                  | Install traffic signal                                                                                                                                                                               | ✓ at mid range - 3000 (Intersection 19) | ✓                              |             |              |                 |               |                 | \$367,000                      | \$71,019,000                 |
| 16        | 26                       | E Lake Sammamish Pkwy - Inglewood Hill Rd to Louis Thompson Rd              | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                                                                                    | (Segment 4)                             | ✓                              |             |              |                 |               |                 | \$4,793,000                    | \$75,887,000                 |
| 17        | 27                       | E Lake Sammamish Pkwy - SE 24 <sup>th</sup> Way to 212 <sup>th</sup> Ave SE | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                                                                                    | (Segment 7)                             | ✓                              |             |              |                 |               |                 | \$5,701,000                    | \$81,588,000                 |
| 18        |                          | Duthie Hill Rd - Issaquah-Beaver Lake Rd to Trossachs Blvd                  | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                                                                                    | (Segments 43 and 44)                    | ✓                              |             |              |                 |               |                 | \$4,808,000                    | \$86,396,000                 |
| 19        | 5, 8                     | Sidewalk Projects                                                           | Various sidewalk projects that include gap projects, extensions, and safety improvements. Cost includes the SE 24th St Walkway Project, which will create continuous links between schools and parks |                                         |                                |             | ✓            |                 |               |                 | \$6,638,000                    | \$93,034,000                 |
| 20        | 28                       | Roadway Stability Study and Maintenance Program                             | Analyze the geotechnical stability of roadway bases and adjacent slopes in areas where significant slides, movement, and settling are occurring                                                      |                                         |                                |             | ✓            |                 |               |                 | \$1,575,000                    | \$94,609,000                 |
| 21        | 6                        | Asphalt Overlay Program                                                     | Provides for construction cost of the City's annual street overlay program and other maintenance and rehabilitation projects                                                                         |                                         |                                |             | ✓            |                 |               |                 | \$5,700,000                    | \$100,309,000                |
| 22        | 21                       | Transit Program                                                             | Provides funding for some capital project matching funds, consultant assistance, and/or salary to City Staff for working with local transit agencies to secure transit services and facilities       |                                         |                                |             | ✓            |                 |               |                 | \$920,000                      | \$101,229,000                |
| 23        | 10                       | Neighborhood CIP                                                            | Various capital projects including safety improvements, gap projects, bicycle routes, pedestrian enhancements, and school zone safety improvements                                                   |                                         |                                |             | ✓            |                 |               |                 | \$4,000,000                    | \$105,229,000                |
| 24        | 11                       | Street Lighting Program                                                     | Provide street lighting at high priority locations with significant safety issues that can be addressed through better street                                                                        |                                         |                                |             | ✓            |                 |               |                 | \$210,000                      | \$105,439,000                |

**TABLE V-Q**  
**SUMMARY OF RECOMMENDED TRANSPORTATION IMPROVEMENTS**

| PROJECT # | 2003-2008 TIP PRIORITY # | LOCATION                                                       | IMPROVEMENT                                                                                                                             | CONCURRENCY PROJECT <sup>2</sup> | PRIORITY CRITERIA <sup>3</sup> |  |  |  |  |  | PROJECT COST (Current Dollars) | TOTAL COST (Current Dollars) |
|-----------|--------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|--|--|--|--|--|--------------------------------|------------------------------|
|           |                          |                                                                |                                                                                                                                         |                                  |                                |  |  |  |  |  |                                |                              |
|           |                          |                                                                | lighting                                                                                                                                |                                  |                                |  |  |  |  |  |                                |                              |
| 25        |                          | Traffic Spot Improvements                                      |                                                                                                                                         |                                  |                                |  |  |  |  |  | \$850,000                      | \$106,289,000                |
| 26        |                          | Beaver Lake Drive upgrade                                      | Safety improvements including shoulder widening, sidewalks, and guardrail.                                                              |                                  |                                |  |  |  |  |  | \$1,100,000                    | \$107,389,000                |
| 27        | 9                        | Intersection Improvements                                      |                                                                                                                                         |                                  |                                |  |  |  |  |  | \$2,060,000                    | \$109,449,000                |
| 28        | 14                       | GMA Capital Facilities Program                                 | Provides funding for the development and annual updating of a Capital Facilities Program tied to the City's Comprehensive Land Use Plan |                                  |                                |  |  |  |  |  | \$300,000                      | \$109,749,000                |
| 29        |                          | Transportation Planning <sup>4</sup>                           |                                                                                                                                         |                                  |                                |  |  |  |  |  | \$600,000                      | \$110,349,000                |
| 30        |                          | NE 8th St - 228th Ave NE to 244th Ave NE                       | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                       | (Segment 28)                     |                                |  |  |  |  |  | \$4,633,000                    | \$114,982,000                |
| 31        | 3                        | East Sammamish/244th Ave Corridor - NE 8th St to SE 8th St     | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                       | (Segment 37)                     |                                |  |  |  |  |  | \$5,439,000                    | \$120,421,000                |
| 32        |                          | Issaquah-Pine Lake Rd Ext - 228th Ave SE to 224th Pl SE        | 2 lane road section w/ 3 lane approach to 228th Ave With right-in, right-out at 22nd                                                    |                                  |                                |  |  |  |  |  | \$1,404,000                    | \$121,825,000                |
| 33        |                          | Inglewood Hill Rd - E Lake Sammamish Pkwy to 216th Ave NE      | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                       | (Segment 15)                     |                                |  |  |  |  |  | \$6,312,000                    | \$128,137,000                |
| 34        |                          | Inglewood Hill Rd - 216th Ave NE to 228th Ave NE               | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk                                                                       | (Segment 16)                     |                                |  |  |  |  |  | \$3,846,000                    | \$131,983,000                |
| 36        | 18                       | Louis Thompson Rd - E Lake Sammamish Pkwy to 212th Ave         | Improve 2 lanes with left turn pockets, curb, gutter, and sidewalk                                                                      | (Segment 11)                     |                                |  |  |  |  |  | \$6,279,000                    | \$138,262,000                |
| 37        | 18                       | 212th Ave - Louis Thompson Rd to 212th Way SE (Snake Hill)     | Improve 2 lanes with left turn pockets, curb, gutter, and sidewalk                                                                      | (Segment 12 & 13)                |                                |  |  |  |  |  | \$6,744,000                    | \$145,006,000                |
| 38        | 18                       | 212th Way SE (Snake Hill) - 212th Ave to E Lake Sammamish Pkwy | Improve 2 lanes with left turn pockets, curb, gutter, and sidewalk                                                                      | (Segment 14)                     |                                |  |  |  |  |  | \$6,495,000                    | \$151,501,000                |
| 39        | 22                       | SE 8th St/218th Ave SE/SE 4th St                               | Widen to 3 lanes with curb, gutter, and sidewalk                                                                                        | (Segment 17)                     |                                |  |  |  |  |  | \$4,783,000                    | \$156,284,000                |
| 40        | 17                       | SE 20th St - 212th Ave SE to 228th Ave SE                      | Widen to 3 lanes with curb, gutter, and sidewalk and signal at 212th                                                                    | (Segment 19 & 20)                |                                |  |  |  |  |  | \$4,190,000                    | \$160,474,000                |



TABLE V-Q

## SUMMARY OF RECOMMENDED TRANSPORTATION IMPROVEMENTS

| PROJECT # | 2003-2008 TIP<br>PRIORITY # | LOCATION                                               | IMPROVEMENT                                                       | CONCURRENCY<br>PROJECT <sup>2</sup> | PRIORITY<br>CRITERIA <sup>3</sup> |             |              |                 |               |                 | PROJECT<br>COST<br>(Current<br>Dollars) | TOTAL COST<br>(Current<br>Dollars) |
|-----------|-----------------------------|--------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------|-----------------------------------|-------------|--------------|-----------------|---------------|-----------------|-----------------------------------------|------------------------------------|
|           |                             |                                                        |                                                                   |                                     | City Access                       | Concurrency | Traffic Flow | Quality of Life | Non-motorized | Roadway Connect |                                         |                                    |
| 41        | 12                          | Trossachs Blvd Ext to E Main Dr                        | 2 lane road section with curb, gutter, and sidewalk               |                                     |                                   |             | ✓            |                 |               |                 | \$4,075,000                             | \$164,549,000                      |
| 42        | 26                          | E Lake Sammamish Pkwy - Louis Thompson Rd to SE 8th St | Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk | (Segment 5)                         |                                   |             | ✓            |                 |               |                 | \$4,409,000                             | \$168,958,000                      |
| 43        |                             | Trossachs Blvd SE to Beaver Lake Dr SE                 | 2 lane road section with curb, gutter, and sidewalk               |                                     |                                   |             |              |                 |               | ✓               | \$365,000                               | \$165,232,000                      |
| 44        |                             | NE 20th St - 236th Ave NE to 244th Ave NE              | 2 lane road section with curb, gutter, and sidewalk               |                                     |                                   |             |              |                 |               | ✓               | \$1,636,000                             | \$170,959,000                      |
| 45        |                             | NE 42nd St to 192nd Way NE (Hidden Ridge to Sahalee)   | 2 lane road section with curb, gutter, and sidewalk               |                                     |                                   |             |              |                 |               | ✓               | -                                       | \$170,959,000                      |

1. The \$6 million Interlocal agreement fund finances work on roadways outside the City of Sammamish such as Sahalee Way from SR 202 to the city limits, SR 202 if not funded by WSDOT, and appropriate roadways in Issaquah.
2. Check indicates that project addressed identified deficiency that is either existing, mid-range (occurs at 3000 development level) or long-range (occurs at build out of preferred or no action land use scenarios). Deficiency identification is based upon adopted AWDI thresholds for segment concurrency analysis. Where applicable, the segment location as illustrated in Figure V-6 is shown in parentheses.
3. Check indicates most significant priority criteria under which project fits (project may additionally fit under other priority criteria)
4. "Transportation Planning" cost includes cost of two Transportation Plan updates, and TIP project development and pre-design.

### *LOS Analysis with Recommended Improvements*

The recommended projects included in the funded plan are illustrated in **Figure V-12**. This list was developed after review of concurrency requirements; need to address access to and from the city and public comment for additional improvements on substandard or important roadways. However, only those projects failing concurrency requirements must be pursued.

### **Build Out Alternative**

**Table V-R** summarizes the expected levels-of-service at the 25 designated major intersections with the recommended transportation improvements in place, for the Proposed Final Comprehensive Plan. Analysis shows that 23 of the 25 intersections are expected to operate at an LOS at or better than the intersection concurrency thresholds. The two congested intersections are located at access points outside the city limits, E Lake Sammamish Parkway and SR 202 to the north, and E Lake Sammamish Parkway and SE 56th Street to the south. Addressing the deficiencies at these locations will require collaboration with the Cities of Redmond and Issaquah, within whose jurisdictions these two intersections are respectively located. The intersection LOS for the Proposed Final land use is illustrated in **Figure V-13**.

**Table V-S** summarizes the roadway segment concurrency status for the Proposed Final land use, with the recommended transportation improvements in place. The table shows that the improvements address all identified future deficiencies.

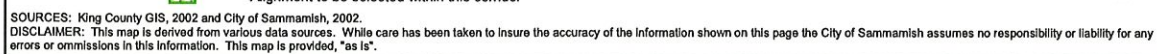
### **3000 Scenario**

**Table V-R** summarizes the expected levels-of-service at the 25 designated major intersections with the recommended transportation improvements in place, for the 3000 scenario land use alternative. Analysis shows that 23 of the 25 intersections are expected to operate at an LOS at or better than the intersection concurrency thresholds. The two congested intersections are located at access points outside the city limits, E Lake Sammamish Parkway and SR 202 to the north, and E Lake Sammamish Parkway and SE 56th Street to the south. Addressing the deficiencies at these locations will require collaboration with the Cities of Redmond and Issaquah, within whose jurisdictions these two intersections are respectively located. The intersection LOS for the 3000 Scenario is illustrated in **Figure V-14**.

**Table V-S** summarizes the roadway segment concurrency status for the 3000 Scenario, with the recommended transportation improvements in place. The table shows that the improvements address all identified future deficiencies.



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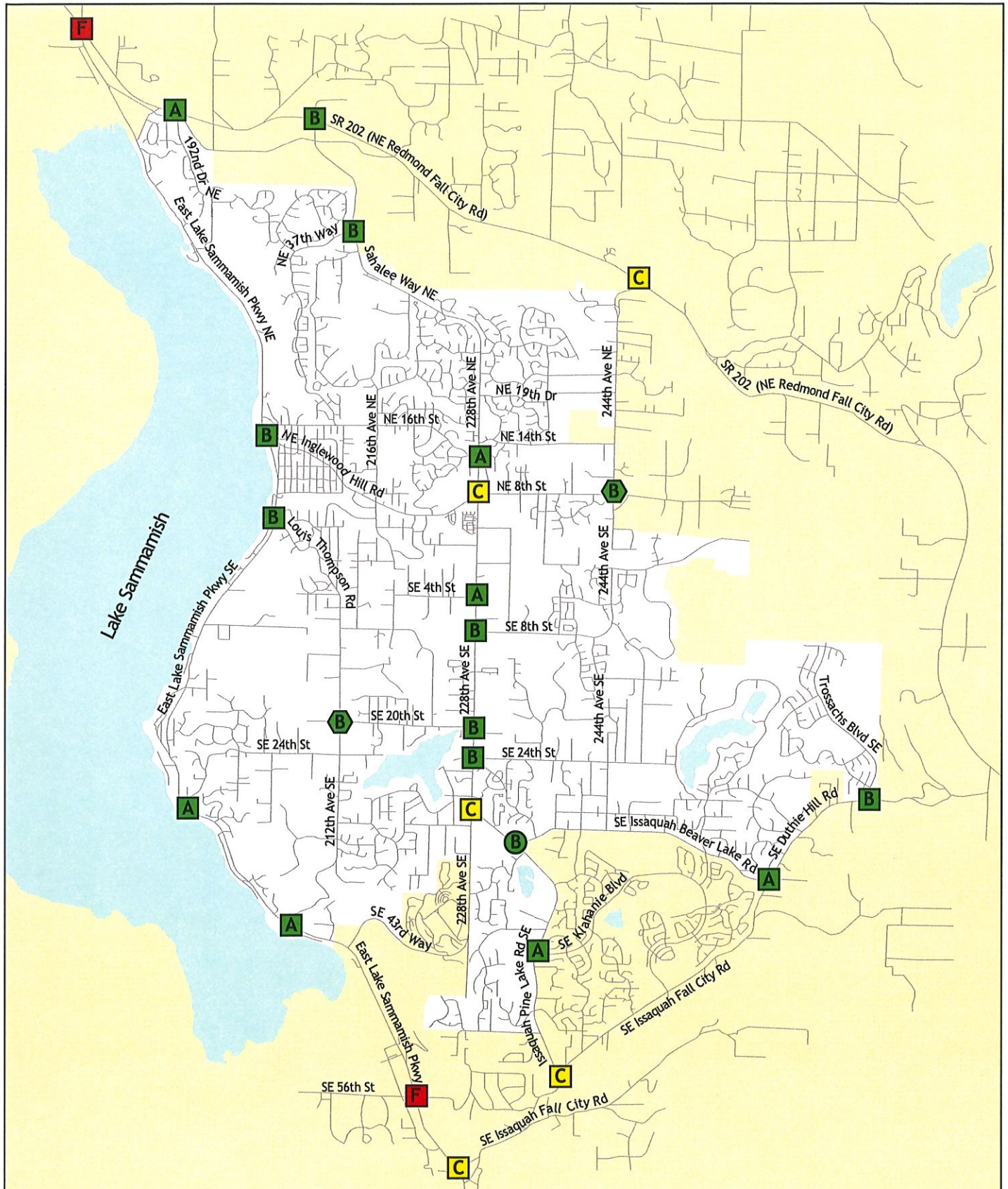


Back of Figure V-12





Back of Figure V-13



## 2022 LOS - Recommended Transportation Improvements, 3000 Land Use

September 2003

### Legend

- Level of Service A or B
- Level of Service C or D
- Level of Service E
- Level of Service F
- Signalized
- Stop Controlled
- Roundabout

0.5 0 0.5 Miles  
Scale: 1" = 1 mile



SOURCES: King County GIS, 2002 and City of Sammamish, 2002.  
DISCLAIMER: This map is derived from various data sources. While care has been taken to insure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided, "as is".

**Figure V-14**



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**TABLE V-R  
ESTIMATED INTERSECTION LOS FOR THE 3000 SCENARIO AND FINAL LAND USE – PM PEAK HOUR – WITH RECOMMENDED IMPROVEMENTS**

|    | INTERSECTION                                          | LOS<br>STANDARD <sup>1</sup> | TRAFFIC<br>CONTROL <sup>2</sup> | 3000<br>SCENARIO            |                  | FINAL                       |                  |
|----|-------------------------------------------------------|------------------------------|---------------------------------|-----------------------------|------------------|-----------------------------|------------------|
|    |                                                       |                              |                                 | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> |
| 1  | 228th Ave NE and NE 12th St                           | D                            | S                               | 9                           | A                | 10                          | A                |
| 2  | Sahalee Way NE and NE 37th St                         | D                            | S                               | 16                          | B                | 18                          | B                |
| 3  | Sahalee Way NE and NE Redmond-Fall City Rd (SR 202)   | D                            | S                               | 18                          | B                | 11                          | B                |
| 4  | 228th Ave NE and SE 4th St                            | D                            | S                               | 6                           | A                | 9                           | A                |
| 5  | 228th Ave NE and SE 8th St                            | D                            | S                               | 15                          | B                | 19                          | B                |
| 6  | 228th Ave NE and SE 20th St                           | D                            | S                               | 11                          | B                | 10                          | B                |
| 7  | 228th Ave NE and SE 24th St                           | D                            | S                               | 11                          | B                | 15                          | B                |
| 8  | 228th Ave SE and Issaquah Pine-Lake Rd SE             | D                            | S                               | 28                          | C                | 45                          | D                |
| 9  | Issaquah-Pine Lake Rd SE and SE Klahanie Blvd         | D                            | S                               | 9                           | A                | 9                           | A                |
| 10 | E Lk Sammamish Pkwy NE and NE Inglewood Hill Rd       | C                            | S                               | 11                          | B                | 14                          | B                |
| 11 | E Lk Sammamish Pkwy SE and 212th Way SE               | C                            | S                               | 8                           | A                | 8                           | A                |
| 12 | Issaquah-Pine Lake Rd SE and SE Issaquah-Fall City Rd | D                            | S                               | 31                          | C                | 35                          | C                |
| 13 | 228th Ave NE and NE 8th St (NE Inglewood Hill Rd)     | D                            | S                               | 20                          | C                | 25                          | C                |
| 14 | 192nd Dr NE and NE Redmond-Fall City Rd (SR 202)      | D                            | S                               | 9                           | A                | 9                           | A                |



**TABLE V-R  
ESTIMATED INTERSECTION LOS FOR THE 3000 SCENARIO AND FINAL LAND USE – PM PEAK HOUR – WITH RECOMMENDED IMPROVEMENTS**

|    | INTERSECTION                                                | LOS STANDARD <sup>1</sup> | TRAFFIC CONTROL <sup>2</sup> | 3000 SCENARIO               |                  | FINAL                       |                  |
|----|-------------------------------------------------------------|---------------------------|------------------------------|-----------------------------|------------------|-----------------------------|------------------|
|    |                                                             |                           |                              | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> |
| 15 | 244th Ave NE and NE Redmond-Fall City Rd (SR 202)           | D                         | S                            | 24                          | C                | 24                          | C                |
| 16 | Issaquah-Pine Lake Rd SE and SE 32nd Way                    | D                         | RAB                          | 61% <sup>4</sup>            | B                | 66% <sup>4</sup>            | B                |
| 17 | E Lk Sammamish Pkwy NE and Louis Thompson Rd NE             | C                         | TWSC                         | 12                          | B                | 12                          | B                |
| 18 | 212th Ave SE and SE 20th St                                 | C                         | TWSC                         | 12                          | B                | 7                           | A                |
| 19 | SE Duthie Hill Rd and SE Issaquah-Beaver Lake Rd            | D                         | TWSC                         | 10                          | A                | 10                          | B                |
| 20 | Trossachs Blvd SE and SE Duthie Hill Rd                     | D                         | S                            | 11                          | B                | 11                          | B                |
| 21 | E Lk Sammamish Pkwy SE and SE 24th Way                      | C                         | TWSC                         | 9                           | A                | 9                           | A                |
| 22 | 244th Ave NE and NE 8th St                                  | C                         | AWSC                         | 14                          | B                | 7                           | A                |
| 23 | E Lk Sammamish Pkwy NE and NE Redmond-Fall City Rd (SR 202) | D                         | S                            | 114                         | F                | 121                         | F                |
| 24 | E Lk Sammamish Pkwy SE and SE 56th St                       | D                         | S                            | 87                          | F                | 95                          | F                |
| 25 | E Lk Sammamish Pkwy SE and SE Issaquah-Fall City Rd         | D                         | S                            | 32                          | C                | 49                          | D                |

1. LOS standards are based upon the functional classifications of the intersecting roadways. Intersections that include Principal Arterials have a standard of LOS D. Intersections that include Minor Arterials or Collectors have a standard of LOS C.
2. Intersections: S=signalized; TWSC=two-way stop-controlled; AWSC=all-way stop-controlled
3. Delay is measured in seconds per vehicle. At S and AWSC intersections, it represents average delay for all movements in the intersection. For TWSC intersections, it represents average delay for the minor leg movements. Analysis is based on 2002 traffic counts.
4. LOS is the level-of-service based on the methodology outlined in the Highway Capacity Manual (HCM 2000). (\*) Denotes an LOS below the defined standard, indicating that the intersection is considered deficient.
5. Roundabout LOS is calculated using the Intersection Capacity Utilization (ICU) method.

**TABLE V-S**  
**SEGMENT CONCURRENCY STATUS FOR 3000 SCENARIO AND FINAL ALTERNATIVES WITH RECOMMENDED IMPROVEMENTS**

|    | SEGMENT                                                       | PROPOSED ROADWAY CHARACTERISTICS |            |                   |                       |                |                 |                       | 3000 SCENARIO |       | FINAL  |       |
|----|---------------------------------------------------------------|----------------------------------|------------|-------------------|-----------------------|----------------|-----------------|-----------------------|---------------|-------|--------|-------|
|    |                                                               | Functional Class                 | # of Lanes | Lane Width (feet) | Shoulder Width (feet) | Median         | Walkway Bikeway | Concurrency Threshold | AWDT          | Fails | AWDT   | Fails |
| 1  | E Lk Sammamish Pkwy, City limits – 196th Ave NE (Weber Point) | Minor Arterial                   | 2          | 11                | 5                     | Left-Turn Lane | Walkway         | 22,010                | 20,200        |       | 21,400 |       |
| 2  | E Lk Sammamish Pkwy, 196th Ave NE – NE 26th Pl                | Minor Arterial                   | 2          | 11                | 5                     | Left-Turn Lane | Walkway         | 22,010                | 18,700        |       | 20,000 |       |
| 3  | E Lk Sammamish Pkwy, NE 26th Pl – NE Inglewood Hill Rd        | Minor Arterial                   | 2          | 11                | 5                     | Left-Turn Lane | Walkway         | 22,010                | 18,600        |       | 20,000 |       |
| 4  | E Lk Sammamish Pkwy, Inglewood Hill Rd – Louis Thompson Rd    | Minor Arterial                   | 2          | 11                | 5                     | Left-Turn Lane | Walkway         | 22,010                | 11,700        |       | 11,900 |       |
| 5  | E Lk Sammamish Pkwy, Louis Thompson Rd NE – SE 8th St         | Minor Arterial                   | 2          | 11                | 5                     | Left-Turn Lane | Walkway         | 22,010                | 8,900         |       | 8,900  |       |
| 6  | E Lk Sammamish Pkwy, SE 8th St – SE 24th Way                  | Minor Arterial                   | 2          | 11                | 5                     | None           | None            | 17,370                | 8,700         |       | 8,600  |       |
| 7  | E Lk Sammamish Pkwy, SE 24th Way – 212th Ave SE               | Minor Arterial                   | 2          | 11                | 5                     | Left-Turn Lane | Walkway         | 22,010                | 11,900        |       | 11,800 |       |
| 8  | E Lk Sammamish Pkwy, 212th Ave SE – City Limit                | Minor Arterial                   | 2          | 11                | 5                     | Left-Turn Lane | Walkway         | 22,010                | 16,100        |       | 16,400 |       |
| 9  | SE 24th St, E Lk Sammamish Pkwy – 200th Ave SE                | Collector                        | 2          | 10                | 1                     | None           | None            | 9,420                 | -             |       | 2,500  |       |
| 10 | SE 24th St, 200th Ave SE – 212th Ave SE                       | Collector                        | 2          | 10                | 1                     | None           | None            | 9,420                 | -             |       | 1,900  |       |
| 11 | Louis Thompson Rd, E Lk Sammamish Pkwy – SE 8th St            | Collector                        | 2          | 11                | 5                     | None           | Walkway         | 12,150                | 3,700         |       | 3,600  |       |
| 12 | 212th Ave SE, SE 8th St – SE 20th St                          | Collector                        | 2          | 11                | 5                     | None           | Walkway         | 12,150                | 3,400         |       | 3,900  |       |
| 13 | 212th Ave SE, SE 20th St – SE 32nd St                         | Collector                        | 2          | 11                | 5                     | None           | Walkway         | 12,150                | 3,400         |       | 3,900  |       |
| 14 | 212th Ave SE, SE 32nd St – E Lk Sammamish Pkwy                | Collector                        | 2          | 11                | 5                     | None           | Walkway         | 12,150                | 4,300         |       | 4,600  |       |
| 15 | NE Inglewood Rd, E Lk Sammamish Pkwy – 216th Ave NE           | Minor Arterial                   | 2          | 11                | 5                     | Left-Turn Lane | Walkway         | 22,010                | 9,700         |       | 11,100 |       |
| 16 | NE Inglewood Rd, 216th Ave NE – 228th Ave NE                  | Minor Arterial                   | 2          | 11                | 5                     | Left-Turn Lane | Walkway         | 22,010                | 11,100        |       | 13,100 |       |



**TABLE V-S**  
**SEGMENT CONCURRENCY STATUS FOR 3000 SCENARIO AND FINAL ALTERNATIVES WITH RECOMMENDED IMPROVEMENTS**

| SEGMENT                                                | PROPOSED ROADWAY CHARACTERISTICS |            |                   |                       |                |                   |                       | 3000 SCENARIO |       | FINAL  |       |
|--------------------------------------------------------|----------------------------------|------------|-------------------|-----------------------|----------------|-------------------|-----------------------|---------------|-------|--------|-------|
|                                                        | Functional Class                 | # of Lanes | Lane Width (feet) | Shoulder Width (feet) | Median         | Walkway Bikeway   | Concurrency Threshold | AWDT          | Fails | AWDT   | Fails |
| 17 SE 8th St/218th Ave SE, 212th Ave SE – SE 4th St    | Collector                        | 2          | 11                | None                  | Left-Turn Lane | Walkway           | 15,390                | -             |       | 2,200  |       |
| 18 SE 4th St, 218th Ave SE – 228th Ave SE              | Collector                        | 2          | 11                | None                  | Left-Turn Lane | Walkway           | 15,390                | 1,500         |       | 4,000  |       |
| 19 SE 20th St, 212th Ave SE – 219th Pl SE              | Collector                        | 2          | 11                | 5                     | Left-Turn Lane | Walkway           | 15,390                | 5,200         |       | 5,400  |       |
| 20 SE 20th St, 219th Pl SE – 228th Ave SE              | Collector                        | 2          | 11                | 5                     | Left-Turn Lane | Walkway           | 15,390                | 5,200         |       | 5,400  |       |
| 21 Sahalee Wy/228th Ave NE, City Limit – 220th Ave NE  | Principal Arterial               | 2          | 11                | 5                     | Left-Turn Lane | Walkway           | 22,010                | 15,700        |       | 17,000 |       |
| 22 Sahalee Wy/228th Ave NE, 220th Ave NE – NE 25th Way | Principal Arterial               | 2          | 11                | 5                     | Left-Turn Lane | Walkway           | 22,010                | 12,800        |       | 14,200 |       |
| 23 228th Ave, NE 25th Way – NE 12th St,                | Principal Arterial               | 2          | 11                | 5                     | Left-Turn Lane | Walkway           | 22,010                | 12,800        |       | 14,200 |       |
| 24 228th Ave, NE 12th St – SE 4th St <sup>1</sup>      | Principal Arterial               | 4          | 11                | None                  | Median         | Walkway           | 34,950                | 20,700        |       | 24,700 |       |
| 25 228th Ave, SE 4th St – SE 20th St <sup>2</sup>      | Principal Arterial               | 4          | 11                | None                  | Median         | Walkway           | 34,950                | 28,300        |       | 30,900 |       |
| 26 228th Ave, SE 20th St – Issaquah Pine Lake Rd SE    | Principal Arterial               | 4          | 11                | None                  | Median         | Walkway           | 34,950                | 30,900        |       | 34,600 |       |
| 27 228th Ave, Issaquah Pine Lake Rd SE – SE 43rd Way   | Principal Arterial               | 2          | 11                | 5                     | Left-Turn Lane | Walkway           | 22,010                | 15,200        |       | 17,400 |       |
| 28 NE 8th St, 228th Ave NE – 244th Ave NE              | Minor Arterial                   | 2          | 11                | 5                     | Left-Turn Lane | Walkway           | 22,010                | 12,300        |       | 12,600 |       |
| 29 SE 8th St, 228th Ave SE – 244th Ave SE              | Collector                        | 2          | 11                | 5                     | Left-Turn Lane | Walkway / Bikeway | 15,390                | 4,700         |       | 9,300  |       |
| 30 SE 24th St, 228th Ave SE – 244th Ave SE             | Collector                        | 2          | 11                | 1                     | None           | None              | 10,550                | 4,600         |       | 5,900  |       |
| 31 SE 24th St, 244th Ave SE – W Beaver Lk Dr SE        | Collector                        | 2          | 11                | 1                     | None           | None              | 10,550                | -             |       | 4,200  |       |
| 32 Issaquah-Pine Lk Rd, 228th Ave SE – SE 32nd Way     | Principal Arterial               | 4          | 11                | 4                     | None           | None              | 31,480                | 16,600        |       | 21,300 |       |
| 33 Issaquah-Pine Lk Rd, SE 32nd Way – SE Klahanie Blvd | Principal Arterial               | 2          | 11                | 5                     | Left-Turn Lane | None              | 22,010                | 20,000        |       | 19,100 |       |

**TABLE V-S**  
**SEGMENT CONCURRENCY STATUS FOR 3000 SCENARIO AND FINAL ALTERNATIVES WITH RECOMMENDED IMPROVEMENTS**

| PROPOSED ROADWAY CHARACTERISTICS                                             |                    |            |                   |                       |                |                 |                       |        |       |        |       |  | 3000 SCENARIO |  |  | FINAL |  |
|------------------------------------------------------------------------------|--------------------|------------|-------------------|-----------------------|----------------|-----------------|-----------------------|--------|-------|--------|-------|--|---------------|--|--|-------|--|
| SEGMENT                                                                      | Functional Class   | # of Lanes | Lane Width (feet) | Shoulder Width (feet) | Median         | Walkway Bikeway | Concurrency Threshold | AWDT   | Fails | AWDT   | Fails |  |               |  |  |       |  |
| 34 Issaquah-Pine Lk Rd, SE Klallamie Blvd – SE 48th St                       | Principal Arterial | 4          | 11                | 5                     | Left-Turn Lane | Walkway         | 36,690                | 31,700 |       | 29,100 |       |  |               |  |  |       |  |
| 35 244th Ave NE, NE 30th Pl – NE 20th St                                     | Minor Arterial     | 2          | 11                | 5                     | Left-Turn Lane | Walkway         | 22,010                | 14,200 |       | 11,300 |       |  |               |  |  |       |  |
| 36 244th Ave NE, NE 20th St – NE 8th St                                      | Minor Arterial     | 2          | 11                | 5                     | Left-Turn Lane | Walkway         | 22,010                | 13,600 |       | 10,300 |       |  |               |  |  |       |  |
| 37 East Sammamish/244th Ave NE Corridor, NE 8th St – SE 8th St <sup>3</sup>  | Minor Arterial     | 2          | 11                | 5                     | Left-Turn Lane | Walkway         | 22,010                | 15,100 |       | 7,200  |       |  |               |  |  |       |  |
| 38 East Sammamish/244th Ave NE Corridor, SE 8th St – SE 24th St <sup>3</sup> | Minor Arterial     | None       | None              | None                  | None           | None            | -                     | 0      |       | 0      |       |  |               |  |  |       |  |
| 39 244th Ave NE, SE 24th St – SE 32nd Way                                    | Minor Arterial     | 2          | 11                | 2                     | None           | None            | 15,630                | 15,000 |       | 4,700  |       |  |               |  |  |       |  |
| 40 SE 32nd Way, Issaquah-Pine Lk Rd – 244th Ave SE                           | Minor Arterial     | 2          | 11                | 4                     | None           | None            | 16,790                | 14,500 |       | 8,300  |       |  |               |  |  |       |  |
| 41 SE 32nd St, 244th Ave SE – W Beaver Lk Dr SE                              | Minor Arterial     | 2          | 11                | 4                     | None           | None            | 16,790                | 5,400  |       | 6,100  |       |  |               |  |  |       |  |
| 42 Issaquah-Beaver Lk Rd, W Beaver Lk Dr SE – SE Duthie Hill Rd              | Minor Arterial     | 2          | 11                | 6                     | None           | None            | 17,950                | 3,800  |       | 4,200  |       |  |               |  |  |       |  |
| 43 SE Duthie Hill Rd, SE Issaquah-Beaver Lk Rd – 266th Ave SE                | Principal Arterial | 2          | 11                | 5                     | Left-Turn Lane | Walkway         | 22,010                | 12,400 |       | 13,200 |       |  |               |  |  |       |  |
| 44 SE Duthie Hill Rd, 266th Ave SE – Trossachs Blvd SE                       | Principal Arterial | 2          | 11                | 5                     |                | Walkway         | 22,010                | 12,400 |       | 13,200 |       |  |               |  |  |       |  |
| 45 Trossachs Blvd SE, SE 9th St – SE Duthie Hill Rd                          | Collector          | 2          | 12                | 6                     | None           | Walkway         | 13,680                | 5,100  |       | 5,100  |       |  |               |  |  |       |  |

1. The four-lane width represents the predominant width of this segment. The width of 228th Avenue is four lanes from SE 4th Street to 400-feet north of NE 8th Street. Between NE 8th Street and NE 12th Street, the roadway tapers back to two lanes.
2. The widening of 228<sup>th</sup> Avenue between SE 8th Street and SE 12th Street is currently under construction, and expected to be completed in 2003.
3. These will be future segments if the East Sammamish/244<sup>th</sup> Avenue Corridor connections are constructed, but currently do not exist as continuous roadway segments.



## Functional Classification Assessment

The Sammamish street system was reviewed using aerial photos, topographic maps, field visits, and traffic volume maps. The topographic features, especially Lake Sammamish, have limited major access to the north and south. The steep hillsides, wetlands and streams have also prevented the establishment of arterial access at uniform spacing as in a grid system. This places additional impacts on existing roadways.

Assessing the adequacy or need for additional arterial and collector streets involves a number of issues. The following criteria will be used by the City of Sammamish to help evaluate street classifications:

- **Land use.** Surrounding land use is a primary consideration in functional classification. The preservation of neighborhoods, the stabilization of desirable land uses, and the encouragement of orderly development are among the most basic considerations in the development of functional street systems. The greater the importance of an activity center, in terms of the type and the quantity of travel that it generates, the greater its need to be served by a higher classification of roadway. If, on the other hand, the greater amount of local access required by surrounding land use (such as in a residential neighborhood) the greater its need to be served by a lower classification of roadway.
- **Average Daily Traffic (ADT).** Generally speaking the higher the traffic volume, the higher the classification of the street. The demand for traffic mobility is more likely to outweigh the need for access to abutting land on streets with higher traffic volumes. Conversely, where volumes are lower, the access function of the street will generally be more important than mobility for traffic. Volumes by themselves do not define or determine the classification; additional criteria described below are also taken into account.
- **Non-motorized use.** The ADT criterion described above provides an easily obtained measure of the number of vehicles using a given street. While ADT is an important yardstick, another very significant feature of a city's streets is the accommodation of non-automobile modes, including walking, bicycling, and transit use. The number of modes of travel using a street is telling of a street's importance in the city's network; the more modes using a street, the more users that street serves, and the more important that street is to the movement of people, goods, and services throughout the city.
- **Street length.** The longer a street is, the more likely it is that the street will function at a higher classification. This is due to the fact that longer (continuous) streets allow travelers to move between distant attractions with a limited number of turns, stops, and other distractions that discourage them from using streets of lower classification. Longer streets generally supply a higher level of mobility as compared to other streets that are providing more access.
- **Street spacing.** Spacing of streets is another criterion that relates to the provision of mobility and/or access. Streets of higher classification usually have larger traffic carrying capacity and fewer impediments to travel. Fewer higher classified facilities are needed to serve the traffic mobility demands of the community due to their efficiency in moving traffic. Generally, this means that there are fewer streets of higher classification so there will be larger distances between them. Therefore, the further a street is from a higher classification street, the more likely it is that the street will function at a similar classification. Streets of lower classification are needed to provide access to abutting land. In order to do this, they must be spaced more closely and there must be many more of them. It is considered most desirable to have a network of multiple lower classification streets feeding into progressively fewer higher classification streets.

- **Street connectivity.** Streets that provide easy connections (or connectivity) to other roads of higher classification are likely to function at a similar classification. This can be attributed to the ease of movement perceived by travelers who desire to make that connection. For example, state highways are generally interconnected with one another, to provide a continuous network of high order roadways that can be used to travel into and through urban areas. Urban minor arterials provide a similar interconnected network at the citywide level. By contrast, collectors often connect local access streets with one or two higher-level arterial streets, thus helping provide connectivity at the neighborhood scale rather than on a citywide level. Local streets also provide a degree of connectivity as a necessary component of property access. However, the street lengths, traffic control, and/or street geometry are usually composed so that anyone but local travelers would consider the route inconvenient. Access to the immediate neighborhood is considered a local trip.

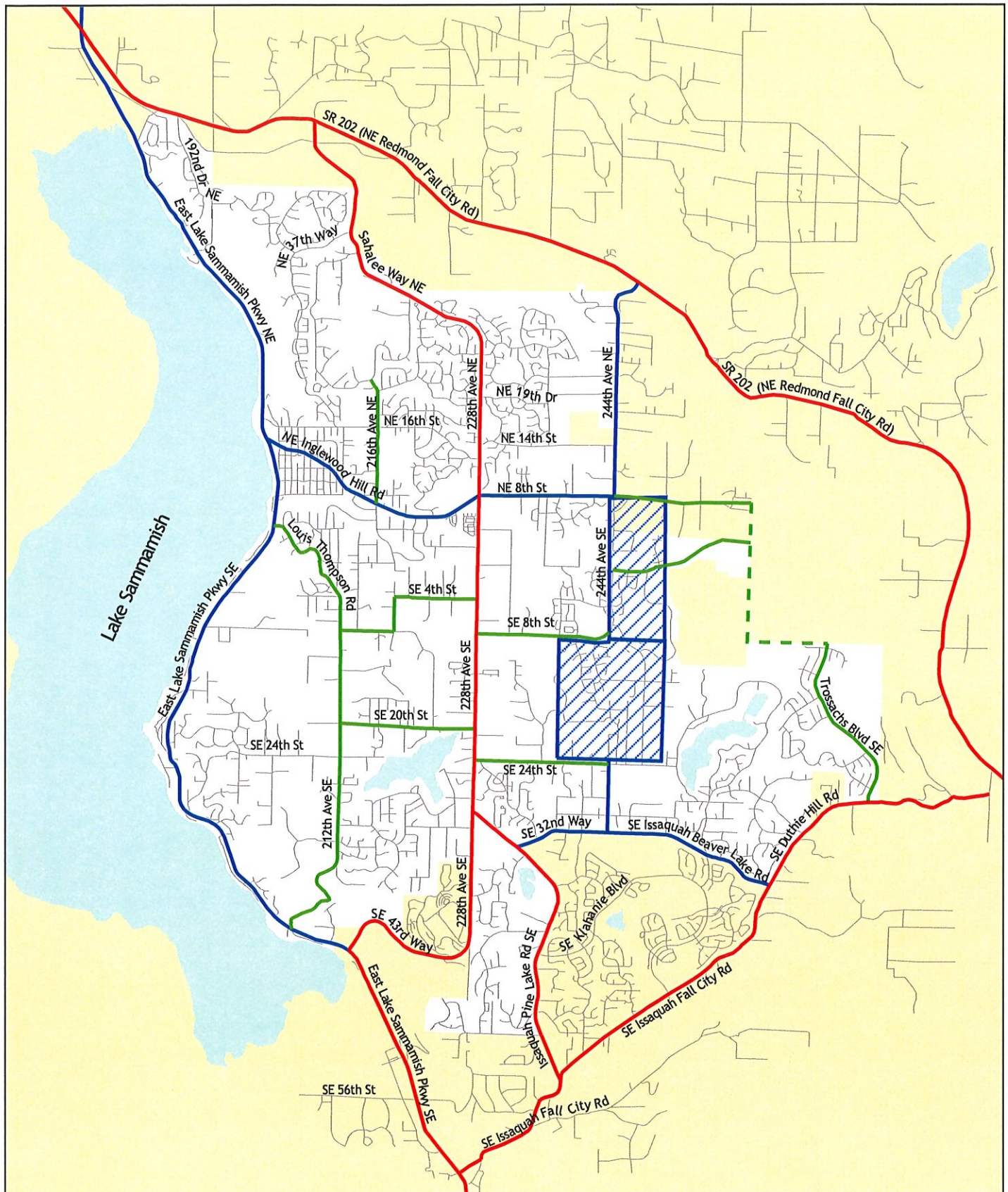
Based upon these considerations, the existing functional classification system for the City of Sammamish roadway system is satisfactory, and no changes are recommended. The roadway functional classifications are illustrated in **Figure V-15**.

### **Connectivity Assessment**

To provide a balanced street system, the connectivity of local streets should also be considered. The City of Sammamish street system is restricted by severe topography on three sides, sensitive areas including wetlands within the city limits, and singular access to neighborhoods. The lack of connectivity may result in a number of deficiencies, as follows:

- **Critical safety issues:** A street network that is deficient in its connectivity results in longer emergency vehicle response times. In some areas where cul-de-sac and dead-end or closed loop streets are dominant, emergency access is made more difficult because of the lack of direct routes. Furthermore, the lack of a connected street network tends to concentrate traffic onto fewer intersections and roadway segments. This can result in excessive delays, especially during peak hours, thus increasing emergency response times. Finally, emergency aid could be severely impeded in cases where natural disasters or events such as accidents or emergency repairs block the only access to an isolated neighborhood.
- **Traffic congestion:** When local trips are forced to use the arterial system because the local street system does not provide connectivity, they increase traffic and delay on the regional system. Traffic congestion normally leads to driver frustration and higher accident frequencies.
- **Increased trip length:** A lack of local street connections limits personal travel options, forcing longer routes for local trips such as those to schools, to other neighborhoods, and to shopping.
- **Limitations for alternative travel mode:** A lack of local street connections also limits other modes of travel such as walking, bicycling, and transit, since automobiles are the most convenient mode in areas with limited street connections and longer trips.





## Recommended Roadway Functional Classifications

September 2003

### Legend

- Principal Arterial
- Minor Arterial
- Collector
- - - Future Collector
- Alignment to be selected within this corridor

0.5 0 0.5 Miles  
Scale: 1" = 1 mile



SOURCES: King County GIS, 2002 and City of Sammamish, 2002.  
DISCLAIMER: This map is derived from various data sources. While care has been taken to insure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided, "as is".

**Figure V-15**

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- **Inefficient service delivery:** A lack of local street connections increases the number of delivery trips and causes inefficient trip routes. It also causes inefficient school bus routes. Unnecessary longer trips consume more energy and increase fuel emissions, which is particularly significant for large trucks and buses.
- **Utility distribution:** The degree of street connectivity also affects utility distribution costs, since utility lines are normally laid within street right-of-way. Options for utility distribution are limited on nearby dead-end streets, and easement acquisition normally drives up costs.

Typical standards require secondary access to the arterial network for neighborhoods with 100 or more units. Areas in the City where this lack of connectivity may cause problems include the areas north and south of NE 8th St, east of 228th Avenue NE; the area between SE 8th Street and SE 24th Street; the area surrounding Trossachs Boulevard SE; the northwest corner of 192nd Avenue, 51st Street and 42nd Street; and the area surrounding 212th Avenue SE, south of SE 4th St.

Based upon these considerations, four roadway connection projects were proposed for consideration for the Recommended TIP:

- Trossachs Boulevard SE to Beaver Lake Drive SE,
- NE 20th Street – between 236th Avenue NE and 244th Avenue NE,
- NE 42nd Street to 192nd Way (Hidden Ridge to Sahalee).

These projects are included in the project list summarized in **Table V-Q**.

### **Roadway Design Guidelines**

Essential functions of streets in Sammamish include vehicle mobility, pedestrian access, bicycle access, and aesthetics. City standards specify lane widths of 11 feet. Left-turn lanes increase capacity, reduce vehicular accidents, and improve access to adjacent property. Bicycle lanes should be provided along major traffic corridors, and when striped should be a minimum of 5 feet in width. Sidewalk widths should be a minimum of 6 feet. Landscaped medians are especially important to soften wide expanses of pavement, to provide a haven for crossing pedestrians, and to provide aesthetic treatment to streets.

Policy TP 1.4.8 of the Transportation Element states that variation in design standards may be considered in circumstances where a public benefit can be demonstrated. The adoption of design guidelines is advantageous over the adoption of standards in that it allows a needed flexibility in design that may not be permitted by strict standards. Often when designing streets, obstacles are encountered that require modification in design approach. Impediments might include topographic features that make road construction difficult or very expensive; inadequate available right-of-way to allow for all desired features; or environmentally sensitive areas that require modification to avoid adverse impacts. Additionally, funding or grant sources may require specific features or dimensions.

The existing roadway design standards (**Figure V-3**) fully meet operations and safety requirements, as addressed in the Goals, Objectives and Policies of the Transportation Element. Thus, it is recommended that the City adopt the existing roadway design standards as Design Guidelines.

### **Traffic Calming Program**

The City of Sammamish has a comprehensive traffic calming program in place with the Neighborhood Traffic Management Program (NTMP) described in the Existing Conditions section of this Transportation Element. Thus, it is recommended that the City continue the NTMP in its current form, as already adopted by City ordinance.

## **Transportation Demand Management**

Transportation Demand Management (TDM) consists of strategies that seek to maximize the efficiency of the transportation system by reducing demand on the system. The results of successful TDM can include:

- Travelers switch from single-occupancy-vehicle (SOV) to HOV modes such as transit, vanpools or carpools,
- Travelers switch from driving to non-motorized modes such as bicycling or walking,
- Travelers change the time they make trips from more congested to less congested times of day,
- Travelers eliminate trips altogether through such means as compressed workweeks, consolidation of errands, or use of telecommunications.

Within the State of Washington, alternative transportation solutions are further necessitated by the objectives of the Commute Trip Reduction (CTR) Law. Passed in 1991 as a section of the Washington Clean Air Act (RCW 70.94), the CTR Law seeks to reduce workplace commute trips in the nine most populous counties in the state. This law requires that in designated high population counties, each city within the county adopt a commute trip reduction plan requiring private and public employers with 100 or more employees implement TDM programs. Programs provide various incentives or disincentives to encourage use of alternative transportation modes, other than the SOV. The purpose of CTR is to help maintain air quality in metropolitan areas by reducing congestion and air pollution.

The City can promote TDM through policy and/or investments that may include, but are not limited to, the following:

- Parking management;
- Trip reduction ordinances;
- Restricted access to facilities and activity centers; and
- Transit-oriented and pedestrian-friendly design.

## **Transit Service and Facilities**

As supported by the Goals, Objectives and Policies of the Transportation Element, public transportation has long-range benefits for the community because it offers:

- Primary mobility for those who cannot drive, including many of our youth, seniors, and citizens with disabilities,
- Mobility options for people who choose not to drive, either to avoid congestion, save money, or support the environment,
- Preservation of the quality of our environment by conserving energy, supporting better air quality, and reducing congestion on our roadways.

Central to the success of a public transportation system is the development of a compatible land use plan. Low-density suburbs and strip development are not designed to accommodate public transportation services. Changing the land use or traditional bus services is difficult and special attention is required to increase the effectiveness of transit by controlling development; modifying the existing arterial street system; and modifying pedestrian facilities to bring passengers to the transit system.



Review of land use policies, development, and regulations can be made to ensure that changes can be accomplished to make the system work more efficiently. The City of Sammamish can influence compatibility with public transportation by considering the following development issues:

- Pedestrian access and facilities,
- Amount, cost, and location of parking,
- Location of high density residential developments,
- Location and design of commercial and employment activities,
- Location of transit facilities,
- Location of community activity centers,
- Design of building complexes and their surroundings.

228<sup>th</sup> Avenue provides the primary corridor to support activity centers and more transit-oriented development. New development, redevelopment, or in-fill development that occurs in major activity centers can be designed to incorporate features that are compatible with public transportation. These features include:

- Land use that creates densities of trip generation,
- Facilities that are oriented toward transit service,
- Walking distances that are on a reasonable pedestrian scale,
- Design that encourages transit riders.

Zoning provisions are the primary means of implementing transportation-related land use policy. In order to accomplish this, the zoning code for major activity centers can be reviewed to ensure transit friendly design in these areas. Some factors that may be considered are:

- Encourage public transportation-compatible in-fill development on areas near bus routes and stops,
- Support the development of park-and-ride lots along bus routes,
- Encourage pedestrian uses at street-level buildings to stimulate activity and interest,
- Support increased residential densities along bus routes,
- Support increased employment densities in activity centers.

In addition, transit can be made more compatible with pedestrian travel by observing the following design guidelines:

- Provide sidewalks and safe crosswalks for access to the transit system,
- Include provisions for weather protection of the pedestrian,
- Eliminate barriers that discourage pedestrian access,
- Keep walking distances to a quarter-mile or less,
- Provide curb ramps and other facilities conforming to the Americans with Disabilities Act (ADA),
- Provide lighting to improve pedestrian safety and security,
- Provide design guidelines to foster and encourage pedestrian activity.

Special emphasis should be placed on the identification and public awareness of the transit system. Specific tasks could include improved signing, identification, and improved bus stops; route and schedule information provided at all bus stop sites; and shelters provided at some sites. Shelters provide a visual reminder of transit availability and provide an incentive for residents and visitors to use the transit system. Shelters can be installed only in locations with adequate public right-of-way and where appropriate pads can be constructed.

Park-and-ride lots with commuter-oriented transit are often the transit service most widely utilized in a city with a prevalence of lower density residential development, such as the City of Sammamish. Particularly after the I-90 spur is completed, Sammamish citizens will have direct access to the HOV lanes that run between the Cities of Issaquah, Bellevue, and Seattle. Development of well-designed park-and-ride lots is supported and encouraged in the transportation policies stated in this Transportation Element. Currently, Sound Transit is implementing design of a 300-space park-and-ride lot planned for SE 228<sup>th</sup> Ave at the future Issaquah-Pine Lake Road extension (Sound Transit 2002).

The success of the public transportation system is dependent on integrating key elements that comprise the overall plan. Integration of the transit system with streets, bicycle facilities, and pedestrian facilities is critical to transit's success.

### **Non-Motorized Plan**

In late April 2002, the City launched the preparation of the Trails Bikeways and Paths (TBP) Plan for facilities to meet the various non-motorized transportation needs of Sammamish. This plan will examine current trails, bicycle lanes, and sidewalks and lay out an overall system by which major destinations are connected and recreational opportunities are provided throughout the City.

In June, the TBP Subcommittee of the Parks and Recreation Commission met with the consultant and divided up sections of the City to complete an inventory of existing trails. The consultant collected the inventory sheets and created a map, which was presented at the first open house in July 2002. The Parks and Recreation Department worked with the Public Works Department to inventory existing bike paths and sidewalks along arterials and collectors in the City. This inventory is complete.

The City is currently working on developing policy language for the Plan and on a preliminary corridor map. After review by the TBP Subcommittee, the Parks Commission, and the City Council, this information will be presented for public comment. This is anticipated for early 2003. Once complete, the TBP Plan will constitute the non-motorized element of the City's Transportation Element.

### **Concurrency**

A Concurrency Management System (CMS) is a policy procedure designed to enable a City or County to determine whether adequate facilities are available to serve new development. The transportation element of the Growth Management Act (GMA) requires each City and County planning department to incorporate a Concurrency Management System into their comprehensive plan. In a Concurrency Management System, local jurisdictions must adopt and enforce ordinances that prohibit development approval if the development causes the LOS on a transportation facility to decline below the standard adopted in the Transportation Element of the Comprehensive Plan. Transportation improvements or strategies that accommodate the impacts of development can be made concurrent with the development. (State of Washington Growth Management Act, RCW 36.70A, 1990)

The City of Sammamish Concurrency Management System must be adopted as ordinance, and will involve the following components.



### **Identification of facilities to be monitored**

The City of Sammamish has identified both segments and intersections for concurrency monitoring. All intersections with functionally classified roadways within the City will be monitored. Additionally, all roadway segments, as identified in **Figure V-6**, will be monitored for concurrency.

### **Establishment of LOS standards**

In order to monitor concurrency, the City must adopt standards by which deficiencies may be identified, which were presented earlier in this plan. While GMA requires that LOS standards be adopted for concurrency, it does not mandate how those standards should be defined. Thus, the City is free to adopt by ordinance whatever standards it deems appropriate. The LOS standards that will be used to evaluate the transportation impacts of long-term growth and concurrency are defined as follows:

- **Roadway intersections.** Intersection LOS is calculated using standard HCM analysis procedures and for the AM or PM peak hour, whichever is worse. For intersections, the City shall adopt a standard of LOS D for intersections that include principal arterials and LOS C for intersections that include minor arterial or collector roadways.
- **Roadway segments.** Segment LOS is based on allowable AWDT on a roadway segment as a function of roadway characteristics, as described earlier in this Transportation Element. The AWDT thresholds for each of these roadway segments, based upon the roadway characteristics, are defined in **Table V-I**. These thresholds would be adopted as ordinance by the City Council.

### **Development approval process**

The City of Sammamish will adopt a development approval process with the following provisions:

- Requires all development to undergo a separate concurrency review and receive a certificate of concurrency.
- Concurrency evaluation determines whether a project should be approved, conditionally approved, or denied based on transportation capacity. Under conditional approval, the developer agrees to mitigate the impacts through either capacity expansion or reduction in trip generation.
  - Requires inclusion of a certificate of concurrency with applications for land subdivision or building permit. Certificates are assigned with the land, and are non-transferable.
  - May condition a concurrency certificate by limiting the number of trips or establishing certain requirements such as TDM strategies, access limitations, or completion of transportation improvements.
  - Establishes a fixed period after which a concurrency certificate will expire if the development permit application is not completed.
  - Deems the certificate valid for the time period needed for development permit application and development approval.
  - Establishes technical requirements and procedures to be used to determine affected arterial system capacity.
  - Establishes a system for reserving available capacity. Capacity is reserved for a specified time frame, and the developer retains capacity reservation rights.
  - Provides for consultation with WSDOT when proposed development will cause I-90 or SR 202 to fall below LOS D.

- Defines three years as the time period within which improvements required for concurrency must be made.
- Establishes a fee-for-review and issuance of a concurrency certificate.
- Establishes design level-of-service requirements for arterial and collector street segments.

### **Rationing of transportation capacity**

Ration available transportation capacity available to potential development, and monitor the consumption of transportation capacity as new development is approved and constructed.

### **Monitoring**

On a continuing basis, monitor and evaluate the adequacy of the concurrency policies and established LOS standards as new development occurs and as traffic levels grow. Analyze external influences on the Concurrency Management System. Make periodic adjustments to LOS standards as part of the annual Comprehensive Plan amendment process, based on the on-going evaluation.

### **Mitigation fee system**

Establish a mitigation fee system to charge new development for all eligible projects (those that address future deficiencies) identified in this Plan. The impact fees are calculated based upon the concurrency requirements for the adopted land use alternative, and the City revenue anticipated over 20 years. The development of the fee is guided by the policies in TP 7.3. Maximum Impact fees for surrounding jurisdictions for residential dwelling units are: \$7,136 in King County, \$4,090 in the City of Issaquah, and \$2,834 in the City of Redmond. The City of Sammamish current maximum charge is \$6,247. The City may choose to charge the maximum amount required to meet the level of the City's future transportation needs which is consistent with Washington State statutes and the City's Comprehensive Plan goals, objectives and policies. It is imperative that development pays for its share of its impact on the transportation system. The City should not use its funds or grants to subsidize improvements needed for new development. City revenues and grants should be used to fix existing transportation deficiencies.

### **Financing**

Total revenue available to the City of Sammamish over a 20-year period is estimated in **Table V-T**. The estimated revenue projection is \$170,959,000 (current dollars), assuming a mitigation payment system that generates \$13,000,000. The \$13,000,000 assumed for mitigation fees is derived from the total cost of projects that preliminary analysis shows will be eligible as concurrency projects (those projects in **Table V-Q** that are identified as 3000 concurrency projects). More detailed calculations are required to determine a precise estimate of mitigation fees and will be completed after the adoption of the Comprehensive Plan.

To fund the remainder of the recommended plan projects the City intends to use voter approved General Obligation Bonds or some other source of revenue. The projected revenue presented in **Table V-T** provides a revenue stream that balances with the expenditures proposed for the next 20 years, based upon these preliminary estimates. A more detailed breakdown of the revenue projections is included as **Appendix H**.

**TABLE V-T**  
**PROJECTED 20-YEAR REVENUE**



| <b>FUNDING SOURCE</b>                         | <b>AMOUNT<br/>(Current dollars)</b> |
|-----------------------------------------------|-------------------------------------|
| Capital Transportation Fund                   | <b>\$76,087,000</b>                 |
| Grants (TIB, TPP, AIP, PSMP)*                 | <b>\$20,000,000</b>                 |
| Mitigation Fees                               | <b>\$13,000,000</b>                 |
| General Obligation Bonds or some other source | <b>\$61,872,000</b>                 |
| <b>Total Revenues</b>                         | <b>\$170,959,000</b>                |

\*TIB = Transportation Improvement Board; TPP = Transportation Partnership Program;  
AIP = Arterial Improvement Program; PSMP = Pedestrian Safety and Mobility Program

### **Contingency Plans in the Event of Revenue Shortfall**

Some of the revenue forecasts are for revenues that are very secure, and highly reliable. However, other revenue forecasts are for sources that are volatile, and therefore difficult to predict with confidence, including grants, joint agency funding, the motor vehicle registration fee, general obligation bonds, and mitigation payments (which have not been enacted), and which fluctuate with the amount of new development.

In the event that revenues from one or more of these sources is not forthcoming, the City has several options: add new sources of revenue or increase the amount from existing sources; require developers to provide such facilities at their own expense; reduce the number of proposed projects; change the Land Use Element to reduce the amount of development; and/or lower the LOS standard.

## **GOALS AND POLICIES**

The City developed Transportation Goals, Objectives, and Policies to guide improvements and future actions in transportation. In addition, the City established transportation priorities, setting an overall tone for policy-making and resource allocation for transportation investments.

## **TRANSPORTATION PRIORITIES**

The transportation priorities are listed as follows:

Improve the ability of City of Sammamish residents to enter and exit the City via roadways (within and adjacent to the City), transit, and non-motorized facilities.

- Enter into inter-local agreements,
- Focus on commute routes.

Provide concurrency management;

- Mitigate development impacts within the time frame presented in the Transportation Plan,
- Develop a management system.

Improve traffic flow within the City;

- Improve the basic overall internal transportation system,
- Focus on major north-south and east-west corridors,
- Provide a balanced internal transportation system,
- Balance traffic flow across numerous routes rather than splitting the community with one or two major routes.

Improve quality of life and safety concerns;

- Improve existing facilities to meet current standards,
- Consider community lifestyle impacts,
- Make safety improvements to existing facilities that may include but are not limited to sidewalks and sight lines.

Enhance internal connectivity of non-motorized facilities;

- Address connectivity of pathways, sidewalks, trails, and bicycle facilities,
- Provide connections between parks, schools, shopping, community centers, and neighborhoods.

Enhance internal connectivity of roadways;

- Address connectivity within and between neighborhoods,
- Provide connections between parks, schools, shopping, community centers, and neighborhoods.

## **GOALS**

The Goals established for the Transportation Element are summarized as follows.

### *Streets and Highways*

- GOAL TG-1:**            **Establish a transportation system that adequately addresses the travel needs of the community, consistent with transportation priorities.**
- GOAL TG-2:**            **Provide transportation facilities that maintain the unique character of the community through the use of innovative design standards.**
- GOAL TG-3:**            **Improve local circulation and emergency access throughout the community while addressing the importance of neighborhood quality and safety.**
- GOAL TG-4:**            **Minimize negative transportation impact on the natural environment, air quality, noise quality, and fuel consumption.**

### *Public Transportation*



**GOAL TG-5:** Encourage use of public transportation to accommodate a larger proportion of the traveling public.

*Non-Motorized Facilities*

**GOAL TG-6:** Create desirable, safe, and convenient environments that are conducive to walking and bicycling or other non-motorized uses.

*Overall Transportation System*

**GOAL TG-7:** Ensure that transportation facilities necessary for future growth are provided, concurrent with growth and coordinated with the City's Land Use and Transportation needs.

**GOAL TG-8:** Work with neighboring jurisdictions and regional agencies in creating and maintaining the regional transportation system.

**GOAL TG-9:** Receive maximum value and utility from the City's investment in its transportation system.

## **GOALS, OBJECTIVES AND POLICIES**

Goals, objectives, and policies are defined under the following major categories:

- Streets and Highways,
- Public Transportation,
- Non-Motorized Facilities,
- Overall Transportation System.

Under each category, the following information is presented:

- a. **Transportation Goals (TG)** are generalized statements which broadly relate the physical environment to values, but for which no test for fulfillment can be readily applied.
- b. **Transportation Objectives (TO)** are listed under each goal. Objectives are specific measurable statements related to the attainment of goals.
- c. Under each objective, **Transportation Policies (TP)** are listed. Policies provide specific direction for meeting the objectives.

The Transportation Element of the Sammamish Comprehensive Plan is guided by the following transportation goals, objectives and policies.

*Streets and Highways*

**TG-1: Establish a transportation system that adequately addresses the travel needs of the community, consistent with transportation priorities.**

**TO-1.1: Functional Classification of Roadways.** The City should classify its streets to reflect their planned use, in accordance with FHWA requirements.

TP-1.1.1: The classification of streets should be based on projected traffic volumes, surrounding land uses as identified in the Land Use Element of the Comprehensive Plan, and in accordance with the transportation priorities defined in this plan.

TP-1.1.2: The establishment of design speeds for functionally classified roadways should reflect adjacent land uses and the design constraints of the street.

TP-1.1.3: Existing street classifications should be periodically reviewed, and classifications adjusted when appropriate.

**TO-1.2: Maintenance.** The preservation and maintenance of transportation facilities should be a high priority for City funding.

TP-1.2.1: A pavement management system should be established for timely identification of maintenance needs.

TP-1.2.2: A transportation system maintenance schedule should be established, consistent with transportation priorities defined in this plan, to ensure an adequate level of comfort for travelers on City roadways. The maintenance schedule should include but not be limited to sweeping, striping, signs, snow/ice control, and signals.

**TO-1.3: Parking.** Parking supply should be adequate for the density and land use it serves.

TP-1.3.1: In commercial areas, sufficient parking should be provided to sustain the economic viability and vitality of the area and to protect residential neighborhoods from non-residential overflow parking.

TP-1.3.2: The City should encourage use of underground or garage parking for non-single-family resident uses.

TP-1.3.3: In residential areas streets should not be designed for continuous on street parking.

**TO-1.4: Design Requirements.** The physical design requirements for transportation facilities should reflect best design practice.

TP-1.4.1: Design standards should provide for the protection of environmentally sensitive areas.

TP-1.4.2: The City should establish design vehicles for each type of road classification.

TP-1.4.3: Required street widths should be the minimum required to obtain the level-of-service (LOS) standards for the street.

TP-1.4.4: Local residential streets should not be designed as alternatives to arterial roads.



- TP-1.4.5: The street width should consider facilities other than the street such as bike lanes, medians, and planter strips.
- TP-1.4.6 Arterial and major collector roadways and intersections should be designed to accommodate buses.
- TP-1.4.7: The City's arterial street system should be completed and upgraded in accordance with the Transportation Improvement Plan, as defined in the Transportation Element of the Comprehensive Plan.
- TP-1.4.8: Variations to the design standards may be considered when there is a demonstrated public benefit.
- TP-1.4.9: The City should design and build East Lake Sammamish Parkway to meet safety concerns and future capacity needs.

**TG-2: Provide transportation facilities that maintain the unique character of the community through the use of innovative design standards.**

**TO-2.1: Community Needs.** Design requirements for transportation facilities should be related to needs and desires of the local community within reasonable guidelines for safety, function, aesthetic appearance and cost, in accordance with the following policies:

- TP-2.1.1 All new transportation improvements should be scaled to the function they are designed to perform in conformance to the LOS standard, the density and land uses they serve.
- TP-2.1.2: Neighborhood planning or Local Improvement Districts that desire to develop locally based improvements that exceed City standards (e.g. for parking, median strips, landscaping, or other locally determined projects) may be allowed.

**TO-2.2: Community Character.** All new transportation improvements should be designed in accordance with the character of the community.

- TP-2.1.1: Local community standards should not be compromised to provide regional transportation facilities.
- TP-2.2.2: The City should establish design standards that address streetscape, lighting, poles, cross walks, bus stops, landscaping, and general community aesthetics.
- TP-2.2.3: Transportation improvements should be located and designed to respect the residential character of the community and the quality of its living environment.
- TP-2.2.4: The City should establish impact thresholds for new or improved streets to minimize impacts on established neighborhoods.
- TP-2.2.5: Alignments of residential streets should be encouraged to preserve existing trees and vegetation and increase open spaces. Landscaping may be utilized to provide visual and physical barriers but should be carefully designed not to interfere with visibility and traffic safety. Landscaping improvements should take maintenance requirements into consideration.

- TP-2.2.6: In new development, underground placement of utilities should be required. Underground replacement of existing above ground lines should occur along arterial and collector roadways, where substantial new development is occurring.

**TG-3: Improve local circulation and emergency access throughout the community while addressing the importance of neighborhood quality and safety.**

**TO-3.1: Circulation.** To the greatest extent possible, a cohesive traffic circulation system should be established throughout the City.

- TP-3.1.1: A safe and convenient network of residential streets should serve neighborhoods. When assessing the adequacy of local traffic circulation, the following considerations are of high priority:

- Enhancement of emergency vehicle access,
- Reduction of emergency vehicle response times,
- Reduction of speeds in neighborhoods,
- Address of other neighborhood concerns such as safety, noise and aesthetics, and
- Court and hearing examiner decisions.

The following considerations are of low priority when assessing the adequacy of local traffic circulation:

- Provision of alternate neighborhood connections,
- Shortening of travel distances,
- Reduction in overall traffic congestion, and
- Provision of access to transit.

- TP-3.1.2: Cul-de-sac streets in new development should only be allowed when connecting neighborhoods streets are not feasible due to existing land uses, topography, or other natural and physical constraints.

- TP-3.1.3: The City should limit the placement of facilities or physical barriers (such as buildings, utilities, and surface water management facilities) to allow for the future construction of streets that facilitate the establishment of a safe and efficient traffic circulation network.

- TP-3.1.4: To support the efficient and safe movement of goods and freight, the City should establish and identify truck routes to the City's major destinations. Such routes should be located along arterial roadways and should avoid potential impacts on neighborhood streets.

- TP-3.1.5: Substandard roadways should be brought up to standards before adding new roadway connections.

- TP-3.1.6: The improvement of roadway circulation must not impair the safe and efficient movement of pedestrians and bicycle traffic.



- TP-3.1.7: Traffic circulation along the 228th Street corridor should provide a system of access in and around commercial blocks to promote customer convenience and reduce congestion. Through-traffic should be separated from local traffic circulation to encourage and support customer access.
- TP-3.1.8: Efforts should be made to consolidate access points to properties along principal arterial, minor arterial, and collector roadways.
- TP-3.1.9: The City should not exercise its right of eminent domain to provide connections between local access roads or proposed arterials. When the City is considering condemnation for a proposed local connection or arterial, or in a proposed road corridor, condemnation shall be the last resort to existing alternative routes and only after a compelling need and finding have been demonstrated following a public review process involving the affected properties and adjacent property owners.
- TP-3.1.10: The City shall establish lot limits for a second access in order to provide: livable neighborhoods; emergency access; and equitable distribution of traffic.

**TO-3.2: Traffic Calming.** The City shall balance improvements in traffic operations and circulation with traffic calming measures that encourage a safe and reasonable mix of motorized and non-motorized traffic.

- TP-3.2.1: The City should adopt a Traffic Calming Program that includes the following components:
- A procedure for receiving and acknowledging traffic calming requests,
  - Traffic calming evaluation procedures,
  - Traffic calming design criteria,
  - Traffic calming authorization procedure,
  - Traffic calming implementation procedure.
- TP-3.2.2: In conjunction with residential roadway improvements, the City should encourage traffic and pedestrian safety improvements that may include, but are not limited to, the following enhancements:
- Traffic circles,
  - Painted or raised crosswalks,
  - Landscaping barriers between roadway and non-motorized uses,
  - Landscaping that promotes a residential atmosphere,
  - Sidewalks and trails, and
  - Dedicated bicycle lanes.
- TP-3.2.3: Local residential streets should be designed to prevent or discourage their use as shortcuts for through traffic. Local traffic control measures should be coordinated with the affected neighborhood.

TP-3.2.4: Implementation of traffic calming should not result in the diversion of trips to other existing local access roadways.

**TG-4: Minimize negative transportation impact on the natural environment, air quality, noise quality, and fuel consumption.**

**TO-4.1: Transportation Demand Management.** The City should seek to minimize the overall number of vehicle-miles-traveled citywide through the use of demand management strategies.

TP-4.1.1: The City should promote and support Transportation Demand Management investments that may include, but are not limited to, the following strategies:

- Parking management,
- Trip reduction ordinances,
- Transit-oriented and pedestrian-friendly design, and
- Ride-sharing coordination with regional partners.

TP-4.1.2: The City should work with schools and churches to address mobility needs and impacts, and to encourage alternatives to single occupancy vehicle use.

TP-4.1.3: The City should work with employers to encourage the reduction of commuter single-occupant-vehicle use, in support of the Washington State Commute Trip Reduction Law and regional vehicle trip reduction strategies.

TP-4.1.4: The City should coordinate with transit agencies to promote the use of transit and vanpools, in support of the Washington State Commute Trip Reduction Law and regional vehicle trip reduction strategies.

**TO-4.2: Transportation System Management.** The City should seek to increase lane capacity by increasing the efficiency of existing roadways through Transportation System Management, in accordance with the following policies:

TP-4.2.1: Prior to increasing lane capacity on a roadway, the City should ensure that existing capacity is at a maximum efficiency, through the application of Transportation System Management investments. These measures may include, but are not limited to, the following:

- Rechannelization or restriping,
- Adding turn lanes,
- Signal interconnects and optimization,
- Turning movement restrictions, and
- Access management strategies.

TP-4.2.2 The City should regularly collect traffic counts and update the traffic model.

TP-4.2.3 The City should regularly update the roadway inventory, utilizing the photo imaging process and integrating it with the City Geographical Information System (GIS).



**TO-4.3: Impervious Surface Area.** The City should seek to minimize the amount of impervious surface area that is built in the course of new infrastructure construction, in accordance with the following policies:

TP-4.3.1: Design Standards should be created to address reductions in impermeable surfaces, consistent with safety and operating standards.

TP-4.3.2: Innovative materials should be utilized to reduce impermeable surfaces.

**TO-4.4: Environmental Preservation.** The City should seek to minimize the amount of natural resources that are impacted by infrastructure, in accordance with the following policies:

TP-4.4.1: Low impact roadway design, construction, and maintenance methods should be used first to avoid and second to minimize negative impacts related to water quality, air quality, and noise in neighborhoods.

TP-4.4.2: Streets should be located, designed, and improved in a manner that will conserve land, materials and energy. Impacts should be limited to the minimum necessary to achieve the transportation objective.

TP-4.4.3: The City shall comply with the federal and state *Clean Air Act* air quality standards.

TP-4.4.4: The City should support the use of clean burning fuels through regional organizations.

### *Public Transportation*

**TG-5: Encourage use of public transportation to accommodate a larger proportion of the traveling public.**

**TO-5.1: Alternative to automobiles.** Public transportation should be promoted as a viable alternative to automobile use, as a means of reducing air pollution, conserving energy, and relieving traffic congestion.

TP-5.1.1: The City should work with transit service providers to focus local transit service on arterial streets, provide feeder service to residential areas, and connect to adjacent jurisdictions. Transit should be convenient and flexible enough to meet community needs.

TP-5.1.2: The City should encourage joint-use park-and-ride facilities.

TP-5.1.3: Park-and-ride facilities should include safe and convenient access for automobiles, buses, pedestrians, and bicycles.

TP-5.1.4: New development and redevelopment in activity centers should be designed to provide and encourage pedestrian access to transit. The development of bus stops and shelters should be incorporated into a project's development design.

TP-5.1.5: The City should adopt road design standards, site-access guidelines, and land use regulations that support transit.

- TP-5.1.6: The City should encourage transit services that are dependable, maintain regular schedules, and provide an adequate LOS during evening hours, weekends, and holidays.
- TP-5.1.7: The City should encourage a transit system where designated activity centers are served by frequent, regular transit service.
- TP-5.1.8: The City should encourage transit service that is designed to serve commuting and activity patterns.
- TP-5.1.9: The City should explore concurrency and/or mitigation for multi-modal travel alternatives at such times it is demonstrated to be feasible in one or more communities within the Central Puget Sound Region.

**TO-5.2: Accessibility.** The City should encourage barrier-free access to adequate transit services for citizens.

- TP-5.2.1: Public transportation should provide mobility and access for the greatest number of people to the greatest number of services, jobs, educational opportunities, and other destinations.
- TP-5.2.2: The City should work with transportation agencies to provide a public transportation system that is comfortable and safe for all users.

**TO-5.3: Coordination of systems.** Promote transit systems that are consistent among neighboring cities and state and regional agencies.

- TP-5.3.1: Coordinate and encourage joint public/private efforts to participate in transportation demand management and traffic reduction strategies.

### *Non-Motorized Facilities*

**TG-6: Create desirable, safe, and convenient environments that are conducive to walking and bicycling or other non-motorized uses.**

**TO-6.1: Pedestrian Facilities.** Safe and attractive pedestrian facilities are considered essential elements of the City's circulation and recreation system.

- TP-6.1.1: The City should create a walkway program to fund walkway improvements that address life and safety issues.
- TP-6.1.2: The City should develop a walkway plan that addresses pedestrian needs and provides for travel throughout the City as well as connections to local parks and activity centers.
- TP-6.1.3: Pedestrian facilities should be required on both sides of principal and minor arterial streets, at least one side on collectors, and on at least one side of other existing streets where safety concerns are an issue.
- TP-6.1.4: Pedestrian pathways should be encouraged in new and existing neighborhoods.



- TP-6.1.5: Connections for non-motorized access between adjacent neighborhoods and streets should be encouraged.
- TP-6.1.6: In the design of new pedestrian facilities, the City should ensure that curb cuts and ramps are constructed to comply with the programs and procedures of the Americans with Disabilities Act.
- TP-6.1.7: Pedestrian facilities except for those designed for primarily recreational use should be constructed of hard surface all-weather materials.
- TP-6.1.8: Variations in surface materials may be allowed, and should be consistent with community character.
- TP-6.1.9: Objects located on or near pedestrian facilities including but not limited to poles, benches, planters, bike racks, and awnings should not impede pedestrian traffic.
- TP-6.1.10: Pedestrian facilities should be lighted where nighttime use is common.
- TP-6.1.11: Pedestrian facilities should be located to take advantage of views and other amenities.
- TP-6.1.12: Pedestrian safety should be a high priority in areas frequented by children, such as near schools, playgrounds, and parks. Pedestrian facilities should be provided in these areas at every opportunity.
- TP-6.1.13: Separation of pedestrian facilities from traffic should be incorporated in City design standards.
- TP-6.1.14: Grade separated walkways may be considered in areas where pedestrian safety issues exist.

**TO-6.2: Bicycle Facilities.** Safe bicycle facilities are integral to the City's street and recreation plans.

- TP-6.2.1: The City should develop a bikeway plan that addresses commuter and recreational bicyclist needs, and provides for travel throughout the City as well as connections to local parks and regional facilities.
- TP-6.2.2: Design standards should provide for safe bicycle operation on arterial roads.
- TP-6.2.3: Bicycle routes should be clearly marked and signed.
- TP-6.2.4: Bicycle racks should be provided in commercial and recreational areas.

**Overall Transportation System**

**TG-7: Ensure that transportation facilities necessary for future growth are provided, concurrent with growth and coordinated with the City's Land Use and Transportation needs.**

- TO-7.1: Coordination with Land Use Element.** The Transportation Element of the Comprehensive Plan should be integrated with the Land Use Element.

TP-7.1.1: Transportation facilities should be developed in an efficient, safe, and environmentally sensitive manner and should support desired development patterns.

TP-7.1.2: Development proposals should incorporate transportation improvements (emphasizing dedicated rights-of-way) in accordance with the City's Transportation Plan and as necessitated by the impacts of the proposal.

**TO-7.2: Multi-modal.** The City should seek to find the optimal balance between the different modes that comprise the transportation system.

TP-7.2.1: The City should optimize its transportation facilities to seek a balance between them, consistent with travel demand and so that each mode complements the other.

TP-7.2.2: Bus, auto, and non-motorized travel should be coordinated and linked to form a multi-modal system providing access to regional transportation systems while ensuring the quality, safety, and integrity of local commercial districts and residential neighborhoods.

**TO-7.3: Concurrency.** The City shall ensure that concurrency requirements are met.

TP-7.3.1: Level-of-service standards should be used to evaluate the transportation impacts of long-term growth and concurrency. The City should adopt the following standards:

- **Roadway intersections.** Intersection LOS is calculated using standard Highway Capacity Manual analysis procedures and for the AM or PM peak hour, whichever is worst. For intersections, the City should adopt a standard of LOS D for intersections that include principal arterials and LOS C for intersections that include minor arterial or collector roadways.
- **Roadway segments.** Segment LOS is based on allowable Average Weekday Daily Traffic (AWDT) on a roadway segment as a function of roadway characteristics. The AWDT thresholds are defined in this Plan and adopted by the City Council. LOS standards for roadway segments are as follows until the roadway segment is improved or another LOS standard is adopted:

| Segment Number | Location                                                      | Functional Classification | AWDT Threshold |
|----------------|---------------------------------------------------------------|---------------------------|----------------|
| 1              | E Lk Sammamish Pkwy, City limits – 196th Ave NE (Weber Point) | Minor Arterial            | 17,370         |
| 2              | E Lk Sammamish Pkwy, 196th Ave NE – NE 26th Pl                | Minor Arterial            | 17,370         |
| 3              | E Lk Sammamish Pkwy, NE 26th Pl – NE Inglewood Hill Rd        | Minor Arterial            | 17,370         |
| 4              | E Lk Sammamish Pkwy, Inglewood Hill Rd – Louis Thompson Rd    | Minor Arterial            | 17,370         |
| 5              | E Lk Sammamish Pkwy, Louis Thompson Rd NE – SE 8th St         | Minor Arterial            | 17,370         |
| 6              | E Lk Sammamish Pkwy, SE 8th St – SE 24th Way                  | Minor Arterial            | 17,370         |
| 7              | E Lk Sammamish Pkwy, SE 24th Way – 212th Ave SE               | Minor Arterial            | 17,370         |
| 8              | E Lk Sammamish Pkwy, 212th Ave SE – City Limit                | Minor Arterial            | 17,370         |
| 9              | SE 24th St, E Lk Sammamish Pkwy – 200th Ave SE                | Collector                 | 9,420          |
| 10             | SE 24th St, 200th Ave SE – 212th Ave SE                       | Collector                 | 9,420          |
| 11             | Louis Thompson Rd, E Lk Sammamish Pkwy – SE 8th St            | Collector                 | 9,820          |
| 12             | 212th Ave SE, SE 8th St – SE 20th St                          | Collector                 | 9,820          |



| Segment Number | Location                                                                  | Functional Classification | AWDT Threshold |
|----------------|---------------------------------------------------------------------------|---------------------------|----------------|
| 13             | 212th Ave SE, SE 20th St – SE 32nd St                                     | Collector                 | 11,350         |
| 14             | 212th Ave SE, SE 32nd St – E Lk Sammamish Pkwy                            | Collector                 | 10,550         |
| 15             | NE Inglewood Rd, E Lk Sammamish Pkwy – 216th Ave NE                       | Minor Arterial            | 16,790         |
| 16             | NE Inglewood Rd, 216th Ave NE – 228th Ave NE                              | Minor Arterial            | 17,370         |
| 17             | SE 8th St/218th Ave SE, 212th Ave SE – SE 4th St                          | Collector                 | 9,420          |
| 18             | SE 4th St, 218th Ave SE – 228th Ave SE                                    | Collector                 | 9,420          |
| 19             | SE 20th St, 212th Ave SE – 219th PI SE                                    | Collector                 | 10,950         |
| 20             | SE 20th St, 219th PI SE – 228th Ave SE                                    | Collector                 | 11,350         |
| 21             | Sahalee Wy/228th Ave NE, City Limit – 220th Ave NE                        | Principal Arterial        | 16,790         |
| 22             | Sahalee Wy/228th Ave NE, 220th Ave NE – NE 25th Way                       | Principal Arterial        | 16,790         |
| 23             | 228th Ave, NE 25th Way – NE 12th St                                       | Principal Arterial        | 17,370         |
| 24             | 228th Ave, NE 12th St – SE 4th St <sup>1</sup>                            | Principal Arterial        | 34,950         |
| 25             | 228th Ave, SE 4th St – SE 20th St <sup>2</sup>                            | Principal Arterial        | 34,950         |
| 26             | 228th Ave, SE 20th St – Issaquah Pine Lake Rd SE                          | Principal Arterial        | 34,950         |
| 27             | 228th Ave, Issaquah Pine Lake Rd SE – SE 43rd Way                         | Principal Arterial        | 21,430         |
| 28             | NE 8th St, 228th Ave NE – 244th Ave NE                                    | Minor Arterial            | 21,430         |
| 29             | SE 8th St, 228th Ave SE – 244th Ave SE                                    | Collector                 | 15,390         |
| 30             | SE 24th St, 228th Ave SE – 244th Ave SE                                   | Collector                 | 10,550         |
| 31             | SE 24th St, 244th Ave SE – W Beaver Lk Dr SE                              | Collector                 | 10,550         |
| 32             | Issaquah-Pine Lk Rd, 228th Ave SE – SE 32nd Way                           | Principal Arterial        | 31,480         |
| 33             | Issaquah-Pine Lk Rd, SE 32nd Way – SE Klahanie Blvd                       | Principal Arterial        | 16,790         |
| 34             | Issaquah-Pine Lk Rd, SE Klahanie Blvd – SE 48th St                        | Principal Arterial        | 16,790         |
| 35             | 244th Ave NE, NE 30th PI – NE 20th St                                     | Minor Arterial            | 15,050         |
| 36             | 244th Ave NE, NE 20th St – NE 8th St                                      | Minor Arterial            | 15,050         |
| 37             | East Sammamish/244th Ave NE Corridor, NE 8th St – SE 8th St <sup>3</sup>  | Minor Arterial            | n/a*           |
| 38             | East Sammamish/244th Ave NE Corridor, SE 8th St – SE 24th St <sup>3</sup> | Minor Arterial            | n/a*           |
| 39             | 244th Ave NE, SE 24th St – SE 32nd Way                                    | Minor Arterial            | 15,630         |
| 40             | SE 32nd Way, Issaquah-Pine Lk Rd – 244th Ave SE                           | Minor Arterial            | 16,790         |
| 41             | SE 32nd St, 244th Ave SE – W Beaver Lk Dr SE                              | Minor Arterial            | 16,790         |
| 42             | Issaquah-Beaver Lk Rd, W Beaver Lk Dr SE – SE Duthie Hill Rd              | Minor Arterial            | 17,950         |
| 43             | SE Duthie Hill Rd, SE Issaquah-Beaver Lk Rd – 266th Ave SE                | Principal Arterial        | 12,300         |
| 44             | SE Duthie Hill Rd, 266th Ave SE – Trossachs Blvd SE                       | Principal Arterial        | 12,300         |
| 45             | Trossachs Blvd SE, SE 9th St – SE Duthie Hill Rd                          | Collector                 | 10,520         |

1. The four-lane width on which the threshold is based represents the predominant width of this segment. The width of 228th Avenue is four lanes from SE 4th Street to 400-feet north of NE 8th Street. Between NE 8th Street and NE 12th Street, the roadway tapers back to two lanes.
2. The widening of 228<sup>th</sup> Avenue between SE 8th Street and SE 12th Street is currently under construction, and expected to be completed in 2003.
3. These will be future segments if the East Sammamish/244<sup>th</sup> Avenue Corridor connections are constructed, but currently do not exist as continuous roadway segment.

TP-7.3.2: The City shall adopt a concurrency period that should require the construction of infrastructure improvements within six years of development approval. The availability of public facility capacity to support development concurrent with the impacts of such

development can include any of the following: (1) the facilities are in place at the time a development permit is issued; (2) the facilities are under construction at the time a development permit issued, and the facilities will be in place when the impacts of the development occur; (3) development permits are issued subject to the condition that the facilities will be in place when the impacts of the development occur; or (4) the City has in place binding financial commitments to complete the public facilities within six years.

TP-7.3.3: In accordance with the City's Transportation Improvement Plan, and based on the level of impact generated by a proposed development, conditions of approval applicable to a development application should include:

- Improvement of on-site transportation facilities,
- Improvement of off-site transportation facilities, and
- Transportation Demand Management strategies.

TP-7.3.4: Under concurrency requirements, transportation facilities include both motorized and non-motorized facilities, and improvement of transportation facilities includes construction in accordance with the City's minimum design standards.

TP-7.3.5: Development impacts that may warrant off-site improvements include those that create safety concerns, or those that increase a facility's operations beyond the level identified for concurrency.

TP-7.3.6: A traffic concurrency ordinance should be adopted and enforced, which prohibits development approval if the development causes operations on a transportation facility to degrade below standards as set forth in Policy TP-7.3.1.

TP-7.3.7: The City should identify improvements and strategies needed to fulfill the Land Use Vision and to meet minimum transportation operations standards, in compliance with the requirements of the State of Washington Growth Management Act.

TP-7.3.8: The City should charge the maximum allowable mitigation fee.

TP-7.3.9: The City should not grant exemptions from concurrency requirements.

TP-7.3.10: The City should not grant exemptions from mitigation fees.

TP-7.3.11: The City should create a single citywide transportation mitigation fee.

**TG-8: Work with neighboring jurisdictions and regional agencies in creating and maintaining the regional transportation system.**

**TO-8.1 Maximize the efficiency of Inter-local Traffic Flows.**

TP-8.1.1: The City should develop inter-local agreements with neighboring jurisdictions (i.e., WSDOT, King County, and the Cities of Redmond and Issaquah) to establish mutually acceptable LOS standards and mitigation strategies for traffic impacts on essential commuter facilities, as shown in **Figure V-8** of the Transportation Element. The inter-local agreement will serve to:



- Provide a coordinated approach to addressing sub-regional transportation issues,
- Minimize AM and PM peak-hour travel times along intercity commuter routes,
- Establish an inter-local impact fee structure.

Acceptable mitigation strategies may include:

- Contribution of impact fees to projects that address traffic impacts on the identified essential commuter facilities,
- Provision of additional capacity on general purpose or HOV facilities to mitigate impacts on the identified commuter facilities.

- TP-8.1.2: In the City's Transportation Improvement Program, road and intersection improvements located along essential commuter facilities, as shown in **Figure V-8** of the Transportation Element, should be a priority. Improvements along these facilities may be located both outside and within the City.
- TP-8.1.3: The City should determine the existing and desired travel times along essential commuter facilities, as shown in **Figure V-8** of the Transportation Element.
- TP-8.1.4: The City's transportation decisions, strategies and investments should take into consideration, be coordinated with, and be complementary to those of adjacent jurisdictions.
- TP-8.1.5: The City's transportation LOS standards should be coordinated with neighboring cities and regional agencies.
- TP-8.1.6: The City should coordinate with Washington State and King County Departments of Transportation, King County Metro, Sound Transit, neighboring cities, and private interests to support regional transportation planning.
- TP-8.1.7: The City should work with neighboring jurisdictions and federal, regional, and state agencies to coordinate transportation system improvements and assure that resources are maximized.
- TP-8.1.8: The City should work with Washington State, King County, and neighboring jurisdictions to establish that the capacity of roadways affecting access to and from the city limits is being used efficiently.
- TP-8.1.9: The City should work with neighboring jurisdictions to define LOS standards for commute routes.
- TP-8.1.10: When the City enters into an inter-local agreement with a neighboring jurisdiction or WSDOT the City should deny development proposals that create a significant adverse transportation on the access routes outside the City limits as shown in **Figure V-8** unless adequate mitigation is in place. Concurrency and level of service standards should be determined in the interlocal agreement and compatible with the Sammamish Comprehensive Plan and Growth Management Act.

**TG-9: Receive maximum value and utility from the City's investment in its transportation system.**

**TO-9.1 Assure prioritization and accountability.**

- TP-9.1.1: Transportation spending should be consistent with the City's overall transportation priorities.
- TP-9.1.2: The City should ensure adequate funding from public and private resources for identified transportation facility improvements. The estimated costs of all needed capital improvements should not exceed conservative estimates of revenues from sources that are available to the City pursuant to current statutes, and which have not been rejected by referendum, if a referendum is required to enact a source of revenue. Conservative estimates need not be the most pessimistic estimate, but cannot exceed the most likely estimate.
- TP-9.1.3: The City should explore potential regional, state, and federal funding sources for the purpose of financing major transportation improvements.
- TP-9.1.4: Wherever possible, the City should supplement public funding sources with revenue sources including Local Improvement Districts, development impact fees, partnerships with adjacent property owners, or other identified sources.
- TP-9.1.5: City sponsored transportation facility improvements should be identified and prioritized in the Transportation Improvement Program, which is included in the Transportation Element of the Comprehensive Plan.
- TP-9.1.6: The City should develop a long-range financial plan that analyzes the funding needed to implement the Transportation Improvement Program, and identifies established and potential funding sources.
- TP-9.1.7 Existing and future development should both pay for the costs of needed transportation capital improvements.

Existing development should pay for the transportation capital improvements that reduce or eliminate existing deficiencies; some or all of the replacement of obsolete or worn out facilities; and may pay a portion of the cost of transportation capital improvements needed by future development. Payments from existing development may take the form of user fees, charges for services, special assessments and taxes.

Future development should pay its fair share of the transportation capital improvements needed to address the impact of such development, and may pay a portion of the cost of the replacement of obsolete or worn out facilities. Upon completion of construction, "future" development becomes "existing" development, and should contribute to paying the costs of the replacement of obsolete or worn out facilities. Payments from future development may take the form of, but are not limited to, voluntary contributions for the benefit of any public transportation facility, impact fees, mitigation payments, capacity fees, dedications of land, provision of public transportation facilities, and future payments of user fees, charges for services special assessments and taxes. Future development should not pay impact fees for the portion of any public facility that reduces or eliminates existing deficiencies.

Both existing and future development may pay part of their costs by grants, entitlements or public transportation facilities from other levels of government and independent districts.



- TP-9.1.8 The City should not provide nor accept a public transportation facility, , if the City is unable to pay for the subsequent annual operating and maintenance costs of the facility.
- TP-9.1.9 In the event that sources of revenue listed require voter approval in a local referendum that has not been held, and a referendum is not held, or is held and is not successful, this Comprehensive Plan should be revised at the next annual amendment to adjust for the lack of such revenues, in any of the following ways: (1) reduce the level-of-service for one or more public transportation facilities; (2) increase the use of other sources of revenue; (3) decrease the cost, and therefore the quality of some types of public transportation facilities while retaining the quantity of the facilities that is inherent in the standard for level-of-service; (4) decrease the demand for and subsequent use of capital facilities; (5) a combination of the preceding alternatives.

## **CONCLUSION**

The Transportation Element of the Comprehensive Plan serves to guide the development of surface transportation within the City of Sammamish, based upon evaluation of existing conditions, estimation and evaluation of future conditions that result from the adopted future land use alternative, and the stated priorities. The Recommended Plan is a comprehensive transportation plan that addresses current transportation issues as well as those that are expected to occur across 20-year planning horizon.

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## VI. HOUSING ELEMENT

### VISION

The Vision Statement and Vision Ideals provided in the Introduction to this Comprehensive Plan specify several desired community attributes addressed in more detail in this Housing Element:

- A vision of Sammamish as a community of families,
- A family friendly, kid safe community,
- Quality neighborhoods with vibrant natural features and outstanding recreational opportunities,
- Respect for the character and integrity of existing neighborhoods,
- New development that maintains the small town atmosphere and suburban character to complement existing character as well as allow for diversity and creativity.

Additionally, the Housing Element responds to the Growth Management Act, the Washington Housing Policy Act, and the King County County-wide Planning Policies identified in the Growth Management Element of this Comprehensive Plan. The objectives of the Washington Housing Policy Act (RCW 43.185B.009) are to attain the state's goal of a decent home in a healthy, safe environment for every resident of the State. The State's goal for housing, [RCW 36.70A.020(4)], is to "Encourage the availability of affordable housing to all economic segments of the population of this state, promote a variety of residential densities and housing types, and encourage preservation of existing housing stock." The Sammamish housing vision, consistent with State goals, is to protect residential single family areas, to develop new opportunities for housing diversity and affordability, and to work cooperatively on a region wide housing plan.

The Sammamish Comprehensive Plan also includes a Housing Needs Assessment, **Appendix D**, providing an expanded inventory and analysis of the community's current housing resources and housing needs. The Housing Needs Assessment provides background housing data for the City of Sammamish, East King County and King County. The Needs Assessment section on **Community and Housing** provides an overview of household composition, housing resources, housing access & tenure, housing costs, and housing conditions. The **Housing Needs** section is an overview of household incomes, and housing for low income, special needs and at risk populations. The Needs Assessment concludes with an overview of **Population, Household and Employment Forecasts**.

Throughout the Housing Element and the Housing Needs Assessment in **Appendix D** references to "Eastside" or "East King County" include the cities of Beaux Arts Village, Bellevue, Bothell, Clyde Hill, Hunts Point, Issaquah, Kenmore, Kirkland, Medina, Mercer Island, Newcastle, Redmond, Sammamish, Woodinville, and Yarrow Point.

### PRIMARY ISSUES

#### Community & Housing

Sammamish is a young community, characterized by suburban, single family neighborhoods. The City's primary land use is single-family residential. The Housing Plan does not propose to change this predominant land use, or the character of these neighborhoods, but rather strives to protect neighborhoods by directing new growth consistent with the community vision to appropriate sites. The Housing Plan works closely with the Land Use Element and land use map to allow some of the City's future residential development to meet a need for additional housing choices. These choices allow Sammamish to develop and provide housing for a more diverse population. For example, as the City's population grows over



time there will be a concomitant increase in the senior and young adult populations. Additionally, improved neighborhood services may create new jobs for employees who would like to live near their work. The land use decisions made in this plan may give the market the opportunity to respond to a increasing need for additional housing choices for smaller, more affordable starter home, homes suitable for empty nesters, as well as homes for those who work in the community.

### **Coordinated Strategy**

The Housing Element supports the vision of the Land Use Element and land use map, allowing limited additional residential growth and housing diversity through a coordinated strategy. Additional housing choice is proposed by adopting revisions to the land use map that recognize the City's primary land use as single-family residential, while directing mixed-use and low to medium density multifamily residential growth to appropriate sites.

The Housing Element allows for creative, neighborhood compatible, single family housing alternatives throughout the City. Many of these single-family housing alternatives, such as cottages, accessory dwelling units, and attached single family homes, are design opportunities that are only recently being incorporated into community plans. Creative tools such as these allow for housing that is compatible with traditional neighborhood development, while providing more diverse and affordable housing choices.

It is anticipated that the subarea planning process may impact the selected land use plan, development standards and regulations and housing policy. Periodic review and update of the Housing Element and Housing Needs Assessment provides the City an opportunity to monitor changes in the community and to evaluate new and/or revised housing strategies. Comprehensive Plan updates may include: further documentation of current housing trends, prioritizing of housing goals and policies, and establishing a Housing Strategy Plan outlining implementation strategies. Updates to the Housing Strategy Plan will be based on subsequent periodic review. Monitoring the status of the City's housing market and the effectiveness of the City's housing policies and regulations provides an opportunity to adjust the plan to a changing and growing community.

### **Employment & Household Growth**

Sammamish is primarily a bedroom community with 34,104 residents but only 4,757 covered jobs in 2000 (covered employment is the number of jobs covered by state unemployment insurance, it excludes corporate officers, sole proprietors and some others). Despite this small employment base, it is important to consider employment type and employment growth when estimating the City's housing need.

**TABLE VI-A**  
**PSRC COVERED EMPLOYMENT ESTIMATES 2000: CITY, COUNTY**

|                                                              | Sammamish    |     | King Co.         |     |
|--------------------------------------------------------------|--------------|-----|------------------|-----|
|                                                              | Number       | %   | Number           | %   |
| Construction & Resources                                     | 472          | 10% | 69,949           | 6%  |
| FIRES (Finance, Insurance, Real Estate, Services)            | 1,079        | 23% | 440,364          | 38% |
| Manufacturing                                                | 43           | 1%  | 147,933          | 13% |
| Retail                                                       | 1,819        | 38% | 189,457          | 16% |
| WTCU (Wholesale, Transportation, Communications & Utilities) | 332          | 7%  | 158,307          | 14% |
| Education                                                    | 928          | 19% | 64,454           | 6%  |
| Government                                                   | 84           | 2%  | 80,542           | 7%  |
| <b>Total</b>                                                 | <b>4,757</b> |     | <b>1,151,006</b> |     |

Source: Puget Sound Regional Council. Employment data are suppressed according to EESD confidentiality agreements. The data represents all employees "covered" under the State's unemployment insurance act. This excludes proprietors, self-employed individuals and others. Sammamish employment update per Chandler Felt 07/15/02.

Most employees in Sammamish are those who provide community services such as teachers, police and city workers, and those working in retail shops and restaurants. Typically retail represents the lower wage jobs, education and government represent middle wage jobs and the other categories include higher wage jobs. In Sammamish, 57% of community based workers are from the three lower paying categories: retail, education and government. The King County Countywide Planning Policies include an employment target of 1,230 potential new jobs within the City during the 20-year planning period. With no planned increase in higher wage employment centers, lower wage jobs will continue to dominate as the community based employment in Sammamish.

County and regional employment growth will also affect Sammamish housing need. Between 1993 and 2000 the ratio of new jobs to new housing in East King County has averaged 4 new jobs/1 housing unit (Table VI-B). By comparison, a ratio of 1.7 jobs to each housing unit is considered optimally correlated under GMA guidelines. Employment outpacing household growth in East King County is projected to continue through the 20-year planning period, with 2.3 new jobs new jobs for every new household (Table VI-C).

**TABLE VI-B**  
**GMPC JOB GROWTH TO HOUSING UNITS BUILT 1993-2000: CITY, EASTSIDE**

|                           | Job Growth<br>Covered Jobs | Housing Units<br>Built | Job/Housing<br>Ratio |
|---------------------------|----------------------------|------------------------|----------------------|
| Sammamish                 | 2,299                      | 4,494                  | .5                   |
| East King County (cities) | 93,253                     | 22,808                 | 4.0                  |

GMPC Buildable Lands and Targets Subcommittee, Prepared by Michael Hubner, Suburban Cities Association of KC 3/22/02.

**TABLE VI-C**  
**GMPC JOB TARGETS TO HOUSEHOLD TARGETS 2001-2022: CITY, EASTSIDE**

|                           | JobTarget | Household Target | Job/Housing<br>Ratio |
|---------------------------|-----------|------------------|----------------------|
| Sammamish                 | 1,230     | 3,842            | .3                   |
| East King County (cities) | 93,890    | 40,844           | 2.3                  |

GMPC Amendments to the Countywide Planning Policies July 2002.



Local employers report the impact of the area's lack of housing for community based workers. For example, Lake Washington School District loses one third of new hires within five years. Many of these exiting teachers report their decision to leave is based on housing costs and long commutes. Affordable housing is one of the 8 strategic goals for the Lake Washington School District. Issaquah School District's 850 teachers and equal number of support staff struggle with affordable housing. Only one third of the district's 1,500 employees live within the Issaquah School District, lessening their community connection to the schools and families where they work.

### **Neighborhood Quality**

The new City of Sammamish has strong, community-wide values for quality neighborhoods and protected natural features. These values are expressed in the Comprehensive Plan Vision Statement and Vision Ideals. The **Neighborhood Quality** Housing Plan section establishes goals and policies to protect neighborhood quality and fragile environments from incompatible land uses.

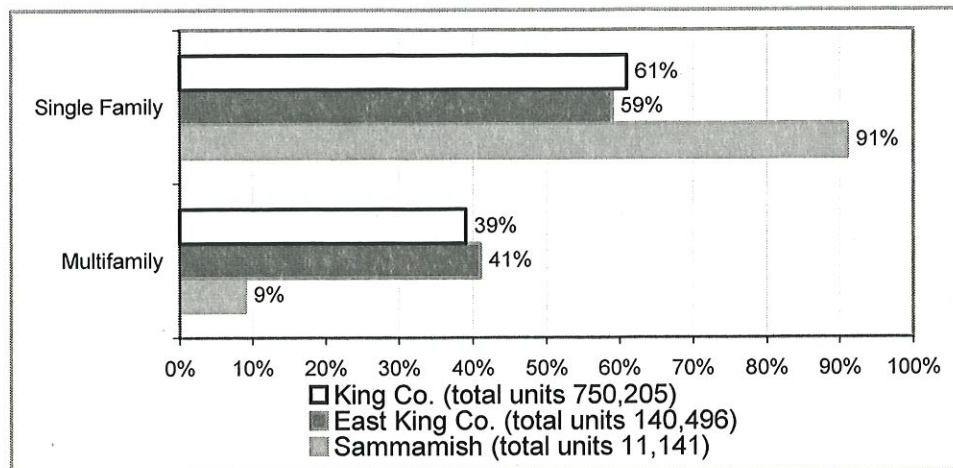
Within Sammamish, residential growth will be constrained by both infrastructure inadequacies and the amount of sensitive lands. Consistent with the Housing Vision, neighborhood quality policies focus on preserving existing residential single family neighborhoods. Policies emphasize compatibility with existing neighborhood character for adjacent and infill development. Policies also seek to involve neighbors and community groups in neighborhood actions and improvements.

### **Types, Variety and Amount of Housing**

Housing Plan section **Types, Variety and Amount of Housing** establishes goals and policies to match housing choices with existing and future community needs and preferences. The Housing Plan also seeks innovative and creative ways to develop additional housing that is compatible with existing neighborhoods and the environment. A variety of housing types are considered by the Plan, including small and large lot single family residences, attached single family residences and cottages, town homes, duplexes, multiplexes, multifamily, accessory dwelling units, and manufactured housing.

Existing housing in Sammamish reflects the characteristics of the area's larger households. The Year 2000 US Census estimated an average Sammamish household size of 3.0 persons, while the average King County or East King County households is about 2.4 persons. Census 2000 also shows that of the 11,599 dwelling units in the City of Sammamish, over 90% of housing units are detached single family housing (**Figure VI-1**). This compares to about 40% for other parts of East King County. Housing ownership is also much higher in Sammamish (90%) than in King County (60%) or even for East King County (66%). Sammamish housing is relatively new with nearly 75% of the City's housing stock built in the 20-year period between 1980 and March 2000.

**FIGURE VI-1. HOUSING TYPES 2000: CITY, EASTSIDE, COUNTY**



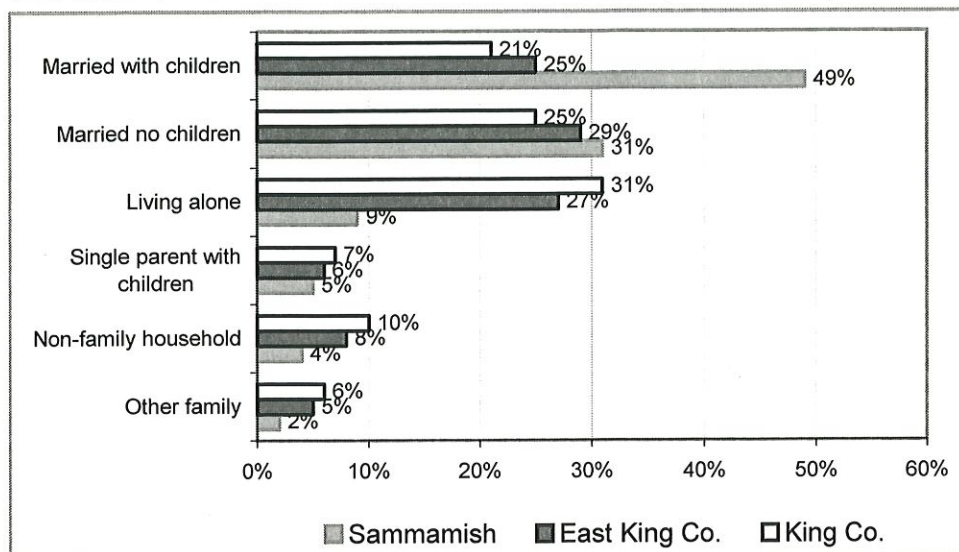
Source: U.S. Census Bureau, Census 2000

Sammamish has far more households with children (54%) and far fewer one-person households (9%) than East King County or King County as a whole. The median age of Sammamish residents (35.3 years) is comparable to the median age in King County (35.7 years), however, a closer look at age data shows significantly more children and fewer elderly in Sammamish. This may be a result of the lack of housing choice in Sammamish. (Refer to **Figures VI-2 and VI-3**). At least it clarifies the need for more housing choices. More housing opportunities now and in the future for smaller households such as; community based workers, senior populations, single parents and young people hoping to live in the same community where they grew up, is consistent with the essence of the City's vision of community.

Several proposed strategies for increased housing variety are included in this section. These include establishing rezone criteria that considers community housing needs; clustering new residential development; minimum density requirements for certain zoning districts, and regulatory flexibility to support mixed-use residential, manufactured housing, and accessory dwelling units as well as increased housing choices for independent living.

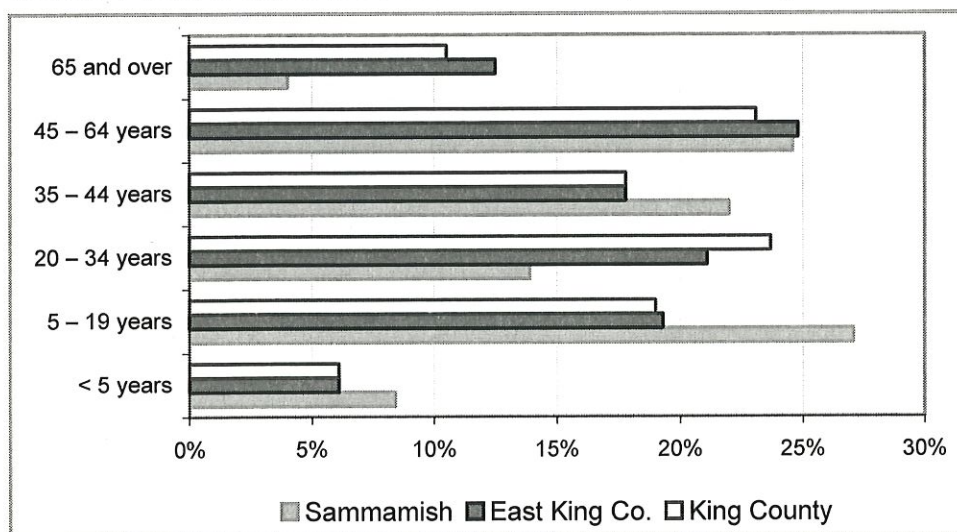


**FIGURE VI-2. HOUSEHOLD TYPE 2000: CITY, EASTSIDE, COUNTY**



Source: U.S. Census Bureau, Census 2000

**FIGURE VI-3. PERSONS BY AGE 2000: CITY, EASTSIDE, COUNTY**



U.S. Census Bureau, Census 2000

## Housing Targets

Through local and regional population projections, in accordance with the provisions of the GMA, 20-year population growth estimates are established. Based on these population projections, future development “targets”, expressed in the number of housing units, are determined through an interactive, multi-jurisdictional process between King County and the cities located within. Through this ongoing regional process, the City’s preliminary growth target for the years 2001 to 2022 is currently estimated to be 3,842 net new housing units.

Affordable housing targets are then established, based on a percent of the City’s growth target. The affordable housing targets are not absolute targets but are planning goals. A City’s Comprehensive Plan includes policies, incentives, regulations and programs appropriate to local housing conditions to

accommodate their share of housing affordable to low and moderate-income households. The GMPC Countywide Planning Policies more specifically state an affordability target for moderate income equal to 17% of the City's growth target and an affordability target for low income equal to 20% or 24% of the City's growth target. Similar to other cities in East King County, the preliminary low income target for Sammamish is 24%, but will be recalculated by the County based on updated census data.

In determining housing affordability targets for Sammamish, a complicating factor is that the City of Sammamish has over 2,300 new residential units that were vested under King County development regulations prior to Sammamish's incorporation in August 1999. Therefore, the City is unable to impose new development standards or expectations on these units. If the City's full growth target is used to calculate affordability targets, the affordability targets would not reflect the current limited range of policy options available to the City and would be particularly challenging to address. Based on this, a more appropriate approach for determining affordable housing targets would be based on net new growth after deducting the vested residential units. **Table VI-D** summarizes the housing affordability targets under both approaches.

**TABLE VI-D**  
**HOUSING UNIT GROWTH TARGETS: CITY**

|                                                     | Total Housing Units | Low Income Housing Target<br>Affordable to households<br>earning 50% median income<br>(24% of Total Units) |                   | Moderate Income Housing Target<br>Affordable to households earning<br>50 – 80% median income<br>(17% of Total Units) |                |
|-----------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------|----------------|
|                                                     |                     | 22 Year Total                                                                                              | Annual<br>Average | 22 Year Total                                                                                                        | Annual Average |
| Growth Target<br>(2001 – 2022)                      | 3,842               | 922                                                                                                        | 41                | 653                                                                                                                  | 30             |
| County Vested<br>Housing Units*                     | 2,300 – 2,800       |                                                                                                            |                   |                                                                                                                      |                |
| Net New Growth<br>(Growth Target –<br>Vested Units) | 1,042 – 1,542       | 250 – 370                                                                                                  | 11 - 17           | 177 - 262                                                                                                            | 8 - 12         |

\* Estimated Range

Source: King County Countywide Planning Policies

Affordability targets can be achieved in a variety of ways including new construction, preservation of existing housing and accessory dwelling units. Each jurisdiction develops and applies strategies which are determined to be most appropriate to the local housing market. The Comprehensive Plan for the City recognizes the importance of affordable housing opportunities within the city and the region. Therefore, the City will develop a multi-faceted approach to increase diversity of housing. Significant features of the City's affordable housing strategy include:

- Goals and policies supportive of accessory dwelling units,
- Participation in regional housing coalitions,
- Support of innovative public-private partnership developments that are consistent with land use policies,
- Seek opportunities to preserve affordability within existing housing, and
- Prepare and implement a Housing Strategy Plan.

The preparation and implementation of the Housing Strategy Plan is a critical tool to facilitate this process and maximize the goals of the housing element. For more information on the City's housing strategies refer to the Housing Goals and Policies.



## **Housing Affordability**

The **Housing Affordability** section of the Housing Plan presents goals and policies to address the City's affordable housing targets. Establishing the community's affordable housing need requires an assessment of local and regional household incomes, employment growth, and household size and types, as shown in the Housing Needs Assessment (**Appendix D**). Policies proposed in the Housing Affordability section include design and review processes with the objective of providing affordable housing options while protecting neighborhood character.

Housing diversity to accommodate a range of family incomes can take many forms: preservation of older housing; modification of existing housing for accessory units; smaller housing compatible with traditional neighborhoods such as cottages and attached housing; and low- and medium-density multifamily housing. Also, housing diversity can be facilitated by the dissemination of pertinent information to the community about affordable housing options through such organizations as the Washington State Housing Finance Commission. Providing housing for persons with special needs or lower income families often requires regional partnerships, such as Sammamish's participation with the King County Consortium and *A Regional Coalition for Housing* (ARCH). ARCH funds East King County housing projects including low and moderate income family housing, senior housing, homeless and transitional housing, and special needs housing. Local ARCH funding leverages County, State, Federal and private resources. Combined, these sources have provided over \$100 million to fund local affordable housing.

## **Housing Affordability**

Year 2000 U.S. Census sample data indicates median household income in Sammamish (\$101,592 for 1999) was nearly twice that of King County (\$53,157 for 1999). However, many Sammamish households face housing affordability concerns. Housing affordability, regardless of income, relates to the balance between a family's resources and their desire for acceptable housing and amenities. Housing costs are considered "affordable" when no more than 30 percent of a household's income is spent on housing. In 1999 36.4 percent of Sammamish renter households spent more than 30% of household income on gross rent. In the same year, 27.5 percent of Sammamish owner households spent more than 30% of household income on mortgage and other selected housing costs (U.S. Bureau of Census, Census 2000).

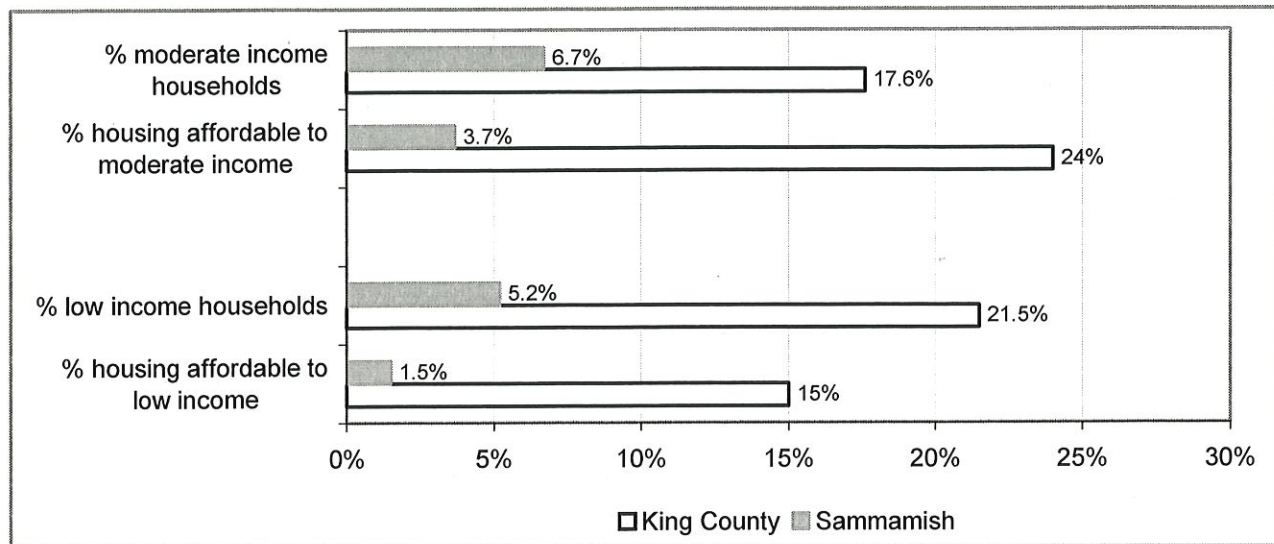
It is known that as households overpay for housing to this extent, they may be forced to forgo other necessities, be unable to save a down payment to buy their own home, and be at an increased risk for homelessness due to a economic catastrophic event such as unemployment, death or illness, or other medical emergency. Even the birth of a child can tip the scale for low-income families. Rising regional unemployment since the 2000 Census may result in more local families facing short or long term housing crises.

## **Affordable Housing**

Housing is considered "affordable" when housing costs consume less than 30 percent of household income for households earning less than 80% median income. Family income levels in Sammamish are distributed across defined income groups: about 5% are low income earning less than 50% of King County median income; about 7% are moderate income earning between 50 and 80% of King County median income; about 15% are median income earning between 80 and 120% of King County median income; and about 70% are high income earning more than 120% of King County median income (U.S. Census, Income in 1999).

**Figure VI-4** compares the percentage of Sammamish and County households earning low and moderate income to the amount of housing affordable to them. In Sammamish, about 5.2% of housing is affordable to the almost 12% of households earning less than 80% KC median income.

**FIGURE VI-4. HOUSING AFFORDABLE TO LOW, MODERATE & MEDIAN INCOME HOUSEHOLDS 1999: CITY, COUNTY**



Source: U.S. Census Bureau, Census 2000, Value, Gross Rent and Income in 1999, based on a sample.  
Low, moderate, and Median income 1999 for King County as established by HUD.

The need for moderate- and low-income housing is based on several factors in the community that are projected to increase: community based workers earning moderate and lower wages; seniors and young adults who would like to continue to live in their community; and a certain percentage of persons with special housing needs requiring different levels in the continuum of care. In order to meet current and future affordable housing needs the Housing Plan proposes a multi-part strategy which may include more affordable housing alternatives such as cottages, attached single family homes and townhomes. Proposed land use regulations may allow the modification of existing housing for affordable housing alternatives such as accessory dwelling units.

Cottages and attached housing are considered compatible strategies to increase housing choice in traditional neighborhoods. Cottages and attached units are often smaller than detached units, which can result in reduced land and infrastructure costs, lower building cost and, potentially, lower cost housing.

Accessory Dwelling Units (ADUs) can have two forms of benefit. First, ADUs can help the homeowner by increasing the homeowner's cash flow, financial stability, and housing options. Second, ADUs can offer a relatively affordable form of housing (many ADUs are affordable to low and moderate income families).

It is recognized that under current market conditions subsidies are usually required to produce new housing affordable to low-income households. Subsidization can take many forms, including direct contributions of money and land and indirect subsidies involving coordination, partnerships, and regulatory modifications. The City of Sammamish supports regional efforts to expand and preserve affordable housing, including its support of ARCH and the King County Housing Consortium.



## **Housing for Persons with Special Needs**

The goals and policies of **Housing for Persons with Special Needs** section of the Housing Element support community services and housing for those who need extra living assistance. Every community includes persons with special housing needs facing either temporary or permanent challenges and disability. The Housing Element supports equal and fair housing access for all members of the community, including individuals with special needs. Consistent with federal and state law, it also supports the least restrictive care option to maximize independent living. The appropriate living options and social services is referred to as the **Continuum of Care** and include: emergency housing, transitional housing, assisted living, independent living with services, family based living, group homes for adults, adolescents, and children, family group homes and institutions.

## **Fair Housing**

The objectives of the Washington Housing Policy Act are to attain the state's goal of a decent home in a healthy, safe environment for every resident of the State (RCW 43.185B.009). Federal and State Fair Housing law includes individuals with disabilities as a protected class. The Federal Housing Amendments Act of 1988 (FHAA) uses a three-part definition (Chapter 151B) to define an individual with a handicap, as being a person who has:

1. A physical or mental impairment which substantially limits one or more of such person's major life activities,
2. A record of having such an impairment, or
3. Being regarded as having such an impairment. (44 U.S.C 3602(h))

## **Continuum of Care**

The concept of the continuum of care is designed to help communities develop the capacity to envision, organize, and plan comprehensive and long-term solutions to addressing the goals of fair and safe housing opportunities, providing social and medical services without duplication, and maximizing self sufficiency and independence. An effective continuum of care system is coordinated within the region to provide necessary linkages and referral mechanisms among the components to facilitate the movement of individuals and families towards stable housing and maximum independence.

The City of Sammamish addresses special needs housing through their participation in regional efforts. For example the City is a member of the King County Housing Consortium and A Regional Coalition for Housing (ARCH), which both provide local and federal funds to human service agencies that provide special needs housing and services. Also, the City's codes and ordinances provide the necessary flexibility for group homes, home based care or other housing options for persons with special needs. As the diversity of the population grows, the need for appropriate citywide social services to coordinate and manage the continuum of care will increase.

## **Regional Efforts**

The Countywide Planning Policies direct cities to work in cooperation with other jurisdictions, the private sector and non-profit housing agencies in order to address housing issues. The Housing Plan recognizes that every community's housing need is affected by regional conditions, including economic, employment, human service, and transportation factors. The goals and policies of the **Regional Efforts** section of the Housing Plan establish the City's commitment to work with other jurisdiction or entities to develop a coordinated, regional approach to address local and regional housing needs.

## **Implementation**

For the 20-year Housing Plan to be a useful guide for Sammamish's future, the plan must remain current with a changing and growing community. The **Implementation** section of the Housing Plan includes goals and policies to keep the plan coordinated and updated. Actions include developing and implementing a Preferred Land Use Alternative plan, a housing strategy plan, regulatory amendments, growth controls and other amendments to development permit processes that are participatory, timely, predictable, and fair to all affected parties.

Periodic review and update of the Housing Element and Housing Needs Assessment should occur at the time of the Comprehensive Plan update. This provides the City an opportunity to monitor changes in the community and to evaluate the need for new or revised housing strategies. This review may include: further documentation of current housing trends, prioritization of housing goals and policies, and establishing a Housing Strategy Plan which will outline implementation strategies. Updates to the Housing Strategy Plan will be based on subsequent periodic review.

Implementation of the Housing Plan will require residential development growth management tools to appropriately control City growth. Growth management tools will guide the location and timing of residential growth, recognizing environmental capacities, and water, sewer, surface water, transportation and other critical and service infrastructure capacity.

Monitoring the status of the City's housing market and the effectiveness of the City's housing policies and regulations provides an opportunity to adjust the plan to a changing and growing community.

## **GOALS**

### **Neighborhood Quality**

**GOAL HG-1**            **Promote the preservation and enhancement of safe and accessible residential neighborhoods that create an attractive living environment.**

**GOAL HG-2**            **Encourage housing design that is sensitive to quality, design, and intensity within neighborhoods and with surrounding land uses.**

### **Types, Variety and Amount of Housing**

**GOAL HG-3**            **City policies and regulations should allow for a diversity of housing types and densities in order to accommodate housing alternatives that meet changing population needs and preferences.**

**GOAL HG-4**            **Avoid creating regulations that have an unnecessary impact on the cost or supply of housing.**

**GOAL HG-5**            **Provide a range of home ownership opportunities consistent with housing need.**

### **Housing Affordability**

**GOAL HG-6**            **Support opportunities to preserve and develop housing in the City and region to meet the needs of all economic segments of the community.**

**GOAL HG-7**            **The City shall address targets for housing affordable to low and moderate**



income households which should be consistent with targets in the King County Countywide Planning Policies.

**GOAL HG-8**      Encourage using existing housing to provide opportunities for more affordable and diverse forms of housing.

**Housing for persons with special needs**

**GOAL HG-9**      Support the availability of housing that provides a continuum of care for persons with special needs.

**Regional efforts**

**GOAL HG-10**      Work with other jurisdictions or entities to develop a coordinated, regional approach to meeting housing needs.

**Implementation**

**GOAL HG-11**      Establish processes for measuring the effectiveness of policies and regulations in meeting the housing needs of Sammamish residents.

## **POLICIES**

**Neighborhood Quality**

**GOAL HG-1**      Promote the preservation and enhancement of safe and accessible residential neighborhoods that create an attractive living environment.

**GOAL HG-2**      Encourage housing design that is sensitive to quality, design, and intensity within neighborhoods and with surrounding land uses.

**HP-1**      Land use policies and regulations should emphasize compatibility with existing neighborhood character. In areas where the existing character is in transition, new development should be designed to incorporate the qualities of well-designed neighborhoods

**HP-2**      Land use policies and regulations should provide for a compatible mix of land uses and housing types in and around residential neighborhoods.

**HP-3**      The City should foster public notification and participation in decisions affecting neighborhoods.

**HP-4**      In-fill residential development may be encouraged in existing residential neighborhoods on vacant or underutilized land suitable for development provided it is consistent with the existing neighborhood.

HP-5            The City should encourage individual and neighborhood beautification programs and public art using garden clubs, schools and other community groups.

### **Types, Variety and Amount of Housing**

**GOAL HG-3            City policies and regulations should allow for a diversity of housing types and densities in order to accommodate housing alternatives that meet changing population needs and preferences.**

**GOAL HG-4            Avoid creating regulations that have an unnecessary impact on the cost or supply of housing.**

**GOAL HG-5            Provide a range of home ownership opportunities consistent with housing need.**

HP-6            The City should allow for a variety of housing types and lot sizes consistent with land use designation through small and large lot single family residences, attached single family residences and cottages, town homes, duplexes, multiplexes, multifamily, and manufactured housing.

HP-7            The City should establish criteria to evaluate rezone requests. This criteria should include, but not be limited to:

- Addressing community needs such as affordable housing, senior housing, or special needs housing,
- Compliance with City development regulations and design standards,
- Protection of environmentally sensitive areas,
- Public-private partnerships

HP-8            Clustering of new residential development compatible with community character should be encouraged as a means of protecting environmentally sensitive areas.

HP-9            The City should consider revisions to the zoning code to further support well-designed mixed-use residential developments.

HP-10           Accessory Dwelling Units (ADUs) shall be allowed in all single-family residential zones. Regulatory guidelines should minimize procedural requirements, but should address neighborhood compatibility.

HP-11           The City should consider providing regulatory flexibility to promote independent living.

HP-12           Manufactured homes shall be permitted on individual lots in residential zones in accordance with the provisions of state and federal law. Development and design standards should apply equally to manufactured housing and other residences.



- HP-13      a. The City should apply minimum density requirements to the R-8 to R-18 and NB, CB, and O zones consistent with King County Countywide Planning Policies.
- b. The City should monitor and assess the density and nature of new development on a periodic basis to determine if the community vision and Growth Management Goals are met for community character and efficient use of land.

### **Housing Affordability**

**GOAL HG-6                      Support opportunities to preserve and develop housing in the City and region to meet the needs of all economic segments of the community.**

**GOAL HG-7                      The City shall address targets for housing affordable to low and moderate income households which should be consistent with targets in the King County Countywide Planning Policies.**

**GOAL HG-8                      Encourage using existing housing to provide opportunities for more affordable and diverse forms of housing.**

HP-14      The City shall develop plans and strategies to address targets for low and moderate income housing which should be consistent with the Countywide policies.

HP-15      The City should support the design of affordable housing that is compatible with neighborhood character and is dispersed throughout the community.

HP-16      The City should support public-private partnerships to develop and maintain an adequate supply of single family and multifamily housing for all economic segments of the population.

HP-17      The City should adopt regulations and procedures consistent with the goal to minimize unnecessary costs and time delays. This objective should be balanced with maintaining opportunities for public involvement and review, public safety, and other explicitly stated City policies.

HP-18      The City should promote the preservation of existing housing which may provide for affordable forms of rental and ownership housing.

HP-19      The City should consider land use regulations that will allow for the modification of existing housing in order to preserve and/or increase lower/moderate cost housing opportunities.

HP-20      The City should consider providing regulatory incentives when builders provide low or moderate income housing, such as priority processing of permits, fee waivers or reductions, and/or strategic capital investment decisions.

HP-21      The City should consider requiring affordable housing on or off site when evaluating rezone requests.

- HP-22      The City should consider strategies for providing financial and/or technical assistance to establish affordable housing for low and moderate income households.
- HP-23      The City should encourage and assist home ownership opportunities, which may apply to low, moderate and middle income households, such as cottages, co-housing, and land trusts.
- HP-24      The City should support applications by developers to County, State and Federal funding sources to build new or rehabilitate existing housing, in compliance with City development regulations, that meet local low and moderate income needs.

### **Housing for Persons with Special Needs**

**GOAL HG-9      Support the availability of housing that provides a continuum of care for persons with special needs.**

- HP-25      The City should support efforts to disperse special needs housing throughout the city and region.
- HP-26      The City should promote partnerships between public and private sector organizations that provide social services and/or funding to increase housing opportunities for persons with special needs.
- HP-27      The City should assure that codes and ordinances do not unnecessarily restrict development of housing opportunities for special needs populations and that reflects a continuum of care. This should include emergency housing, transitional housing, assisted living, independent living, family based living and institutions.

### **Regional Efforts**

**GOAL HG-10      Work with other jurisdictions or entities to develop a coordinated, regional approach to meeting housing needs.**

- HP-28      The City should work through regional housing agencies and bodies, or with individual jurisdictions to ensure adequate capacity exists in the region to accommodate expected residential growth.
- HP-29      The City should work cooperatively with King County, inter-jurisdictional agencies, and private groups to develop a regional strategy to promote affordable housing for low and moderate income households and housing for persons with special needs.
- HP-30      The City should coordinate City housing goals, policies, and strategies with regional growth, transportation and employment policies.
- HP-31      The City should work to increase the availability of both public and private dollars on a regional level for affordable and special needs housing.



- HP-32 The City should support and encourage housing legislation at the county, state, and federal levels, which would promote the City's housing goals and policies.
- HP-33 The City should participate in regional discussions to learn of programs and policies that could address the needs of the City's residents.
- HP-34 The City should continue membership in inter-jurisdictional agencies to assist in the provision of affordable housing on the Eastside.

### **Implementation**

**GOAL HG-11      Establish processes for measuring the effectiveness of policies and regulations in meeting the housing needs of Sammamish residents.**

- HP-35
- a. The City should review and update the Housing Element at the time the Comprehensive Plan is updated to:
    - Further document current housing needs, and
    - Prioritize housing goals and policies.
  - b. The City should establish a Housing Strategy Plan which will outline implementation strategies, and periodically assess implementation progress.
- HP-36 The City should maintain a housing data base to inform City officials and the public on the status of the City's housing market and the effectiveness of the City's housing policies and regulations.
- HP-37 The City should conduct a periodic survey of housing conditions.
- HP-38 The City shall update and maintain the City's inventory of surplus or underutilized publicly owned land. If land is determined to be surplus or underutilized for public purposes, and is suitable for housing, it should first be considered for achieving the City's objectives of encouraging a range of types of housing, with special priority given to encouraging housing for low and/or moderate income and/or special needs households.
- HP-39 The City should program into the City's Capital Facilities Plan regular infrastructure maintenance for the City's residential neighborhoods.

## **VII. UTILITIES & PUBLIC SERVICES/ CAPITAL FACILITIES ELEMENT**

### **VISION**

This Element addresses the public and franchise services and infrastructure required to serve the community, and is divided into two sub-elements:

- The vision of the Utilities Sub-element is to provide reliable utility service to the Sammamish Service Area while reducing safety, environmental and aesthetic impacts that can result from the construction and operation of utility facilities.
- The vision of the Public Services/Capital Facilities Sub-element is to establish policies to guide the development of the City's capital investment program in support of the City's vision for the future by:
  - Providing a clear definition of the role and purpose of the City's capital investment program;
  - Assuring that capital facility investments are prioritized to support anticipated growth in the locations targeted in the Land Use Plan;
  - Identifying service standards for capital facilities which meet community expectations for municipal service delivery; and
  - Requiring that adequate, long-term financial capacity exists to provide capital facilities needed to support expected growth while maintaining adopted service standards.

### **PRIMARY ISSUES**

#### **Utilities: Existing Conditions and Forecast Future Needs**

##### **Electricity Facilities and Capacity**

###### *Existing Conditions - Electricity*

Puget Sound Energy (PSE) currently provides electrical service to 17,628 residential customers, and 1,112 commercial/retail customers in the Sammamish Study Area. Residential customers include single family residences and some and multi-family residences (apartment and condominium developments). Customers on commercial/retail meters include all retail stores, warehouses, office buildings, public facilities, utilities, and some multi-family developments as well.

PSE uses kilowatts (KW) as a measure for customer load analysis. PSE measures use by meters/residential units (not per capita). The following statistics are based on peak usage at any one time, or "instantaneous maximum loads," and therefore do not provide information about daily, monthly, or yearly averages. Total residential peak demand for the Study Area is 64,842 KW, and the average residential KW/customer is 3.7 KW. The total commercial/retail demand is 16,645 KW, and the average commercial KW/customer is 15 KW. Peak demands occur during the cold winter months, while demand in spring through fall is considerably less. The range of commercial/retail demand varies considerably more than residential demands. A large grocery store or office will be 300 to 500 KW, while a condominium load may be 2 to 3 KW. Residential demands generally range from 0.5 to 10 KW.

The Sammamish Study Area is primarily served by the following substations:

1. Sahalee Substation on Sahalee Way & NE 36 St.



2. Pine Lake Substation on 228 AVE SE & SE 31 St.

3. Klahanie Substation on Issaquah-Fall City Rd & Klahanie Dr SE (shopping center)

Each substation supplies from 33,000 KW peak in the winter and 27,000 KW peak in the summer. The stations also serve some demand outside of the Study Area, and provide back-up service to each other and other stations outside of the Study Area if a station is off-line for maintenance.

In addition, other local substations provide back-up service to the Sammamish Study Area. These stations are:

1. Redmond Substation by Bear Creek Mall in Redmond,
2. Fall City Substation north of downtown Fall City,
3. Pickering Substation on East Lake Sammamish Parkway at SE 61 St.

The Pine Lake, Klahanie and Sahalee stations are currently at capacity during the winter months. The peak demand for the Sammamish area is 93,356 KW, and the maximum capacity for the three stations is  $33,000 \times 3$  or 99,000 KW.

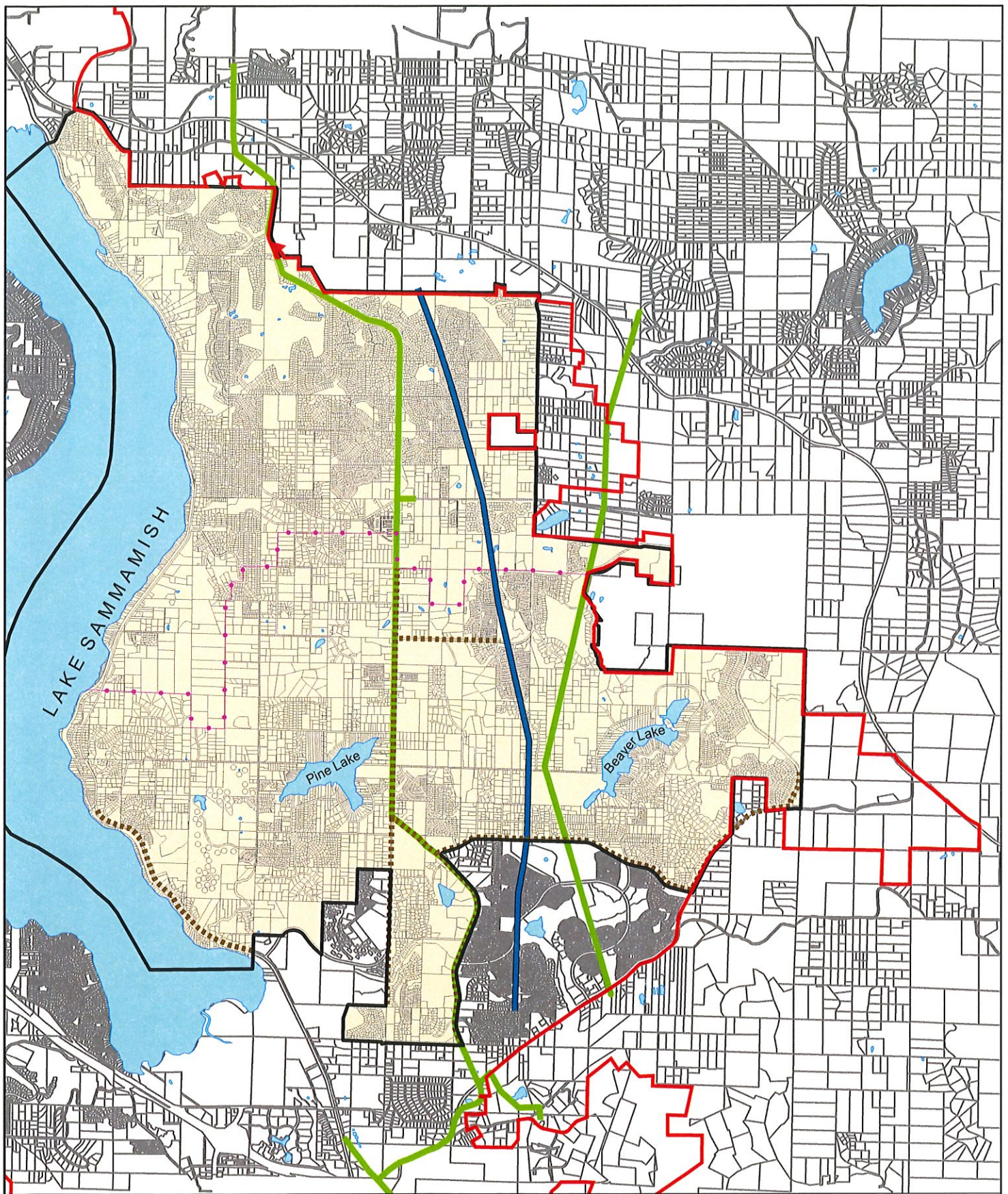
Other facilities necessary to the provision of electric service to the area include two transmission lines. These lines are known as the Sammamish-Lake Tradition line which is a 115kV line serving the Pine Lake & Sahalee Substations, and the Sammamish-Maple Valley Transmission line which is a 230KV line that provides service to the Klahanie Substation. Existing electrical facilities are identified on the map depicted in **Figure VII-1**.

#### *Future Conditions - Electricity*

PSE analyzes system capacity on an annual basis. The analysis is based on peak load readings for all substations in the service area. As part of the analysis, PSE looks at system capacity at peak demand for normal operation, and whether the system is capable of maintaining adequate supply and voltage in the event of the loss of any station during that peak. In addition to this, PSE factors in the anticipated load growth for the next two years based on (1) knowledge of current development activity, and (2) a 2% growth rate for the years beyond known projects out to 10 years. As indicated earlier, the Study Area currently has enough capacity for normal peak operation with some reserve, but when a station is out of service, particularly the Pine Lake station, the system is at maximum capacity. PSE anticipates the general residential growth will continue at between  $\frac{1}{2}\%$  to 2% per year, depending on the economy over the next ten years. PSE also speculates that commercial load growth will be limited, as existing commercial/retail centers have already been built out, and no significant areas are planned for commercial/retail growth in the Study Area. PSE planners stay informed of changes in land use and zoning, to ensure that they can provide adequate services to new development.

PSE has plans to install a new substation called the Plateau Substation on NE 8th Street, just east of 228th Ave NE. Permitting for this project is anticipated to occur between 2002 to 2004, and the substation may be built between 2004 and 2006. This location is close to the commercial/retail load center in the central part of the City of Sammamish. Installation of a new substation at this location will shift load from Pine Lake and Sahalee Substations during normal operation, and will ensure that adequate back up is provided in the event of a station outage. The new substation will be served by the Sammamish-Lake Tradition 115kV transmission line, and as such, it will not be necessary to extend new lines any great distance. The Plateau substation will be served by existing feeder lines, and no new distribution lines will be required.





## Utilities Service Lines

Plot Date: September 2003

### Legend:

 UGA
  City Limits
  Lakes
  City Tax Lots
  Gas Line
  Fiber
  Power Line
  Qwest

Scale 1 Inch = 1 Mile

0.5 0.25 0 0.5  
 Miles

SOURCES: King County GIS CD #3, Standard Data April 2003.

DISCLAIMER: This map is derived from various data sources. While care has been taken to ensure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided "as is".

**Figure VII-1**



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To the extent possible, PSE will install new lines during the next phase of the 228th Ave NE road project. This will enable future distribution line taps from the Plateau Substation.

### *Facility Undergrounding*

Jurisdictions choose to require undergrounding of utilities in public rights-of-way to prevent service interruptions to power and telephone as a result of storms and auto accidents, to eliminate life and safety hazards that result from fallen wires, to prevent the need for maintenance and pruning of trees and shrubs that grow into utility wires, and to improve aesthetics. Utilities tend to favor keeping lines above ground because it is easier to detect and repair damaged wires, and it is more cost effective install and maintain above ground lines.

The Washington Utilities and Transportation Commission (WUTC) is the regulating agency for privately owned transportation and utility companies. The WUTC regulates the rates, services, and practices of privately owned utility companies, and has adopted two tariffs that are applicable to undergrounding: Schedules 70 and 71. These Schedules state the terms and conditions under which PSE will perform an underground conversion, and how the costs of undergrounding are divided among the utility provider and the party requesting the conversion. Typically when a utility requests to place facilities in a city's right-of-way, the utility and the city will enter into a franchise agreement that spells out all aspects of the agreement between the two parties, including maintenance, costs and undergrounding of utilities.

Recently, some cities have challenged Puget Sound Energy's (PSE) interpretation of Schedules 70 and 71, and the WUTC ruled in favor of PSE. PSE is currently working with these cities and others and WUTC staff in a collaborative process to produce revised schedules for WUTC consideration. As stated earlier, Schedules 70 and 71 specify the terms and conditions governing PSE's undergrounding of its existing facilities, including allocation of some costs to the party requesting the conversion. Additionally, requesting parties must perform or fund portions of the work such as trenching and restoration. The schedules apply to distribution systems operating at 15,000 volts (15kV) or less, and therefore are applicable to the majority of PSE's overhead distribution facilities. Underground installation of new facilities (such as extension to serve new development) does not typically require jurisdiction cost participation. The cost of system extensions to serve new development is typically borne by the developer and in turn a component of costs experienced by consumers of new development.

## **Natural Gas - Facilities and Capacity**

### *Existing Conditions – Natural Gas*

Puget Sound Energy supplies natural gas to Snohomish, King, Kittitas, Pierce, Thurston, and Lewis Counties, and serves more than 607,133 customers within those counties. It is estimated that PSE currently serves 11,065 customers within the Sammamish Study Area, including the Klahanie area.

The States of Washington, Oregon, and Idaho consume 380 billion cubic feet of natural gas per year. Sixty percent (60%) of the region's natural gas supply comes from the north - British Columbia and Alberta, while the other 40% comes from domestic sources including the San Juan Basin in New Mexico, and from Texas in the south. Based on rate information, PSE estimates that the average household consumes approximately 100,000 cubic feet of gas per year, this estimate is based on the assumption that each household uses natural gas for both heat and hot water.

In terms of distribution, natural gas is supplied to the City of Sammamish by Williams Pipeline Corporation (formerly known as the Northwest Pipeline Corporation). Natural gas from the pipeline is reduced to 250 pounds per square inch gauge (psig) to feed high-pressure supply lines. Williams Pipeline operates 26" and 30" natural gas pipelines located within the Sammamish Study Area. See **Figure VII-1** for a generalized map.



High pressure supply lines (measuring 4", 6", 8", 12" and 16" in diameter) transport gas from gate stations to "District Regulators". At the present time there is approximately 13,500 feet of 12" high-pressure line within the Sammamish City limits. This line is capable of supplying 2,500,000 cubic feet per hour to the Sammamish area.

District regulators reduce high-pressure gas to distribution operating pressures of 25 to 60 psig. Natural gas is currently supplied to the Sammamish Study Area through District Regulator #1343, otherwise known as the Beaver Lake Gate Station, and District Regulator #1342, known as the Redmond Gate Station. Both District Regulators have been set at 54 psig with a maximum operating pressure of 60 psig. Distribution regulators feed "distribution mains" which range from 1¼", 2", 4", 6" or 8" diameter lines. Distribution mains serve individual residential service lines which are typically 5/8" in diameter, and commercial and industrial service lines that range from 1¼" or 2" in diameter. Puget Sound Energy has approximately 165 miles of main serving the Sammamish Study Area.

#### *Forecast Future Needs – Natural Gas*

Because natural gas is not considered an essential service, PSE is not mandated to provide service. Extension of service is therefore based on requests for new service and the results of market analysis designed to determine if revenues from an extension will offset the cost of construction.

When planning the size of new gas mains, PSE uses a model that assumes that all new households will use natural gas, since 99% of new homes constructed (in which builders have a choice) are using natural gas. PSE forecasts customer additions using a forecast analysis calculation based on PSE's revenue report which is generated by city tax codes.

PSE has two options for increasing capacity in its system – implementation of techniques to increase capacity in the existing system, or construction of new facilities. When increasing capacity is no longer possible, PSE must construct new facilities.

Minimum pressure delivery through intermediate pressure mains is approximately 15 psig. If pressure delivery drops below 15 psig, there are several methods that can be used to increase pressure in an existing line. These include:

- Looping the distribution and/or supply lines to provide an alternative route for the gas to travel to an area needing additional supply. This method often involves construction of high-pressure lines, district regulators, and intermediate pressure lines,
- Installation of lines parallel to existing lines to supplement supply of natural gas to a particular service area,
- Replacement of existing pipelines to increase volume. (This includes efforts to replace low-pressure cast iron systems with intermediate pressure plastic systems.)

If it is not possible to increase capacity by using the above methods, new construction may be required. There are three types of construction:

- New or replacement of existing facilities due to increased capacity requirements due to new building construction and conversion from alternate fuel.
- Main replacement to facilitate improved maintenance of facility.
- Replacement or relocation of facilities due to municipal and state projects.

The following major projects are anticipated between now and the year 2010 to serve customers in the Sammamish Study Area, including the Klahanie area.

Planned for 2000-2004:

Due to growth on the plateau over the past several years, the existing system is in need of reinforcement in order to insure reliable gas service. PSE is therefore evaluating the feasibility of running 12" high pressure main from the Beaver Lake Gate Station (24400 block of SE 32nd St), northbound to NE 8th St, with an eventual tie into the existing 4" intermediate pressure main near the intersection of 228th Ave NE and NE 8th St.

Completed in 2002:

PSE recently completed a portion of the above mentioned project by extending approximately 6,000 feet of high pressure gas main from the Beaver Lake Gate Station to 248th Ave SE and approximately SE 17th. This increased pressure to the Klahanie area and surrounding areas, however, there is still need to bring increased pressure to the Sahalee area.

Planned for 2003-2005:

PSE can increase pressure to the Sahalee area by installing/replacing an existing gas main with a new 8" gas main. A definite route for this main has not yet been identified.

Due to the growing popularity of natural gas in the Sammamish Plateau and surrounding areas, PSE will continually evaluate the necessity of the project described above. Changes in the project plan alternatives, route and construction schedule may occur, as they are dependent on budgets and WUTC cooperation. In addition, Puget Sound Energy will review projects proposed by the City of Sammamish and may take advantage of opportunities to add more pipe in an effort to reinforce their system.

## **Telecommunication - Telephone**

Telephone companies serve local exchange areas by "Central Offices" or CO's. These offices contain switching equipment that provides service to an area. In the Sammamish Study Area, telephone service is provided in by both Qwest and Verizon. Qwest provides service to southern portion of the City and Verizon provides service to the northern portion of the Study Area. The Qwest CO is located at 6401 228th Ave SE in Issaquah. Qwest uses fiber optic lines to provide service to the area. These lines are located in E. Lake Sammamish Parkway, 228th Avenue SE, SE 8th Street, Issaquah Pine Lake Road, and SE 32nd Street/Issaquah Beaver Lake Road and are depicted on **Figure VII-1**. Verizon provides service to the area north of Qwest's northern service boundary. Verizon's service area extends north of the Redmond-Fall City Road. Due to the growth in the Sammamish area, Verizon opened a new CO to serve this area that is located at 20929 Redmond-Fall City Highway. The office serves a 29.6 square mile area. Verizon was not able to provide the City with a map of the service area.

While Qwest and Verizon were not able to provide the City with specific information related to future forecasts, both companies stated that there is adequate coverage at present, and that the existing facilities are capable of accommodating growth in the future.

## **Telecommunication – Personal Wireless**

Personal wireless services are those services that use radio waves to transmit voice and/or data using the radio frequency spectrum. Personal wireless facilities use ground-based directional receivers, or antennas, which may be located on a variety of different types of structures including utility poles, cellular towers (also known as monopoles) or buildings. Since incorporation the City of Sammamish has issued permits to T-Mobil, (previously VoiceStream) for the construction of new cellular towers. The sites are located at 831 211th Place NE and 1103 East Lake Sammamish Blvd. Sprint has a cellular tower at 22803 SE 21st Street and AT&T has two towers, one at 2030 212th Avenue SE and one at 228th Avenue between SE



16th and SE 17th Streets. Additionally, there are a cellular monopole and tank-mounted cellular facility at the Sammamish Plateau Water and Sewer District's water tank at 22026 NE 12<sup>th</sup> Street.

Wireless companies analyze market demand and expand services in response to increased demand. Capacity of wireless facilities is based on number of facilities in an area, number of customers, and customer use, and cellular companies consider information related to demand and capacity to be proprietary information. Capacity can be expanded, however by dividing larger service areas into smaller service areas and increasing the number of channels in the service area, or through advances in technology.

### **Telecommunication - Cable**

Comcast, currently provides Video and High Speed Data (HSD) cable services to approximately 16,533 residential customers in the Sammamish Study Area, including the Klahanie area. The type of facility that is required to provide cable service is a "fiber backbone" with a coaxial distribution system. The distribution cables are typically located on poles owned and maintained by Puget Sound Energy and/or Qwest, or they are located underground.

According to AT&T, the capacity of the current cable system in relation to the existing customer base is unlimited, and it does have the capabilities to expand cable service when needed.

### **General - Electromagnetic Fields (EMF)**

Electric and magnetic fields exist in nature as well as around all types of electrical devices. The electric and magnetic fields around electrical appliances and power lines fall within the extremely low frequency (ELF) range. For several years, scientists reflecting a broad range of scientific disciplines have considered the question of whether EMF presents a hazard to human health.

The Telecommunications Act of 1996 and the Federal Communications Commission (FCC) regulate the emissions of electromagnetic radiation from cellular facilities by setting thresholds for acceptable levels of radiation. Consistent with Federal requirements, the City's development code requires that applicants provide verification from a licensed engineer documenting that acceptable levels are not exceeded. The Federal government administers the Telecommunications Act, and cities do not have the authority to interfere with, or override the standards required by the Federal Government. Provided an applicant demonstrates that the required thresholds have been met, the City cannot impose any additional requirements.

At this time, there are no federal or state regulations or standards for low frequency EMF exposure from electric power lines. There are some requirements in the National Electrical Safety Code for power line field strength. However, federal and state research provides some direction for possible techniques to lessen exposure to EMF, with federal studies suggesting passive regulatory action is warranted such as a continued emphasis on educating both the public and the regulated community on means aimed at reducing exposures.

The local service provider to the Sammamish area, Puget Sound Energy (PSE), has adopted a policy statement on electric and magnetic fields (EMF). PSE's policy states that "Puget Sound Energy has and will continue to:

- Follow all applicable laws and regulations governing the installation of electrical facilities,
- Monitor research, regulations, legal actions, and communications on extremely low frequency EMF to further develop our ability to communicate with our customers, our employees and government officials,

- Support the existing research program on extremely low frequency EMF jointly funded with and coordinated by the federal government,
- Respond to customer and employee requests for information and provide free in-home measurements of extremely low frequency magnetic fields to customers who request them, and
- Participate in public proceedings to enhance understanding of the scientific studies, and to review the limits of existing information.”

## Solid Waste

### *Existing Conditions – Solid Waste*

The King County Department of Natural Resources, Solid Waste Division, operates King County’s transfer and disposal system comprised of a regional landfill, eight transfer stations, and two rural drop boxes for residential and non-residential self-haul customers and commercial haulers. Local hauling services in the unincorporated areas and a majority of cities are provided by private garbage collection companies which receive oversight through the Washington State Utilities and Transportation Commission (WUTC). The closest waste transfer stations to the City of Sammamish are in Kirkland at the Rose Hill (Houghton) station, and at the Factoria transfer station in Bellevue.

Currently, local haulers within the City of Sammamish operate within two service areas: Rabanco Connections and Waste Management Sno-King. Waste Management serves the northern portion of the City of Sammamish to north side of NE 8th Street. Rabanco serves customers from the south side of NE 8th Street to the city limits in all directions.

**Table VII-A** provides a comparison of Solid Waste service and rates between Rabanco Connections and Waste Management Sno-King.

**TABLE VII-A**  
**COMPARISON OF SOLID WASTE SERVICE AND RATES**

| INFORMATION ITEM                                                          | RABANCO CONNECTIONS | WASTE MANAGEMENT (SNO-KING) |
|---------------------------------------------------------------------------|---------------------|-----------------------------|
| Frequency of Service - Garbage                                            | Weekly              | Weekly                      |
| Frequency of Service – Recycle                                            | Weekly              | Weekly                      |
| Frequency of Service – Yard Waste (March - November)                      | Weekly              | Weekly                      |
| Frequency of Service – Yard Waste (December - February, Rabanco)          | Monthly             | Bi-weekly                   |
| Monthly Cost – Garbage (one 32 gallon can) and Recycle, weekly pickup [1] | \$13.73             | \$14.40                     |
| Monthly Cost (March-November) Yard Waste                                  | \$7.23              | \$9.33                      |

Source: *King County Comprehensive Solid Waste Management Plan, 2001.*

Note: [1] Billed every three months (per Rabanco) with a typical bill equaling \$41.19 for the three month period.

### *Future Needs – Local and Regional*



When an area incorporates, it has the option to establish a franchise with a private hauler but is not required to do so. If a local jurisdiction enters into a franchise, the franchise regulations would supersede state regulations and the private hauler is no longer regulated by the State. In accordance with State Law, the holder of the franchise or permit in the incorporating area may continue to operate for the remaining term of the original franchise or permit, or for seven years, whichever time period is shorter (RCW 35.02.160).

King County's disposal system for mixed municipal solid waste (MMSW) comprises one active landfill – the Cedar Hills Regional Landfill – and ten closed landfills. The currently active Cedar Hills Regional Landfill will reach its permitted capacity and close during this 20-year planning period.

### **Public Services /Capital Facilities: Existing Conditions and Forecast Future Needs**

This section provides a brief summary of existing public services and capital facilities which support services to City of Sammamish residents. Projected needs for the next six years are also summarized in this section and presented in table format in **Appendix B**. The descriptions are necessarily brief; the reader should consult the documents listed within this chapter for more detailed information on capital facilities in the City of Sammamish. Maps of various public facilities are identified in **Figures VII-2 to VII-4**.

#### **Water**

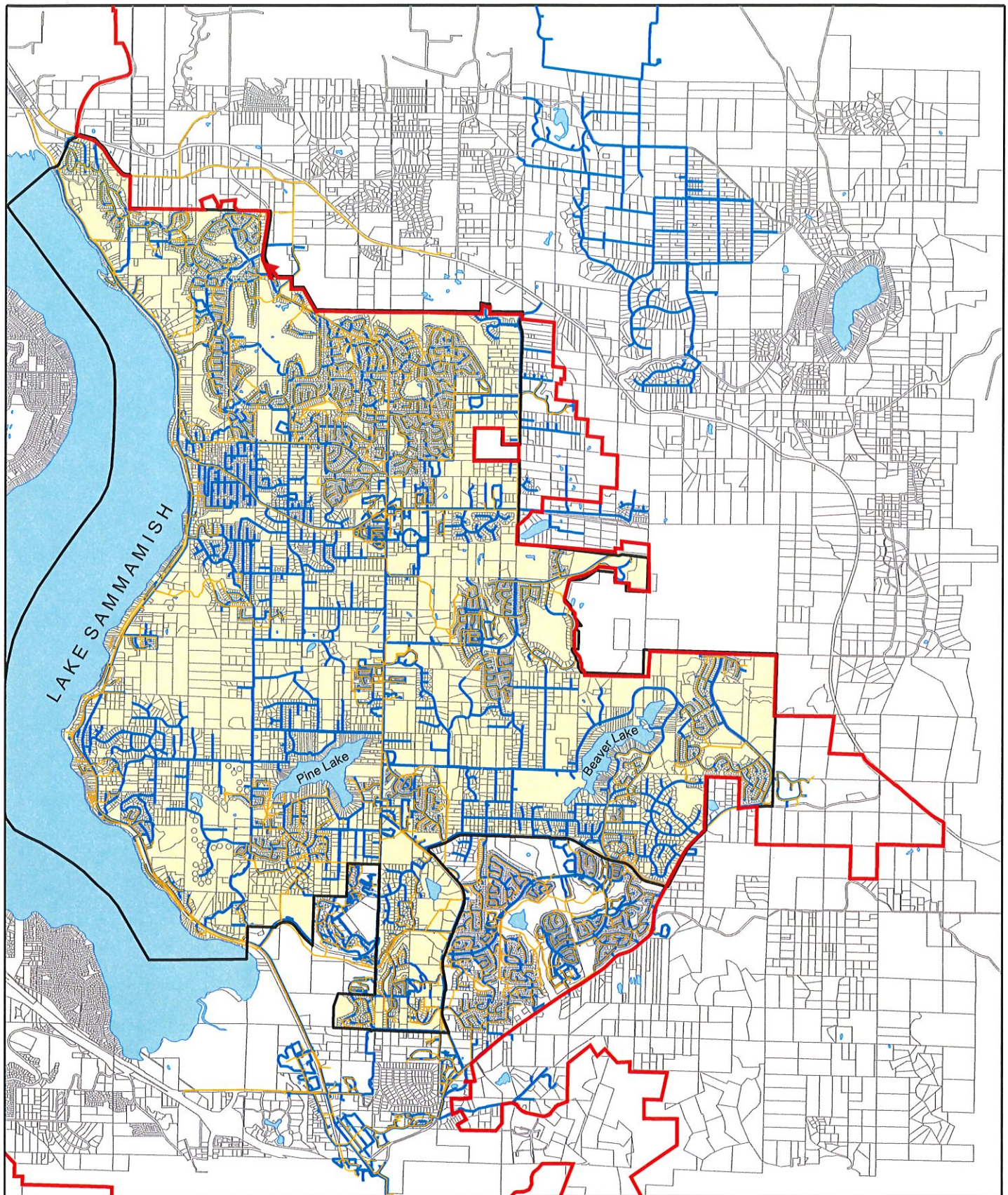
##### *Existing Conditions - Water*

Water facilities serving the City of Sammamish are provided primarily through the Sammamish Plateau Water and Sewer District. The northern portion of the city is served by the Northeast Sammamish Sewer and Water District. For more detailed information on existing water facilities serving the City of Sammamish, consult the Sammamish Plateau Water and Sewer District Comprehensive Water Plan and the Northeast Sammamish Sewer and Water District Water Comprehensive Plan.

The Sammamish Plateau Water and Sewer District is a Class A water system which is hydraulically divided into two parts: the Plateau Zone, located south of Redmond-Fall City Road, and the Cascade View Zone, located north of Redmond-Fall City Road. Both zones, especially the Plateau Zone, have experienced rapid population growth, particularly during the last decade. The District has responded to growth by seeking additional groundwater sources as well as pursuing connection to the regional water supply, including a regional water connection in conjunction with the Cascade Water Alliance. The Plateau Zone has 14 wells spaced throughout the Plateau Zone and five storage tanks. This zone has two interties with Issaquah, one intertie with the Overdale Water Association, and four interties with the Northeast Sammamish Sewer and Water District. The Cascade View Zone is served by three wells and two storage tanks, with interties with the Union Hill Water Association for emergency use. Due to the escalating water demand caused by rapid development in the Plateau Zone, a water allocation process was implemented in 1998 (after 9 years of intermittent temporary moratoriums) to randomly select applications for water ERUs.

Within the Northeast Sammamish Sewer and Water District, water is supplied by five groundwater wells. Three of the production wells, and a monitoring well, are located in the Evans Creek Valley. The other two wells (Well 3 and 4) are located in the Plateau above Evans Creek Valley and ground elevations 200 to 300 feet higher than the Evans Creek Well Field. Water treatment of the supply from the five production wells is not currently required except for Well 3, which is chlorinated at a sufficient concentration to control hydrogen sulfide presence in this water supply. This well is only activated during periods of peak demand.





## Water and Sewer Service Lines

Plot Date: September 2003

### Legend:

 UGA   
  City Limits   
  City Tax Lots   
  Lakes   
  Sewer   
  Water

Scale 1 Inch = 1 Mile

0.5 0.25 0 0.5  
Miles



SOURCES: King County GIS #3, Standard Data dated April 2003 and Sammamish Plateau Water/Sewer District, March 2002 and NE Sammamish Plateau Water Sewer District, November 2002.

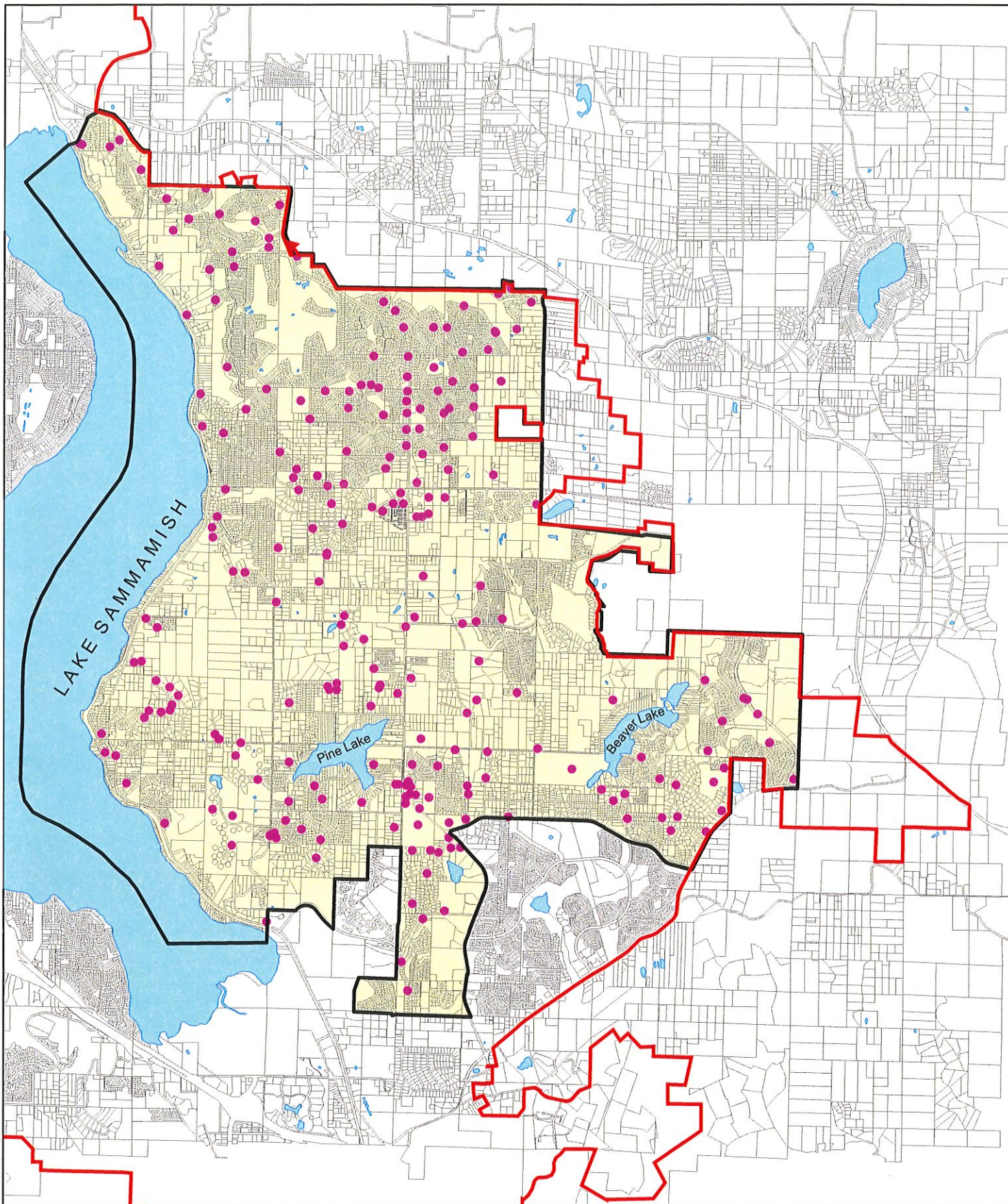
DISCLAIMER: This map is derived from various data sources. While care has been taken to ensure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided "as is".

**Figure VII-2**



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# Surface Water Facilities (Retention/Detention)

Plot Date: September 2003

## Legend:

- UGA
- City Limits
- Lakes
- City Tax Lots
- Retention/ Detention Facility

SOURCES: King County GIS, Dated April 2003.

DISCLAIMER: This map is derived from various data sources. While care has been taken to ensure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided "as is".

Scale 1 Inch = 1 Mile

Miles  
0.5 0.25 0 0.5

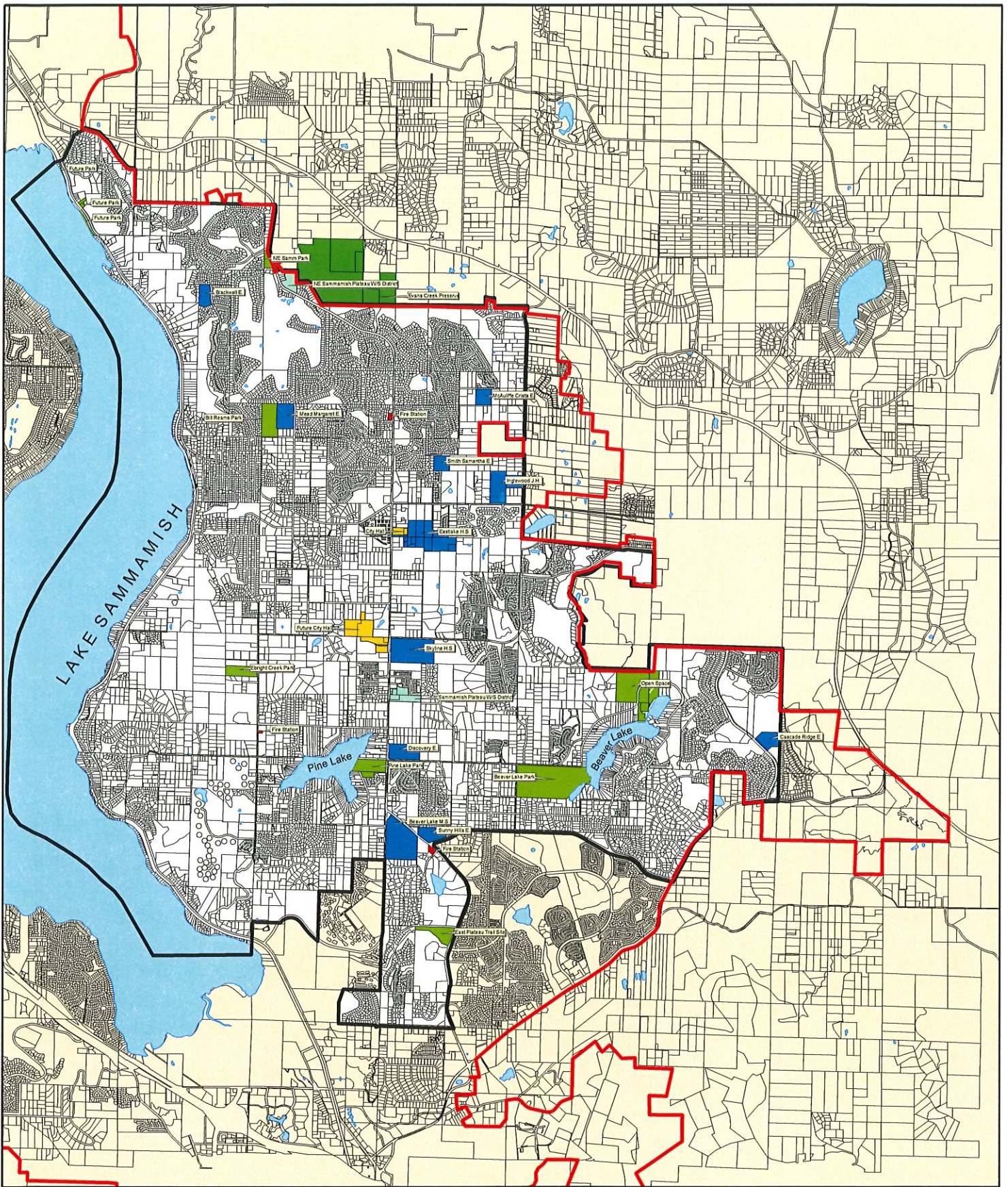


**Figure VII-3**



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## Public Facilities

Plot Date: September 2003

### Legend:

- ~ UGA
- ~ City Limits
- Lakes
- City Tax Lots
- City Hall
- Public Schools
- Parks & Open Space
- Water & Sewer District
- Fire Station

SOURCES: King County GIS CD #3, Standard Data, dated April 2003 and City of Sammamish data, dated July 2003.

DISCLAIMER: This map is derived from various data sources. While care has been taken to ensure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided "as is".

Scale 1 inch = 1 Mile

Miles  
0.5 0.25 0 0.5

**Figure VII-4**



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The Northeast Sammamish Sewer and Water District also has an emergency intertie with the City of Redmond. The current water rights held by the Northeast Sammamish Sewer and Water District appear to be more than adequate to meet the demand within the District's service area through the year 2020. However, changes in a rural designation of land use for the Evans Creek Valley or any portion of it could quickly increase the demand on the system.

#### *Projected Needs - Water*

The Sammamish Plateau Water and Sewer District based its analysis of future need on current zoning on an individual parcel level, including existing development, sensitive areas, topography and other features. An average growth rate of 4 percent was assumed until buildout, anticipated in the year 2015, with a population of 79,441 within the Plateau Zone of the District (includes Klahanie). Future need was based on a level of service of 246 gallons per household (ERU) per day. The District is investigating the procurement of new water supplies to meet projected increases in demand resulting from growth in its service area. One of the District's objectives is to obtain enough water to allow buildout to saturation, which is anticipated to occur around 2015. As a supply strategy, the District would prefer to remain independent of the regional water system and continue to serve its customers with groundwater. However, the District is also being prudent in pursuing regional alternatives as a backup strategy. A supply study conducted for the District identified 13 alternatives for obtaining additional sources of water to supplement the District's current supplies, with 6 more alternatives subsequently added for consideration. After extensive analyses, the Board decided to pursue a combination of alternatives to meet the District's projected supply needs. These alternatives are presented in the District's Six-Year Water Capital Facility Plan in **Appendix B**.

The Northeast Sammamish Sewer and Water District based its analysis of future need on the 1995 Puget Sound Regional Council (PSRC) forecasting model, the District's history of metered connections, current contracts for service to new development, and an analysis of the future potential for development in the planning area. The increase in households through the year 2020 is expected to be 873, with a total of 3,670 households. Future need was based on a level of service of 271 gallons per household (ERU) per day. While the water supply and hydraulic capacity are sufficient to meet expected growth, the capacity of the storage system is limiting and additional storage capacity will be required by the year 2006. In addition, evaluation has identified deficiencies for fire flow in the water supply, including the need for emergency power for to assure continued supply, and hydraulic capacity in the distribution system of the Sahalee Estates Plat. Each of these deficiencies, including the need for additional storage, is addressed in the District's Six-Year Water Capital Facility Plan in **Appendix B**.

### **Sewer**

#### *Existing Conditions - Sewer*

The City of Sammamish is provided sewer service through two districts: Sammamish Plateau Water and Sewer District and the Northeast Sammamish Sewer and Water District. For more detailed information on existing sewer facilities serving the City of Sammamish, consult the Sammamish Plateau Water and Sewer District Comprehensive Wastewater Plan and the Northeast Sammamish Sewer and Water District Sewer Comprehensive Plan.

The Sammamish Plateau Water and Sewer District is currently in the process of developing an updated sewer capital facility plan, which will reflect existing conditions of the sewer system within the District. The current Wastewater Comprehensive Plan is dated 1987/1988 with an amendment in 1994. This updated plan should be completed in 2003. In reviewing existing locations of sewer lines, the District has sewer service primarily along major roads, including Inglewood Hill Road (except between 224<sup>th</sup> Avenue NE and 211<sup>th</sup> Avenue NE), NE 8th Street, 228th Avenue, and E. Lake Sammamish.



Most of the planning area within the Northeast Sammamish Sewer and Water District is already sewered, with minimal opportunities for extension to occur; mostly as a result of development infill. The sewer system is comprised of 15 collection basins serving approximately 2,400 acres with 53 miles of sewer pipe and 13 lift stations. Wastewater is discharged to King County Water Pollution Control Facilities in the City of Redmond.

#### *Projected Needs - Sewer*

The Sammamish Plateau Water and Sewer District is currently in the process of developing an updated sewer capital facility plan, which will reflect projects to be undertaken by the District within the next six years. The District should be close to completion on the plan by 2003.

The Northeast Sammamish Sewer and Water District calculated the volume of wastewater it must convey at saturation development, based on the 1996 King County Comprehensive Plan and the 1995 King County Zoning Atlas. Based on historical growth within the District, the average rate of growth in customers is anticipated to be 1.6 percent per year from 2000 to 2010, and 0.4 percent per year from 2010 to 2020. In the year 2020, capacity is anticipated to be reached under current zoning, with a population of 14,500 within the District. Few capacity problems are projected to occur due to growth. Most of the anticipated capacity problems are due to the impact of lift stations pumping into the sewer system immediately downstream. The District will monitor these locations to identify the need for capital improvements. Several sections of the existing sewer system are expected to be over capacity at full development. These sections will be replaced with larger pipes as identified in the District's Capital Improvement Plan. As part of the plan development process, the District analyzed the existing system and discovered infiltration and inflow (I/I) during large infrequent storm events, minor lift station deficiencies, minor capacity constraints, telemetry and control limitations, and wastewater quality problems. The improvements to correct these problems are listed in the District's Six-Year Sewer Capital Facility Plan in **Appendix B**.

### **Stormwater**

#### *Existing Conditions - Stormwater*

In 2001, a *Stormwater Management Comprehensive Plan* was developed by the City in compliance with the regulatory requirements of the Growth Management Act, the National Pollutant Discharge Elimination System (NPDES) Phase II Rule, and the Puget Sound Water Quality Management Plan.

An inventory of the constructed drainage system was conducted by the King County Surface Water Management (KCSWM) and Roads Maintenance Divisions in the mid 1990s. The information from these sources covers approximately one-third of the current area of the City. To obtain more data, the City and SPWSD jointly hired a contractor to update the drainage inventory information. The City's stormwater facilities consist of the following system elements:

- 408,947 feet of stormwater conveyance pipe,
- 3,519 catch basins,
- 501,659 feet of open ditches,
- 154 residential retention/detention stormwater facilities,
- 34 commercial retention/detention stormwater facilities,
- 18 oil/water separators,

- 21 regional facilities (channels, pipes, enclosed drains).

King County is currently the stormwater system maintenance service provider for the City, with the contract administered through two departments, the Department of Transportation and the Department of Natural Resources.

As part of the Stormwater Management Comprehensive Plan, the following four alternatives for service delivery were explored:

- Alternative 1: Continue to contract with King County,
- Alternative 2: Contract with a Utility District,
- Alternative 3: Contract with a Neighboring City,
- Alternative 4: Develop In-House Capability.

During the development of the Stormwater Management Comprehensive Plan, Alternatives 1 and 2 appeared to be the most viable. Alternative 3 does not appear to be a viable option at this time, based on inquiries to five neighboring jurisdictions. Alternative 4 is part of the City's long-term vision, and is an option that is likely to be reconsidered as the City's staff and capabilities expand. The City solicited proposals from three potential service providers and selected a shared service provision contract, with some services provided by King County and others by the Sammamish Plateau Water and Sewer District.

#### *Projected Needs - Stormwater*

In determining future need, the City utilized a total buildout population of 76,000 in the year 2014. Because this is the first stormwater CIP for the City, this program focuses initially on clearly identifiable localized problems. The CIP addresses future projects that require considerable analysis, design, and/or large amounts of funding. This plan includes recommendations to include King County Basin Study Projects that would have regional or significant local improvement benefits. The stormwater CIP also includes drainage elements of transportation projects identified in the City's Transportation Improvement Program (TIP).

The CIP includes the following project types:

- Two "Quick Fix" projects. These projects can be pursued with minimal analysis or design and pose no obvious substantial risk to downstream property or resources. The projects do not require the mobilization of equipment larger than a backhoe or small dump truck, nor do they involve complicated permitting. The projects are not expected to exceed \$40,000 each, but they will allow high-priority problems to be resolved quickly and will demonstrate that the City is improving its stormwater infrastructure. The CIP also recommends that \$50,000 per year be set aside for as-yet unidentified "Quick Fix" projects that might result in the years following the initial improvements.
- One "Study" project. This project requires investigation before the capital needs can be determined.
- Eleven "Simple Design/Construction" or "Study" and "Simple Design/Construction" projects. These projects have a minimal degree of complexity and require a limited amount of analysis and/or design. Some permitting might be involved. It is not expected that the costs for these projects will exceed \$100,000 (with the exception of one \$120,000 project).



- Twenty “Study/Design/Construction” projects. These projects are complex and require a large amount of analysis and/or design. They might also have complex permitting issues. Anticipated costs of these projects range from \$11,000 to \$1,200,000.
- One “Construction Only” project. This transportation drainage project is currently under way; the design phase was completed before this CIP was developed.

The 25 CIP projects identified through the King County Basin Studies vary in type, but most involve analysis, design, and construction. These CIP Projects may be found in the Stormwater CIP tables located in **Appendix B**.

## **Public Educational Facilities**

### *Existing Conditions – Public Education*

The City of Sammamish is served by the Lake Washington School District #414 (LWSD) and the Issaquah School District #411 (ISD) for public elementary, junior and high school education. The Lake Washington School District Capital Facility Plan and the Issaquah School District Capital Facility Plan should be consulted for more detailed information regarding school facility development planning in the Sammamish area. The City of Sammamish adopted its original school impact fee ordinance in September of 1999 to fund capital facilities within these school districts.

The following Lake Washington School District schools are either located within the City limits of Sammamish or serve the City of Sammamish:

- Blackwell Elementary,
- McAuliffe Elementary,
- Mead Elementary,
- Smith Elementary,
- Inglewood Junior High, and
- Eastlake High School.

The following Issaquah School District schools are either located within the City limits of Sammamish or serve the City of Sammamish:

- Cascade Ridge Elementary,
- Endeavor Elementary,
- Challenger Elementary,
- Sunny Hills Elementary,
- Discovery Elementary,
- Pine Lake Middle School,
- Beaver Lake Middle School, and
- Skyline High School.

*Projected Needs – Public Education*

The Lake Washington School District established a “standard of service” in order to ascertain current and future capacity (see Policy CF-1.2.1). School capacity is based on the district standard of service and the existing inventory. The district’s overall capacity is 24,810 Full-Time Equivalent (FTE) students. For this same period of time, student enrollment is 22,835. Enrollment is projected to decline to 22,459 FTE in 2006. Though there is an overall decrease, growth in the Redmond area will necessitate the construction of one elementary and enrollment will exceed capacity through the 2005 school year. In addition, the district will modernize six elementary schools, two junior highs and one senior high school. All of these schools are planned to receive some additional permanent capacity to replace relocatable classrooms. None of the schools projected to be built or modernized within the Lake Washington School District are within the Sammamish city limits.

The Issaquah School District also established a “standard of service” in order to ascertain current and future capacity (see Policy CF-1.2.1). The District compared enrollment forecasts with permanent capacity figures to determine the need for new schools, based on grade level and geography. The 2000 Issaquah School District Capital Facilities Plan proposes the construction of three elementary schools, a middle school, modernization of three support facilities, expansion of two elementary schools, purchase of portable classrooms, site improvements and land acquisition(s). The planned facilities will be funded by a bond issue passed on April 27, 1999, school impact fees, and reserve funds held by the district. New school facilities are a response to new housing which the county or cities have approved for construction. The new middle school is proposed just outside of the city limits of Sammamish at 244th SE and Issaquah-Fall City Road and the new Cascade Ridge Elementary is just east of the city at 2020 Trossachs Boulevard SE. The location of the other two elementary schools are yet to be determined.

A Six-Year Finance Plan for each district is located in **Appendix B**.

It should be noted that with the long-term implementation of the Comprehensive Land Use Plan in Chapter III, students would likely be added to both school districts, potentially 3,000 +/- students combined between the two districts. The School Districts would address capital needs to accommodate changing enrollment levels at expanded or new schools in future Six-year Capital Facility Plans. Additional information may be found in the Comprehensive Plan Supplemental Environmental Impact Statement under separate cover.

**Fire and Emergency Medical Response Services**

*Existing Conditions – Fire and Emergency Response*

The Eastside Fire and Rescue District serves the City of Sammamish with a full-range of fire suppression and emergency medical response services. At the present time there is no formal capital improvement plan adopted by the Board of Directors of Eastside Fire & Rescue. However, the Eastside Fire and Rescue District (EFRD) is applying to be an accredited fire department and has a consultant on board to study district services.

The District receives around 8,000 calls annually, and about 70% are EMS calls. The Fire District does not have an official response time policy. As an administrative goal, they would like to achieve a 6 minute response time for 90% of their calls. The EFRD is beginning to track how well the goal is met as shown in **Table VII-B**. The response time statistics given are from the Dispatcher's cued call to the time on the scene.



**TABLE VII-B  
EASTSIDE FIRE & RESCUE RESPONSE STATISTICS FOR 2001**

|                    | <b>DISTRICT-<br/>WIDE</b> | <b>STATION 81<br/>2030 212<sup>th</sup> Ave. SE<br/>RESPONSE<br/>AREA</b> | <b>STATION 82<br/>1851 228<sup>th</sup> Ave NE<br/>RESPONSE<br/>AREA</b> | <b>STATION 83<br/>3425 Issaquah-Pine<br/>Lake Rd. SE<br/>RESPONSE<br/>AREA</b> |
|--------------------|---------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| <b>Total Calls</b> | <b>7,193</b>              | <b>302</b>                                                                | <b>883</b>                                                               | <b>1423</b>                                                                    |
| EMS Calls          | 5,109                     | 228                                                                       | 597                                                                      | 955                                                                            |
| EMS % of Calls     | 71%                       | 76%                                                                       | 68%                                                                      | 67%                                                                            |
| Response Time *    | 7:18                      | 7:08                                                                      | 6:49                                                                     | 7:01                                                                           |
| EMS Response Time* | 6:56                      | 6:42                                                                      | 6:31                                                                     | 6:41                                                                           |

\* Time includes time dispatched to time on scene

Source: Eastside Fire and Rescue, April 2002

The number of personnel per shift at Stations 81, 82, and 83 is four, which includes three firefighters and one officer per shift for each station. Prior to incorporation of the City of Sammamish the number of firefighters assigned among the three stations per shift was 8; now it is 9. The District does not have an adopted standard of service for X firefighters per 1,000 population.

#### *Projected Needs – Fire and Emergency Response*

The Eastside Fire and Rescue District plan two major capital improvement projects over the next six years. In the year 2002, the District plans to remodel and update Station 81 at a cost of \$250,000. In the year 2006, the district plans to add a new station 84 in the Trossachs area. This new station would cost approximately \$2 million in 2002 dollars plus planning and design costs. This figure does not include land acquisition costs; funds have been allocated for land acquisition from the 1998 voter approved King County Fire District 10 bond issue. The district continues to search for property in the Trossachs area with anticipated construction planned for 2007/08.

Currently the Eastside Fire and Rescue District is working with the City of Sammamish to institute a fire impact fee, similar to the City of Issaquah. Although mentioned in the City budget, there have been no discussions between the City and the Fire District regarding the City becoming the fire service provider.

## **Police**

#### *Existing Conditions - Police*

The City of Sammamish contracts with the King County Sheriff's Department to provide crime prevention and law enforcement in the City of Sammamish. The Sammamish Station is located at 482 228th Avenue Northeast. The station currently has 21 police officers dedicated to policing the area, resulting in a level of service of 1 officer per 1,600 residents of the City of Sammamish. The King County Sheriff's Department has issued a year 2000 Annual Report which includes the following data for the City of Sammamish as compared to countywide figures:

**TABLE VII-C**  
**POLICE SERVICES – 2000**

| TYPE OF CASE                    | SAMMAMISH | SAMMAMISH<br>CRIME<br>RATE* | KING<br>COUNTY | KING COUNTY<br>CRIME RATE* |
|---------------------------------|-----------|-----------------------------|----------------|----------------------------|
| Part I Crimes                   | 543       | 15.71                       | 19,842         | 35.20                      |
| Part II Crimes                  | 735       | 21.27                       | 20,185         | 35.81                      |
| Arrests                         | 437       |                             | 12,150         |                            |
| Dispatched Calls for<br>Service | 3,880     |                             | 124,844        |                            |
| Traffic Citations<br>Issued     | 1,873     |                             | 45,758         |                            |
| Accident<br>Investigations      | 221       |                             | n/a            |                            |

\*Crime rate is calculated on the basis of the number of crimes per 1,000 people.

Source: King County Sheriff's Office, 2001

As noted in **Table VII-C**, the crime rate is much lower in Sammamish than for the County service area as a whole.

#### *Projected Needs - Police*

Specific objectives and programs planned for the City of Sammamish within the next year may be reviewed within the City of Sammamish 2001-2002 Budget. No major capital facilities are planned within the City of Sammamish within the next six years.

### **City Hall**

#### *Existing Conditions – City Hall*

The City of Sammamish currently leases City Hall office space and a portable office unit. The lease cost is \$365,000 per year. Additional office space will be necessary for additional employees in the future.

#### *Projected Needs – City Hall*

A new City Hall is proposed and is in a design phase. The future City Hall is estimated to be 40,000 square feet in size. The total acreage for both a Civic Center and Park is 36 acres, in the vicinity of SE 8th Street and 228th Avenue NE. The City is preparing a Civic Center and Park design study at the time of this writing.

## **GOALS - UTILITIES**

**GOAL UG 1:**      **Ensure that privately provided utilities, including electricity, natural gas, cable television, and communication, are available or can be provided to serve the community.**

**GOAL UG 2:**      **Coordinate the timing and location of utilities to minimize cost and disruption.**



- GOAL UG 3:** Facilitate the provision of reliable utility service in a way that reduces environmental and safety impacts while allowing for a fair and reasonable price for the utility's product.
- GOAL UG 4:** Encourage undergrounding of overhead utilities and co-location of utilities to reduce aesthetic impacts and service disruptions.
- GOAL UG 5:** To the greatest extent possible, encourage the placement of personal wireless communication facilities in a manner that minimizes adverse impacts on adjacent land uses, and encourage siting and design of communication facilities in a manner that provides the least impact on the aesthetic character of the community.
- GOAL UG 6:** Stay abreast of scientific research and changes in legislation regarding electromagnetic fields.
- GOAL UG 7:** Promote and support energy conservation.
- GOAL UG 8:** Monitor the delivery of solid waste services provided by King County and waste handlers to ensure appropriate service levels are provided at a reasonable cost.

## **GOALS & POLICIES - UTILITIES**

- GOAL UG 1:** Ensure that privately provided utilities, including electricity, natural gas, cable television, and communication, are available or can be provided to serve the community.
- UP-1.1** The City should ensure that City regulations allow for improvements and additions to electric, natural gas, cable television, and telecommunication facilities as needed to improve service and reliability and accommodate growth.
- UP-1.2** The City should furnish regular updates of population, employment, and development projections to private utilities and service providers in order to ensure appropriate services will be available as needed.
- UP-1.3** The City shall require franchise agreements where necessary for private utility use of the City rights-of-ways.
- UP-1.4** The City should support the availability and efficient use of electricity and natural gas and alternative energy sources.
- UP-1.5** The City should encourage state of the art telecommunication services as a means to offset the transportation impact of traditional development and growth.

UP-1.6      The City should support cable video and high speed data services that meet the cable-related needs and interests of all segments of the community, taking into account the cost of meeting such needs and interests.

**GOAL UG 2:              Coordinate the timing and location of utilities to minimize cost and disruption.**

UP-2.1      The City should strive to notify private utilities and service providers of construction work in the public rights-of-way which may affect their equipment, and encourage coordination of public and private utility trenching activities for new construction and maintenance and repair of existing roads.

UP-2.2      When reasonably feasible, the City should promote co-location of new public 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.

**GOAL UG 3:              Facilitate the provision of reliable utility service in a way that reduces environmental and safety impacts while allowing for a fair and reasonable price for the utility's product.**

UP-3.1      The City should require in the planning, siting, and construction of all electrical facilities, systems, lines, and substances, reasonable cost-effective steps that reduce exposure to potential health effects.

UP-3.2      Where possible, the City should require utilities to define alternative routes to avoid impacts to environmentally sensitive areas.

UP-3.3      The City should require co-location of utility facilities and equipment where feasible, to minimize aesthetic impacts and increase efficiency in service.

UP-3.4      The City should obtain and review technical reports and model ordinances that establish safety parameters and appropriate land uses in proximity to natural gas pipelines. If the City chooses to adopt a pipeline safety ordinance, the City should review existing franchise agreements with service providers, and coordinate with the appropriate parties in the adoption of a new ordinance, including, but not limited to, the Puget Sound Energy and the Williams Pipeline Corporation.

UP-3.5      The City shall prepare regulations to preserve and protect trees in easements, rights-of-way, parks, and potentially, under certain circumstances, private property. These regulations shall include, but shall not be limited to, guidelines for utility providers, private firms, City contractors and staff, as well as private individuals and neighborhood associations regarding appropriate practices for the pruning, maintenance, and/or removal of trees.

UP-3.6      Utility companies shall perform pressure checks on a regular basis to ensure proper function and safety of the gas utility/transmission lines.



**GOAL UG 4:           Encourage undergrounding of overhead utilities and co-location of utilities to reduce aesthetic impacts and service disruptions.**

- UP-4.1           To the extent feasible, the City should require underground utility networks in new developments in the City.
- UP-4.2           Where significant work in existing rights-of-way will occur, the City should coordinate with service providers to investigate the possibility of buried lines where existing overhead lines are presently located.
- UP-4.3           The City should consider creating a funding mechanism for undergrounding of utilities on a continuing basis in developed areas.
- UP-4.4           The City should consider requiring undergrounding of new utility distribution lines, except where undergrounding would cause greater environmental harm than alternatives, or where the Washington Utilities and Transportation Commission tariff structure is not consistent with the policy.

**GOAL UG 5:           To the greatest extent possible, encourage the placement of personal wireless communication facilities in a manner that minimizes adverse impacts on adjacent land uses, and encourage siting and design of communication facilities in a manner that provides the least impact on the aesthetic character of the community.**

- UP-5.1           The City should encourage permit applicants for wireless communications facilities to submit an area wide plan that demonstrates the lowest land use impacts consistent with telecommunication customer needs.
- UP-5.2           The City should promote the following list of zoning districts as the preferred and descending order for locating personal wireless communication facilities: Office, Community Business, Neighborhood Business, Multifamily zones (R-12 through R-18), park sites, and Single Family Residential zones (R-1 through R-8).
- UP-5.3           The City should require the following list of system designs as the preferred and descending order for facility type: attached to public facility structures; building mounted; integrated with utility poles, light standards, and signal supports; co-located on utility poles, light standards, and signal supports; co-located on existing Communication, Broadcast and Relay Towers; and freestanding towers.
- UP-5.4           The City should encourage upgrading of wireless communication facilities as improvements in telecommunications technology create smaller and less visually intrusive facilities.
- UP-5.5           Telecommunications companies should propose the construction of new freestanding facility towers and structures only when no feasible alternative exists, or when visual intrusion is less than the visual intrusion that is associated with placing the facility on an existing structure or building.

UP-5.6 Telecommunications companies should consider the use of street light poles owned by the City or by Puget Sound Energy to install wireless equipment compatible with the lighting function.

UP-5.7 For infrastructure opportunities on City property, other than street rights-of-way, offer appropriate City-owned properties for lease to install wireless communications equipment that is compatible with existing City uses of the sites and consistent with land use requirements.

UP-5.8 The City should encourage the co-location of telecommunications equipment on City sites which reduce total impact of antennas on the community.

**GOAL UG 6: Stay abreast of scientific research and changes in legislation regarding power-line electromagnetic fields.**

UP-6.1 The City should periodically review the state of scientific research on power-line electromagnetic fields (EMF), and make changes to policies if the situation warrants.

UP-6.2 The City should encourage the development of regional and statewide policies regarding exposure to power-line electromagnetic fields (EMF) through a process involving local, regional and State governments, as well as electric utilities. As part of this process, the City should encourage the use of best available science in the development of the policies.

UP-6.3 The City should consider educational and regulatory measures aimed at prudent avoidance of potential power-line EMF exposure such as:

- Siting power lines to reduce exposures and exploring with service providers measures to reduce the creation of magnetic fields around transmission and distribution lines without creating new hazards,
- Encouraging service providers to measure fields in their customers' homes and help them to identify sources of high fields; and,
- Encouraging underground electrical lines wherever practical consistent with the policies of this Element.

**GOAL UG 7: Promote and support energy conservation.**

UP-7.1 The City should continue to enforce State Energy Code requirements.

UP-7.2 The City should work with electrical utilities to encourage the public to conserve electrical energy through public education.

UP-7.3 The City should review and update codes as necessary regarding solar energy and other alternative energy sources.

UP-7.4 To create a pleasing environment and to increase energy efficiency by reducing heat absorbed by asphalt that increases ambient temperatures, the City should:



- a. Develop a street tree and landscape ordinance specifying appropriate vegetation types,
- b. Require the planting of specified trees along street edges, parking areas, and other locations where feasible,
- c. Support electric service provider street tree programs, and local community urban forestry programs.

**GOAL UG 8:**            **Monitor the delivery of solid waste services provided by King County and waste handlers to ensure appropriate service levels are provided at a reasonable cost.**

- UP-8.1            The City should support the planning of solid waste services, and the provision of disposal capacity on a regional basis.
- UP-8.2            The City should monitor the levels of solid waste service and costs currently provided to the Sammamish community through the Washington State Utilities and Transportation Commission's oversight of the local private hauler.
- UP-8.3            The City should coordinate with current service providers to ensure that waste pick-up and curb-side recycling services are reliable.

## GOALS – PUBLIC SERVICES AND CAPITAL FACILITIES

- GOAL CF 1:** Establish appropriate levels of service for public facilities to adequately serve existing and future development.
- GOAL CF 2:** Prepare functional area plans for transportation, parks, stormwater, general government facilities and other municipal functions.
- GOAL CF 3:** Provide adequate public facilities concurrent with the impact of new development.
- GOAL CF 4:** Coordinate capital facility plans with state, county, and local agencies and districts.
- GOAL CF 5:** Maintain a six-year capital facilities plan to implement the Comprehensive Plan.
- GOAL CF 6:** Prepare and maintain a capital facilities plan that is fully funded and financially feasible.
- GOAL CF 7:** Ensure growth pays proportionate costs of capital facilities required to serve the growth.
- GOAL CF 8:** Locate and design capital facilities to realize the community vision, and to be compatible with surrounding land uses and the environment.
- GOAL CF 9:** Ensure comparable levels of service are provided in potential annexation areas and in adjacent jurisdictions.

## GOALS & POLICIES - PUBLIC SERVICES AND CAPITAL FACILITIES

- GOAL CF 1:** Establish appropriate levels of service for public facilities to adequately serve existing and future development.

- CFP-1.1** The City should maintain an inventory of existing public facilities owned or operated by the City, County, State, special districts, or other public entities within Sammamish. Include in the inventory the locations and capacities of such facilities and systems. "Public facilities" means the capital improvements and systems of each of the following:

### General

- City of Sammamish:
  - General Government
  - Law enforcement



- Local parks and recreation services
- Stormwater
- Streets
- Metropolitan King County:
  - Regional parks and recreation services
  - Regional sewer service
  - Transit
- State of Washington:
  - State parks and recreation services

**Special Districts**

- Eastside Fire and Rescue District
- Sammamish Plateau Water and Sewer District:
  - Local water service
  - Local sewer service
- Northeast Sammamish Sewer and Water District:
  - Local water service
  - Local sewer service
- Issaquah School District
- Lake Washington School District
- King County Library System
- Sound Transit

CFP-1.2 The City should establish level of service standards which 1) measure the quality of life based on the City's vision of its future and values, 2) can be achieved and maintained for existing development and growth anticipated in the land use plan, and 3) are achievable with the financing plan of this Capital Facilities Element.

| <b>CITY-OWNED PUBLIC FACILITIES</b> |                                                                                                                                                                                                                                      |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Facility</b>                     | <b>Standard</b>                                                                                                                                                                                                                      |
| <b>General Government Services</b>  | 0.5 square foot per capita, or as otherwise determined through the City Civic Center/Park Study and Master Plan Process.                                                                                                             |
| <b>Local Parks</b>                  | Comply with short term and long term implementation goals for acquisition and development of neighborhood parks, community parks, and open space per the Parks, Recreation, and Open Space Comprehensive Plan ( <b>Appendix C</b> ). |
| <b>Police Services</b>              | Provide a level of service of 0.5 officers per 1,000 residents.                                                                                                                                                                      |
| <b>Surface Water</b>                | Conveyance - Minimum Standards, to be Implemented in accordance with the Surface Water Management Plan:<br><br>Existing Systems - 10 year design storm, 24-hour period;                                                              |

| <b>CITY-OWNED PUBLIC FACILITIES</b> |                                                                                                                                     |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>Facility</b>                     | <b>Standard</b>                                                                                                                     |
|                                     | New Systems - 25 year design storm, 24 hour period; downstream analysis; review 100-year storm event to avoid substantial flooding. |
| <b>Streets</b>                      | See Transportation Element Policy TP-7.3.1.                                                                                         |

| <b>PUBLIC FACILITIES PROVIDED BY OTHERS</b>         |                                                                                                                                                                                                                             |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Facility</b>                                     | <b>Standard</b>                                                                                                                                                                                                             |
| <b>King County Metro</b>                            |                                                                                                                                                                                                                             |
| Transit                                             | See Transportation Element Policy TP-5.1.6 and Policy TP-5.1.9.                                                                                                                                                             |
| <b>Eastside Fire and Rescue District</b>            | 6 minute response time for 90% of calls<br>1 firefighter per 2,800 persons (year 2001 ratio)<br>Meet State/Federal guidelines for minimum number of firefighters at scene of an emergency without reliance on automatic aid |
| <b>Sammamish Plateau Water and Sewer District</b>   |                                                                                                                                                                                                                             |
| Water                                               | 246 gallons per household (ERU) per day                                                                                                                                                                                     |
| <b>Northeast Sammamish Sewer and Water District</b> |                                                                                                                                                                                                                             |
| Water                                               | 271 gallons per household (ERU) per day                                                                                                                                                                                     |
| <b>Issaquah School District</b>                     | Average students per class room<br>20 (grade K-5)<br>26 (grade 6-8)<br>28 (grade 9-12)<br>12 (Special Education classes)                                                                                                    |
| <b>Lake Washington School District</b>              | Maximum class room size<br>18 (grade K-2)<br>20 (grade 3)<br>23 (grade 4)<br>27 (grade 5-6)<br>30 (grade 7-9)<br>32 (grade 10-12)                                                                                           |

- CFP-1.3 The City should use the level of service standards to 1) determine the need for public facilities and 2) test the adequacy of such facilities to serve proposed development. In addition, use the level of service standards for city-owned public facilities to develop the City's annual budget and 6-year Capital Improvements Program.
- CFP-1.4 The City should reassess the Capital Facility Element annually to ensure that public facilities needs, financing, and level of service are consistent with the land use plan. The annual update should be coordinated with the annual budget process, and the annual amendment of the Comprehensive Plan.



**GOAL CF 2: Prepare functional area plans for transportation, parks, stormwater, general government facilities and other municipal functions.**

CFP-2.1 The City should develop functional area plans for City-operated capital facilities to comprehensively assess functional area needs and strategies for addressing such needs. Functional area plans shall guide the development of capital priorities and investment decisions within each functional area. The City should develop and regularly update functional area plans for the following functional areas:

- a. Stormwater and surface water management;
- b. Parks, recreation, and open space;
- c. Transportation; and
- d. General government facilities.

CFP-2.2 The City should maximize opportunities for public involvement when developing functional area plans.

CFP-2.3 The City should develop or amend functional area plans as necessary to ensure consistency generally with the adopted Comprehensive Plan and specifically with its planning assumptions, growth projections, service area phasing and annexation policies.

CFP-2.4 Upon adoption of the City Comprehensive Plan, the City should work with other governmental agencies or special districts to ensure that their functional plans, such as water, sewer, fire suppression/EMS, etc. are consistent with the City Comprehensive Plan, particularly planning assumptions, growth projections, service area phasing and annexation policies.

CFP-2.5 Upon approval by the City and all appropriate County and State agencies, the adopted City functional area plans are considered to be incorporated into the Comprehensive Plan by reference. The plans may be amended as needed to reflect changing development trends or to update the plans as new facilities are constructed. The following plans are hereby adopted by reference:

- a. Stormwater: Stormwater Management Comprehensive Plan
- b. Parks: Parks, Recreation and Open Space Comprehensive Plan
- c. Transportation: Transportation Plan
- d. General Government Facilities: City Budget.

**GOAL CF 3: Provide adequate public facilities concurrent with the impact of new development.**

CFP-3.1 The City should ensure public facilities and services are provided concurrent with the impact of new development or redevelopment, including stormwater, roads, and local parks. Require that non-City public facilities are provided concurrent with the impact of new development or redevelopment, including water and wastewater. Consistent with the Growth Management Act, road improvements may be provided at the time of or within six years of development.

CFP-3.2 Agencies providing services or facilities, including the City, County, Special Districts, etc. should make the most efficient use of existing public facilities, including techniques such as:

- Conservation
- Demand management
- Improved scheduling
- Encourage development that uses existing facilities
- Contracting for services
- Other methods of improved efficiency.

CFP-3.3 Agencies providing services or facilities should provide additional public facility capacity when existing facilities are used to their maximum level of efficiency consistent with adopted standards for levels of service.

CFP-3.4 The City shall encourage development where adequate public facilities and services exist or can be provided in an efficient manner.

CFP-3.5 The availability of adequate water and sewer service shall be required for new development.

CFP 3.6 The City shall require connections to sanitary sewers in accordance with the provisions of state law, including but not limited to the requirement that a proposed new development located within 200 feet of a sewer line must connect to the sanitary sewer.

**GOAL CF 4:           Coordinate capital facility plans with state, county, and local agencies and districts.**

CFP-4.1 The City shall coordinate with non-City providers of public facilities on a joint program for maintaining adopted levels of service standards, funding, and construction of capital improvements. The City shall work in partnership with non-City public facility providers to prepare functional plans consistent with the City of Sammamish Comprehensive Plan.

CFP-4.2 The City should establish interagency planning mechanisms to assure coordinated and mutually supportive capital facility plans from non-City providers of public facilities.

- a. Establish priority areas for infrastructure improvements consistent with the City's vision.
- b. Annually assess development trends and infrastructure provision to identify and remedy deficiencies or need to reassess the land use plan.

CFP-4.3 Upon approval by the applicable District and all appropriate County and State agencies, the adopted non-City facility plans are considered to be incorporated into the Sammamish Comprehensive Plan by reference. The plans may be amended as needed to reflect changing development trends or to update the plans as new facilities are constructed. The following plans are hereby adopted by reference:



- a. Schools: Issaquah School District Capital Facilities Plan, and Lake Washington School District Capital Facilities Plan
- b. Water: Sammamish Plateau Water and Sewer District Water Comprehensive Plan; and Northeast Sammamish Sewer and Water District Water Comprehensive Plan
- c. Sewer: Sammamish Plateau Water and Sewer District Comprehensive Wastewater Plan, and Northeast Sammamish Sewer and Water District Sewer Comprehensive Plan.

**GOAL CF 5:            Maintain a six-year capital facilities plan to implement the comprehensive plan.**

CFP-5.1            The City should prepare and utilize the six-year Capital Facilities Plan to identify City capital projects and Special District capital projects necessary to respond to the planned growth of the community and maintain desired levels of service.

CFP-5.2            The six-year Capital Facilities Plan should integrate all of the community's capital project resources such as grants, bonds, city funds, donations, impact fees and other available funding.

CFP-5.3            The City should maintain the Capital Facilities Plan as follows:

- a. Provide for annual review of the Capital Facilities Plan by the City Council and incorporate a citizen participation process.
- b. Ensure that the Capital Facilities Plan:
  - Is consistent with the overall Comprehensive Plan
  - Defines the projects' need and links to levels of service and facility plans
  - Includes construction costs, timing, and funding sources, and considers operations and maintenance impacts where appropriate
  - Establishes priorities for capital project development

**GOAL CF 6:            Prepare and maintain a capital facilities plan that is fully funded and financially feasible.**

CFP-6.1            The City should base the financing plan for public facilities on realistic estimates of current local revenues and external revenues that are reasonably anticipated to be received by the City.

CFP-6.2            The City should finance the six-year Capital Improvements Program within the City's financial capacity to achieve a balance between available revenue and needed public facilities. If the projected funding is inadequate to finance needed public facilities based on adopted level of service standards and forecasted growth, the City could do one or more of the following:

- Lower the level of service standard
- Change the Land Use Plan
- Increase the amount of revenue from existing sources
- Adopt new sources of revenue.

CFP-6.3 The City should match revenue sources to capital improvements on the basis of sound fiscal policies.

CFP-6.4 The City should revise the financing plan in the event that revenue sources for capital improvements, which require voter approval in a local referendum, are not approved.

CFP-6.5 The City should ensure that the ongoing operating and maintenance costs of a public facility are financially feasible prior to constructing the facility.

**GOAL CF-7: Ensure growth pays proportionate costs of capital facilities required to serve the growth.**

CFP-7.1 The City should ensure that existing development pays for capital improvements that reduce or eliminate existing deficiencies, and pays for some or all of the cost to replace obsolete or worn out facilities. Existing development may also pay a portion of the cost of capital improvements needed by future development. Existing development's payments may take the form of user fees, charges for services, special assessments, and taxes.

CFP-7.2 City regulations and procedures should ensure that future development pays a proportionate share of the cost of new facilities that it requires. Future development may also pay a portion of the cost to replace obsolete or worn-out facilities. Future development's payments may take the form of voluntary contributions for the benefit of any public facility, impact fees, mitigation payments, capacity fees, dedications of land, provision of public facilities, and future payments of users fees, charges for services, special assessments, and taxes.

**GOAL CF-8: Locate and design capital facilities to realize the community vision, and to be compatible with surrounding land uses and the environment.**

CFP-8.1 Public service and facility providers should consider the quality of public facilities in planning for capital improvements.

- a. Ensure that public facilities design meets appropriate policies in the Land Use Element, and is compatible with the surrounding areas.
- b. Maintain public spaces and enhance their appearance.

CFP-8.2 Public service and facility providers should encourage public amenities and facilities which serve as catalysts for beneficial development.

CFP-8.3 Public service and facility providers should protect public health and environmental quality through the appropriate design and installation of public facilities.

- Promote conservation of energy, water, and other natural resources in the location and design of public facilities.
- Practice efficient and environmentally responsible maintenance and operating procedures for public facilities.



- Preserve existing significant natural vegetation and features in the development of public facilities.

**Goal CF-9:**                    **Ensure comparable levels of service are provided in potential annexation areas and in adjacent jurisdictions.**

CFP-9.1                    The City should regularly coordinate with King County, Issaquah, and Redmond to ensure levels of service for facilities and services are compatible, such as roads, surface water, and others.

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## **VIII. ESSENTIAL PUBLIC FACILITIES ELEMENT**

### **VISION**

The overall vision of the City of Sammamish emphasizes the small-town, suburban character of Sammamish while promoting quality neighborhoods and other amenities such as recreational and educational opportunities, and community gathering places. The vision of this element, therefore, is to establish a process through which essential public facilities are sited in accordance with State law while protecting the community from adverse impacts.

### **PRIMARY ISSUES**

#### **State Requirements and Definitions**

The Growth Management Act (GMA) requires that counties and cities planning under the Revised Code of Washington (RCW) 36.70A.040 include a process for the identification and siting of “essential public facilities” (EPF). Essential public facilities can be government owned and operated facilities, or privately owned facilities that are regulated by public entities. RCW 36.70A.200 states that essential public facilities are “those facilities that are typically difficult to site, such as airports, state education facilities and state or regional transportation facilities as defined in RCW 47.06.140, state and local correctional facilities, solid waste handling facilities, and in-patient facilities including substance facilities, mental health facilities, group homes, and secure community transition facilities as defined in RCW 71.09.020.” This definition is not considered to be all-inclusive, but provides examples of facilities that are difficult to site. Expansions of facilities that are considered to be EPFs, or that support EPFs are to be dealt with as EPFs. The requirement to adopt a process for siting of essential public facilities is due to the difficulties that are associated with finding suitable locations for these types of facilities. These facilities are typically difficult to locate because of perceived or real environmental, economic, or social costs. Facility size, location and adverse impacts such as noise, odor, pollution generation, traffic impacts, aesthetics, and health and safety concerns are examples of some of the characteristics that make essential public facilities difficult to site. Experience shows that there is often public opposition when jurisdictions or service providers consider new locations for essential public facilities. However, RCW 36.70A.200(2)(5) states that “No local comprehensive plan or development regulation may preclude the siting of essential public facilities.”

As a part of the requirement to establish a process for the siting of EPFs, recent legislation also requires cities and counties to establish a process for the siting of “secure community transition facilities” (SCTF). The Washington State Department of Social and Health Services (DSHS) determined SCTF will be sited in 12 of the 39 counties in Washington State between May 2004 and May 2007. As King County is included in the 12 counties, the City of Sammamish is required to provide a process for the siting of secure community transition facilities.

The purpose of the SCTF is to assist sexual offenders in the transition back into society. Only those offenders who have demonstrated progress in treatment and that DSHS has determined will not put the community at risk, will be recommended for transfer to a SCTF. The parameters of the program indicate these facilities would provide a highly structured and intensely supervised environment for sexual offenders. Residents at these facilities must continue treatment while living in the facilities. SCTF are designed to provide a less restrictive, alternative setting for sexual offenders that are on a court-ordered release from the McNeal Island Special Commitment Center. A less restrictive living arrangement is an arrangement that is less restrictive than total confinement and may include a residential facility operated or contracted by DSHS. RCW 71.09.020 states that “a secure community transition facility has

supervision and security, and either provides or ensures that provision of sex offender treatment services.” A SCTF offers 24-hour staffing and supervision by escorts when residents travel off of the premises of the facility. Unless a court order stipulates otherwise, residents travelling off-site must be accompanied, on a one-to-one basis, by a court-authorized escort, even when working at a job.

With the passing of this legislation (3ESSB 6151), the legislature recognized that such facilities would soon be needed throughout the state. Because of the obvious difficulties in the siting of these facilities, the state is requiring that cities and counties adopt a process for the siting of secure community transition facilities.

### **Inventory of Existing and Proposed Essential Public Facilities**

#### **City Essential Public Facilities**

There are at least two existing essential public facilities located in the City of Sammamish: an adult care center, and a shelter, whose locations are kept confidential by the State of Washington.

#### **County Essential Public Facilities**

Based on information provided by King County, the King County has not designated any existing or planned essential public facilities in the City of Sammamish.

#### **State Essential Public Facilities**

According to the Washington State Office of Financial Management’s (OFM) Ten Year Plan by County for King County, there are no proposed capital projects within the City limits of Sammamish (as of April 1, 2002). The City of Sammamish does not include any Highways of Statewide Significance, as depicted in the Transportation Commission List, by Resolution #584, dated December 17, 1998. Interstate 90, to the south of Sammamish City limits, is the nearest Highway of Statewide Significance to the City, and is a critical transportation route for residents of the City of Sammamish.

In addition, there are a number of existing regional transportation capital facilities within or adjacent to the City limits, located at Sahalee Way (SR 202) to Sammamish, the SPAR at Issaquah Highlands, a County project on Front Street to Issaquah Fall City Road, and a County project from Sahalee Way (SR 202) to 50th Street. These projects will benefit the mobility of the City of Sammamish. Policy EPF P-1.2 below establishes a definition for essential public facilities for the City of Sammamish.

## **GOALS**

- GOAL EPF-1:** Establish and periodically evaluate the adopted definition of “Essential Public Facilities” to ensure its adequacy.
- GOAL EPF-2:** Establish a local public review and permit process for essential public facilities.
- GOAL EPF-3:** Participate in a cooperative inter-jurisdictional approach to the siting of essential public facilities in accordance with the King County Countywide Planning Policies.



## GOALS & POLICIES

**GOAL EPF-1:            Establish and periodically evaluate the adopted definition of “Essential Public Facilities” to ensure its adequacy.**

EPFP-1.1    The City should identify essential public facilities based upon the Growth Management Act, State Office of Financial Management list of essential public facilities required or likely to be built, *King County Countywide Planning Policies*, and any City lists which may be developed.

EPFP-1.2    A facility should be classified as an essential public facility if the has one or more of the following characteristics:

- a.    The facility meets the Growth Management Act definition of an essential public facility,
- b.    The facility is on a State, County or City list of essential public facilities,
- c.    The facility serves a significant portion of the County or metropolitan region or is part of a Countywide service system,
- d.    The facility is the sole existing facility in the County for providing that essential public service, or
- e.    The facility, conveyance, or site: (1) is used to provide services to the public; (2) is necessary to adequately provide a public service, or (3) provides services that are delivered by government agencies, private or non-profit organizations under contract to or with substantial funding from government agencies, or private firms or organizations subject to public service obligations.

**GOAL EPF-2:            Establish a local public review and permit process for essential public facilities.**

EPFP-2.1    Essential public facilities shall be allowed in those zoning districts in which they would be compatible. Various facilities shall be classified as permitted, special use, accessory or prohibited based on the purpose of the zoning district and the facility’s potential for adverse impacts on various uses and the environment. If classified as a special use permit, the approval criteria shall be those set out in policy EPF P-2.4.

EPFP-2.2    The City shall review and modify where appropriate essential public facility use allowances to assure appropriate code requirements and zone compatibility.

EPFP-2.3    Essential Public Facility Siting Process. If an applicant proposes development of an essential public facility that is not a permitted, conditional or special use in the Sammamish Development Code, the following process guidelines shall be used by the City in conjunction with any other applicable code authority.

- a.    An agency or organization requests in writing that a proposed facility be reviewed through Sammamish’s essential public facilities siting process. This request should be in the form of a letter to the Director of Community Development, or the current position having the duties of this office, addressing the criteria in 2 below.

- b. The Director of Community Development, or the current position having the duties of this office, shall review this request and grant the application review through the process outline in this policy if the following criteria are met:
  1. The facility meets the definition in policy EPF P-1.2;
  2. The facility is a type difficult to site because of one of the following:
    - the facility needs a type of site of which there are few sites,
    - the facility can locate only near another public facility,
    - the facility has or is generally perceived by the public to have significant adverse impacts that make it difficult to site, or
    - the facility is of a type that has been difficult to site in the past;
  3. It is likely this facility will be difficult to site, and
  4. There is need for the facility and the City of Sammamish is in the facility service area.
- c. The Director of Community Development, or the current position having the duties of this office, shall determine if the facility serves a regional, countywide, statewide or national need. If it does, the Director may condition the review with a requirement that the review process consider sites in parts of the service area outside of the City of Sammamish. If the facility serves a regional, countywide, statewide or national need, a multi-jurisdictional planning process should be used.
- d. The facility shall be reviewed in the same manner as a special use development permit or a rezone, if one or more potential sites would require a rezone, as modified by this policy. Where more than one local government is involved in the review process, Sammamish staff shall participate in the review process and use the data, analysis and environmental documents prepared in that process in the City's review, if the City of Sammamish determines those documents are adequate. If the facility would require a variance or other development permit, those approvals also shall be decided through the special development permit or rezone process.
- e. The Director of Community Development shall require that the facility siting process include a public involvement component that meets the following standards:
  1. At least one public hearing shall be held with notice given in the same manner as a privately initiated, quasi-judicial special development permit or rezone.
  2. An additional public involvement process that gives those who live near the proposed site or sites and those who will use the facility, where appropriate, the opportunity to affect the design and location of the facility. This process may be regional or local.
  3. The potential impact of the proposed facility should be taken into account in deciding the nature of the public involvement process. The public involvement process shall involve those within the zone of likely and foreseeable impacts.



4. The public involvement process shall address the criteria in Policy EPF-P2.4 below, including the need for the facility.

- f. An analysis of the facility's impact on City finances shall be undertaken. If the study shows that locating a facility in a community would result in a disproportionate financial burden on the community, an agreement should be executed to mitigate the adverse financial impact or the approval shall be denied.
- g. The criteria of Policy EPF P-2.4 shall be met.

EPFP-2.4 The City's approval criteria for essential Public Facilities, whether the use is addressed in the City Code as a special use permit or whether the use is processed through policies of this Element, shall include:

- a. Whether there is a public need for the facility.
- b. The impact of the facility on the surrounding uses and environment, the City and the region.
- c. Whether the design of the facility or the operation of the facility can be conditioned, or the impacts otherwise mitigated, to make the facility compatible with the affected area and the environment.
- d. Whether a package of incentives can be developed that would make siting the facility within the community more acceptable.
- e. Whether the factors that make the facility difficult to site can be modified to increase the range of available sites or to minimize impacts on affected areas and the environment.
- f. Whether the proposed essential public facility is consistent with the Sammamish Comprehensive Plan.
- g. If a variance is requested, the proposal shall also comply with the variance criteria.
- h. Essential public facilities shall comply with any applicable state siting and permitting requirements.

EPFP-2.5 The City shall require sponsors of proposed essential public facilities and utilities to conduct pre-application meetings with neighboring property owners to discuss the scale and nature of the proposed development and to identify strategies to avoid and/or mitigate adverse environmental or neighborhood impacts.

- a. The City may, as a result of plans to site essential public facilities and utilities, modify land use designations of neighboring properties and/or conduct special studies to promote more compatible land uses in the future.

EPFP-2.6 Following the use of the EPF siting process identified in this chapter, the City of Sammamish should evaluate the ease of use and adequacy of the process and propose modifications as appropriate.

EPFP-2.7 Until the City completes a comprehensive evaluation regarding the appropriate process for siting of secure community transition facilities, applications for the development of secure community transition facilities will be reviewed using the process outlined in EPF P-2.3, and the criteria of EPF P-2.4.

- EPFP-2.8 The City of Sammamish should carefully consider the requirements of State Law and the critical importance of protecting public health and safety in the adoption of development regulations governing the siting of secure community transition facilities, including siting criteria.

**GOAL EPF-3      Participate in a cooperative inter-jurisdictional approach to the siting of essential public facilities in accordance with the King County Countywide Planning Policies.**

- EPFP-3.1 The City shall encourage the State and County to site essential public facilities equitably among communities. No single community should absorb an inequitable share of these facilities and their impacts. Siting should consider environmental equity and environmental, economic, technical, and service area factors. The net impact of siting new essential public facilities should be weighted against the net impact of expansion of existing essential public facilities, with appropriate buffering and mitigation.
- EPFP-3.2 The City shall participate in a cooperative interjurisdictional approach to the siting of essential public facilities in accordance with the *King County Countywide Planning Policies*. Joint planning agreements should be sought where appropriate.
- EPFP-3.3 The interjurisdictional essential public facility approach shall be consistent with the *King County Countywide Planning Policies* and shall address definitions, inventories, incentives, compensation, public involvement, environmental protection, and alternative sites analysis.
- EPFP-3.4 The City of Sammamish should work with the Suburban Cities Association and/or other interjurisdictional bodies in the evaluation of processes for siting of Secure Community Transition Facilities.

## REFERENCES

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## **IX. PARKS, RECREATION, & OPEN SPACE ELEMENT**

### **VISION**

The Vision Statement and Vision Goals provided in the Introduction to this Comprehensive Plan highlight the aspirations for outstanding recreational opportunities in the community, as well as preservation of natural features, including that the City:

- Establish a park and recreation system that meets the high standards of the community.
- Create a safe and interesting network of trails.
- Preserve trees and greenways by encouraging the preservation or development of large areas of greenery which provide a visual impact as opposed to creating small areas of unusable residue.

### **PRIMARY ISSUES**

#### **Existing Conditions**

A Parks, Recreation, and Open Space Comprehensive Plan is under preparation concurrently with the general Sammamish Comprehensive Plan. The Draft Parks, Recreation, and Open Space Comprehensive Plan is contained in **Appendix C** to this Comprehensive Plan. Its goals and policies have been incorporated into this Element, and its capital facility project and financing components have been incorporated into the Utilities and Public Services/Capital Facilities Element. It is anticipated that upon adoption, the final Parks, Recreation, and Open Space Plan will be incorporated by reference and/or included as an Appendix to the City's approved Comprehensive Plan.

As of January 2003, the City owned and operated 39.5 acres of developed park properties including: NE Sammamish Neighborhood Park, Bill Reams East Sammamish Park, Pine Lake Park, and Beaver Lake Park. A full list of City owned and/or maintained parks can be found in the Parks, Recreation, and Open Space Plan.

#### **Planned Facilities**

The initial development objectives of the Draft Parks, Recreation, and Open Space Comprehensive Plan include improving existing parks, acquiring parkland, developing new community, neighborhood, and resource parks, and multi-use trails. The City is currently in the process of preparing a master plan to guide the development of Sammamish Commons the site of the new City Hall, Community Center, park to be located on 228th St SE in the vicinity of SE 4th. Other recommended projects in the draft Parks Plan address opportunities for greenway, trails, and open space corridors.

## **GOALS**

The goal of this Element is to begin to lay out a framework around which the City intends to develop a comprehensive park system in an orderly and efficient manner. The oversight powers of the Sammamish Department of Parks & Recreation shall be guided by these policies, which are intended to serve the public's interest and protect public parks, trails, and open space assets.



## **POLICIES**

It is generally recognized that land acquisition for recreation purposes has a positive influence on the local economy and quality of life. Parks and recreation assets are of public interest and proven benefits in terms of social, economic and environmental qualities. As growth continues, land for parks and recreation purposes becomes an increasingly limited and valuable resource, which must be conserved where possible.

One of the missions of the Department of Parks and Recreation is to establish and maintain public policies that address recreation resources within its jurisdiction. In order to consistently carry out its mission and serve the recreation needs of the people, the City must set forth policies, which are designed to aid development of these facilities.

**PRO-P 1.1**      **Parkland Acquisition Policy.** It is the City's intent to:

- a. Develop, adopt and maintain procedures and priorities for selection, classification and acquisition of parklands and the use of such lands for recreation purposes. All lands designated for recreation purposes shall be suitable for the park classification and recreation activities intended or needed. (see **Appendix C** for detail)
- b. Develop and maintain inter-local agreements for joint development, "right-of-use", land transfers, lease, exchange, dedication and surplus or easement land acquisition procedures. Undertake a working relationship with other public agencies and private entities to maximize opportunities for acquisition of land that qualifies to be included in the parks system.
- c. Utilize the resources of national, state, regional and local conservation organizations, corporations, non-profit associations and benevolent entities to identify and acquire environmentally sensitive land, urban wildlife habitat or open space/preservation areas within the City and its urban growth boundary or sphere of influence.

**PRO-P 1.2**      **Park & Facility Improvement Policy.** It is the intent of the City to:

- a. Provide for the orderly and comprehensive planning of parklands and recreation resources through design standards, site planning criteria, and Master Plan procedures. Such procedures should respond to public need and requirements for park development, facilities and recreation services. Consideration should be given to use of joint school/park programs, development and the application of reasonable standards and conditions for such use,
- b. Prepare a master plan to guide the use and development of all City-owned and/or operated parks. Each master plan shall be prepared in accordance with the provisions of the approved City of Sammamish Parks, Recreation, and Open Space Plan. In preparing each parks master plan the City shall:
  1. Actively involve the community including but not limited to neighboring property owners, potential users, and professionals in the field of parks and recreation,
  2. Not permit the construction of new housing in City parks,

3. Not permit the commercial development or activities unless a finding is made by the City Council that the proposed commercial use is in the public interest and compatible with the public use and enjoyment of the park.
- c. Park design shall conform to local ordinances or recognized state and national standards for access, safety, health and protection of humans and domestic animal species. Park development shall be of high quality and aesthetically pleasing and sensitive to the opportunities and constraints of the natural, physical or architectural environment,
- d. Encourage and support development of local neighborhood, volunteer and community-based programs for park improvements, including participation of civic clubs, non-profit organizations, and organized groups with a vested interest in recreation,
- e. Provide barrier-free (ADA compliant) access, where readily achievable, by modifying existing facilities or when designing and/or constructing new recreation facilities and/or providing recreation services,
- f. Provide amenities at parks and recreation open space facilities such as lighting, seating, drinking fountains, trash receptacles, bicycle racks, and shelters wherever possible and appropriate to extend hours of use and service quality.

**PRO-P 1.3**      Economic Performance & Finance Policy. It is the intent of the City to:

- a. Identify and participate in growth impact-related public services fees and organize assessment methods such as benefit assessments in order to finance projects that are identified by the public as needed. Both public and private revenue sources will be employed to achieve a balance of equity and cost to the taxpayer through increased private participation in recreation service activity through enterprise opportunities,
- b. Identify and secure alternative funding programs administered by state and federal agencies,
- c. Establish maintenance user fees, charges and monetary policies within public/private agreements that provide recreation services at a reasonable cost to the public.

**PRO-P 1.4**      Support Policies. The following are a number of administrative actions that reinforce the basic policies of the Comprehensive Plan. The City should strive to:

- a. Conserve Open Space Land for Natural, Cultural & Recreation Values:
  1. Coordinate and maintain procedures for identifying and managing open space, conservation or preservation lands through mechanisms such as zoning, donation, purchase of easements, management strategies, or establishment of open space resource conservation authorities or districts,
  2. Where appropriate for recreation purposes, transfer derelict land, surplus easements, tax delinquent land, surplus roadway/highway rights-of-way and other land not presently in productive use where such land can be used for land exchange, purchase or long-term leases for recreation or open space,
  3. Where appropriate, make maximum use of lands associated with public utilities, water supply reservoirs and drainage or irrigation districts to meet recreation needs,



4. Adopt improved regulations for new residential and commercial development which require either the dedication of park lands, provision of recreation facilities or payment of fees in-lieu of land to a parks and recreation trust fund,
  5. Work intensively with a variety of public and private sector groups to encourage management services, donations or bargain sales and dedicated lands through equitable incentives and to identify, acquire and conserve or manage land for future park development or open space preservation.
- b. Encourage Joint Use of Existing Public Resources.
1. Where appropriate, establish joint use of recreational facilities while ensuring recreation services to the entire community. Utilize school sites and public buildings for recreation and service programs through establishing joint purchase and/or use agreements,
  2. Develop specific agreements and reciprocal no-fee policies, which encourage park use by school groups and school use by recreation user groups of all ages. Assist in providing services required to open up school facilities for recreational purposes and after-school programs,
  3. Encourage joint-use for recreation wherever lands and facilities are suitable and committed to other private and public purposes, including City, county or state properties, utility rights-of-way, and properties belonging to institutions and private corporations,
  4. Encourage use of local park and recreation facilities for a wider range of human service delivery (i.e., health information, personal consumer protection, nutrition, seniors, childcare, bookmobiles, play-mobiles, etc.).
- c. Encourage Planning, Development and Full Use of Trails and Greenways.
1. Plan non-motorized trail systems for pedestrian and bicycle access to existing and new parks as an alternative to automobile access. Also, plan multi-use trail systems that link adjoining communities leading to rural or natural areas through regional trail linkages,
  2. Develop specific trail plans to be used as guides in creating coordinated recreation and transportation systems for pedestrian and all non-motorized vehicles or forms of transportation,
  3. Establish public awareness programs for the use, safety and maintenance of trails.

PRO-P 1.5      The City shall designate City owned and/or maintained parks and recreation facilities in accordance with the approved Parks, Recreation, and Open Space Plan.

## REFERENCES

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## **Glossary**



## GLOSSARY

### ACRONYMS

|          |                                                                                      |
|----------|--------------------------------------------------------------------------------------|
| AKART    | "All known, available, and reasonable methods of prevention, control, and treatment" |
| BMP      | Best Management Practice                                                             |
| cfs      | cubic feet per second                                                                |
| CIP      | Capital Improvement Plan                                                             |
| CDBG     | Community Development Block Grant                                                    |
| CPP      | Countywide Planning Policies                                                         |
| DOE      | Washington State Department of Ecology                                               |
| DU/AC    | Dwelling unit per acre                                                               |
| EIS      | Environmental Impact Statement                                                       |
| ELF      | Extremely low frequency                                                              |
| EMF      | Electric and Magnetic Fields or electromagnetic fields                               |
| EMS      | Emergency Services                                                                   |
| ESA      | Endangered Species Act                                                               |
| FCC      | Federal Communications Commission                                                    |
| FEMA     | Federal Emergency Management Act                                                     |
| FHWA     | Federal Highway Administration                                                       |
| GIS      | Geographic Information System                                                        |
| GMA      | Growth Management Act                                                                |
| GMPC     | Growth Management Planning Council                                                   |
| HUD      | United States Department of Housing and Urban Development                            |
| KCLS     | King County Library Service                                                          |
| LID      | Local Improvement District                                                           |
| LOS      | Level of Service                                                                     |
| NMFS     | National Marine Fisheries Service                                                    |
| NPDES    | National Pollution Discharge Elimination System                                      |
| PHS      | Priority Habitat and Species Program                                                 |
| ppm      | Parts per million                                                                    |
| PSE      | Puget Sound Energy, Inc.                                                             |
| PSRC     | Puget Sound Regional Council                                                         |
| SEPA     | State Environmental Policy Act                                                       |
| TIP      | Transportation Improvement Program                                                   |
| TAZ      | Transportation Analysis Zones                                                        |
| TBP Plan | Trails, Bikeways and Pathways Plan                                                   |
| WSDOT    | Washington State Department of Transportation                                        |
| WUTC     | Washington Utilities and Transportation Commission                                   |

### DEFINITIONS

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Accessory Dwelling: | "Accessory unit" means a second dwelling unit either in or added to an existing single-family detached dwelling, or in a separate accessory structure on the same lot as the main dwelling, for use as a complete, independent living facility with provision within the accessory apartment for cooking, eating, sanitation, and sleeping. Such a dwelling is an accessory use to the main dwelling. Accessory units are also commonly known as "mother-in-law" units or "carriage houses." |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| "AKART"                       | An acronym for "all known, available, and reasonable methods of prevention, control, and treatment." AKART as defined by the Washington State Department of Ecology means the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge. The concept of AKART applies to both point and nonpoint sources of water pollution. The term "best management practices," typically applied to nonpoint source pollution controls is considered a subset of the AKART requirement. |
| Best Management Practices:    | These are defined by the Washington State Department of Ecology as physical, structural, and/or managerial practices that, when used singly, or in combination, prevent or reduce pollution of water. The types of BMPs include source control, runoff treatment, and stream - bank erosion control.                                                                                                                                                                                                                                                          |
| Clustering:                   | A development design technique that concentrates buildings or lots in specific areas on a site to allow remaining land to be used for recreation, common open space, or the preservation of historically or environmentally sensitive areas features.                                                                                                                                                                                                                                                                                                         |
| Cottage Housing:              | Detached bungalow scale houses clustered around a common open space and/or private spaces aggregated together in a commons arrangement.                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Critical Areas:               | Include the following areas and ecosystems: (a) Wetlands; (b) areas with a critical recharging effect on aquifers used for potable water; (c) fish and wildlife habitat conservation areas; (d) frequently flooded areas; and (e) geologically hazardous areas (RCW 36.70A.030(5)).                                                                                                                                                                                                                                                                           |
| Functional Plans:             | "Functional plans" are detailed plans for facilities and services and action plans for other governmental activities such as parks, surface water, streets, etc. Functional plans should be consistent with the Comprehensive Plan.                                                                                                                                                                                                                                                                                                                           |
| Geologically Hazardous Areas: | Areas that because of their susceptibility to erosion, sliding, earthquake, or other geological events, are not suited to the siting of commercial, residential, or industrial development consistent with public health or safety concerns (RCW 36.70A.030(9)).                                                                                                                                                                                                                                                                                              |
| Goal:                         | A general statement expressing a desired result consistent with the vision and towards which policies and objectives aim.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Human Scale:                  | Human scale means that the size of the building relates to the approximate dimensions of the human body.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Low Impact Development:       | Design concepts including a variety of strategies and techniques to address the negative impacts associated with stormwater runoff, such as, but not limited to: <ul style="list-style-type: none"><li>• Reduce the street width and road network within a development.</li></ul>                                                                                                                                                                                                                                                                             |



- Replace impervious roadways, driveways and sidewalks with more pervious materials where feasible.
- Reduce lot size and setbacks/frontage requirements through cluster designs.
- Increase retention of forested open space and better protect critical areas.
- Direct stormwater runoff to vegetated bioretention areas where shallow storage is used to promote infiltration and evaporation.
- Eliminate conventional pipe and catch basins to increase time of concentration by promoting sheet and shallow concentrated flow.
- Enhance soil conditions on site by preservation of existing topsoil structure, soil amendments, and protection from compaction during construction.
- Reuse of runoff for non-potable application onsite.

**May:** When “may” is used in a policy, such language indicates the City has the option to take steps to accomplish the purpose of the policy.

**Multifamily Dwelling:** Dwelling, Attached: A one-family dwelling attached to one or more one-family dwellings by common roofs, walls, or floors.

A. Flat: A residential building containing two (2) or more dwelling units which are attached at one or more common roofs, walls, or floors. Typically, the unit’s habitable area is provided on a single level. Unit entrances may or may not be provided from a common corridor.

B. Townhouse: A one-family, ground-related dwelling attached to one or more such units in which each unit has its own exterior, ground-level access to the outside, no unit is located over another unit, and each unit is separated from any other unit by one or more vertical common walls. Typically the units are multi-story.

**Objective:** A specific statement establishing a measurable target or specific task to be accomplished for the purpose of achieving a goal’s desired result.

**Policy:** A specific statement giving guidance to decision makers for the purpose of achieving a goal’s desired result.

**Shall:** When “shall” is used in a policy, such language requires that the City take steps to accomplish the purpose of the policy.

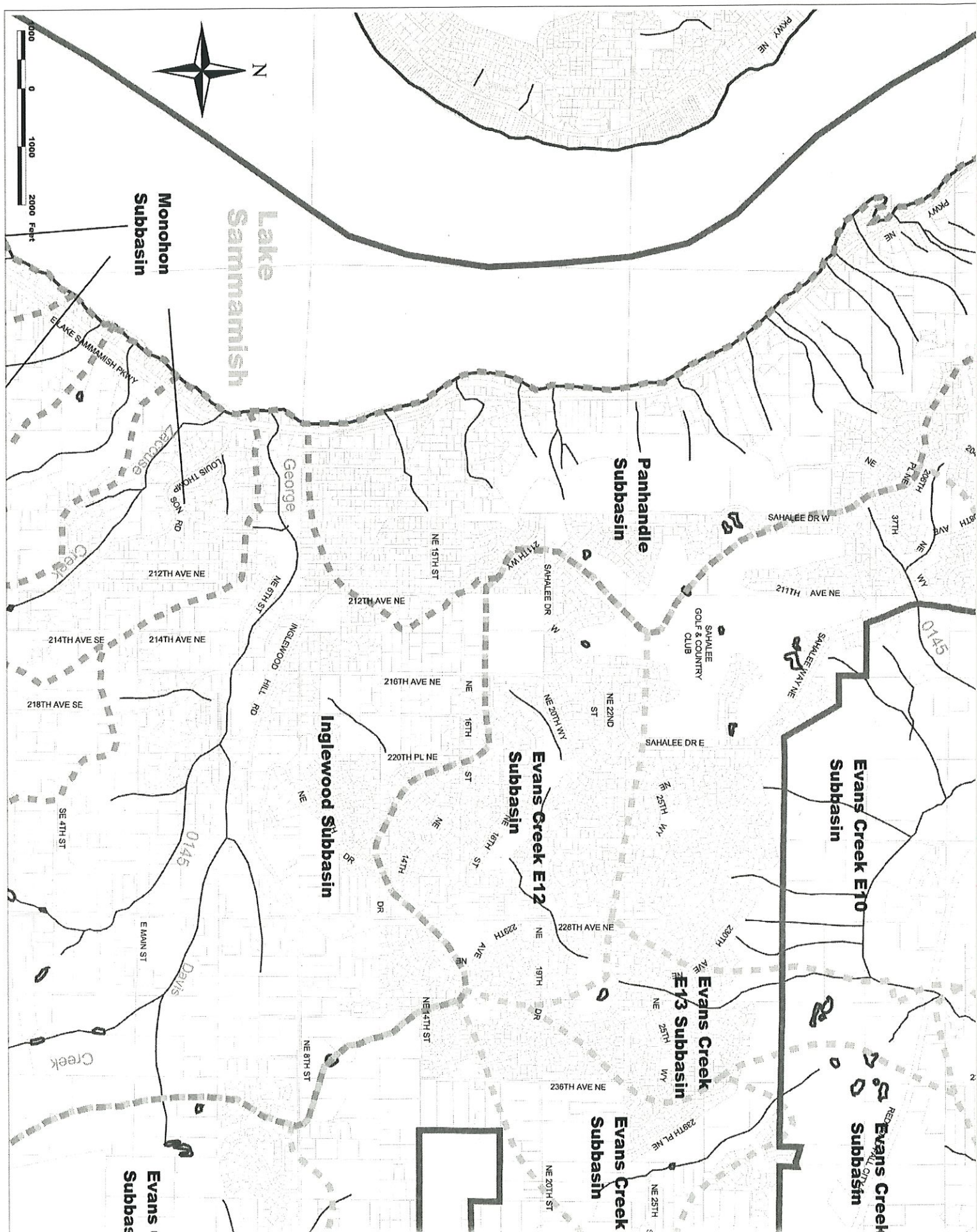
**Should:** When “should” is used in a policy, such language directs the City take steps to accomplish the purpose of the policy unless specific circumstances justify an alternative direction.

**Single Family Dwelling:** A building containing one dwelling unit which is not attached to any other dwelling by any means except fences, has a permanent foundation, and is surrounded by open space or yards.

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Split Zoning:        | The application of two or more zoning classification districts to a single legal parcel.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Vision:              | A description of the community as desired. It serves as the keystone upon which goals, policies and objectives are based.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Wetland or Wetlands: | Areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas created to mitigate conversion of wetlands (RCW 36.70A.030(20)). |



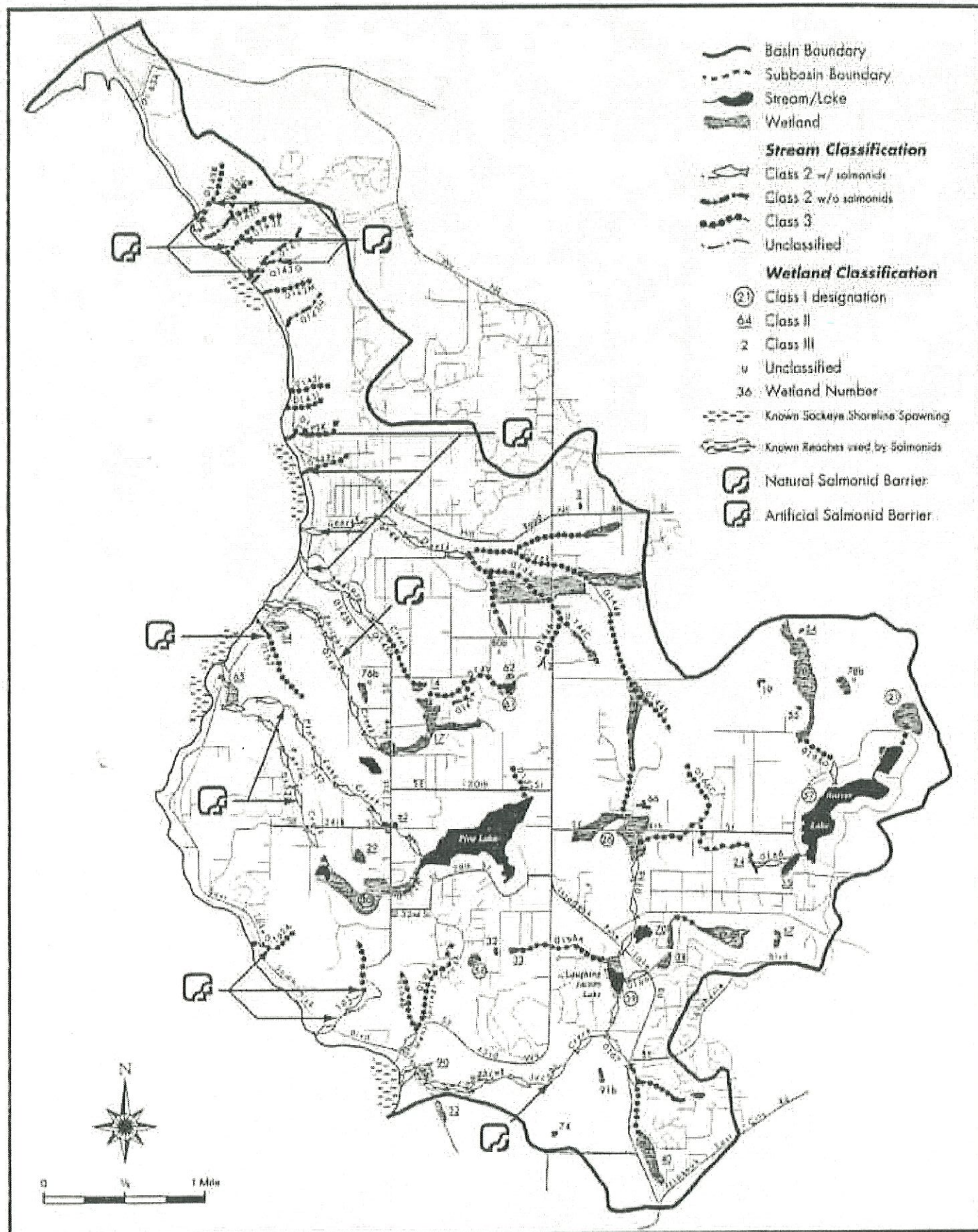
Appendix A  
Environmentally Sensitive Areas & Historic Resources









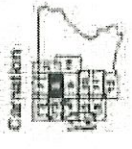


WETLAND & STREAM CLASSIFICATIONS & SALMONID DISTRIBUTION  
 East Lake Sammamish





8



- Wetlands
- Cypress Wetland
- Black Duck Wetland
- Sub-Quatern Riverbank

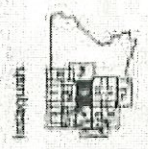
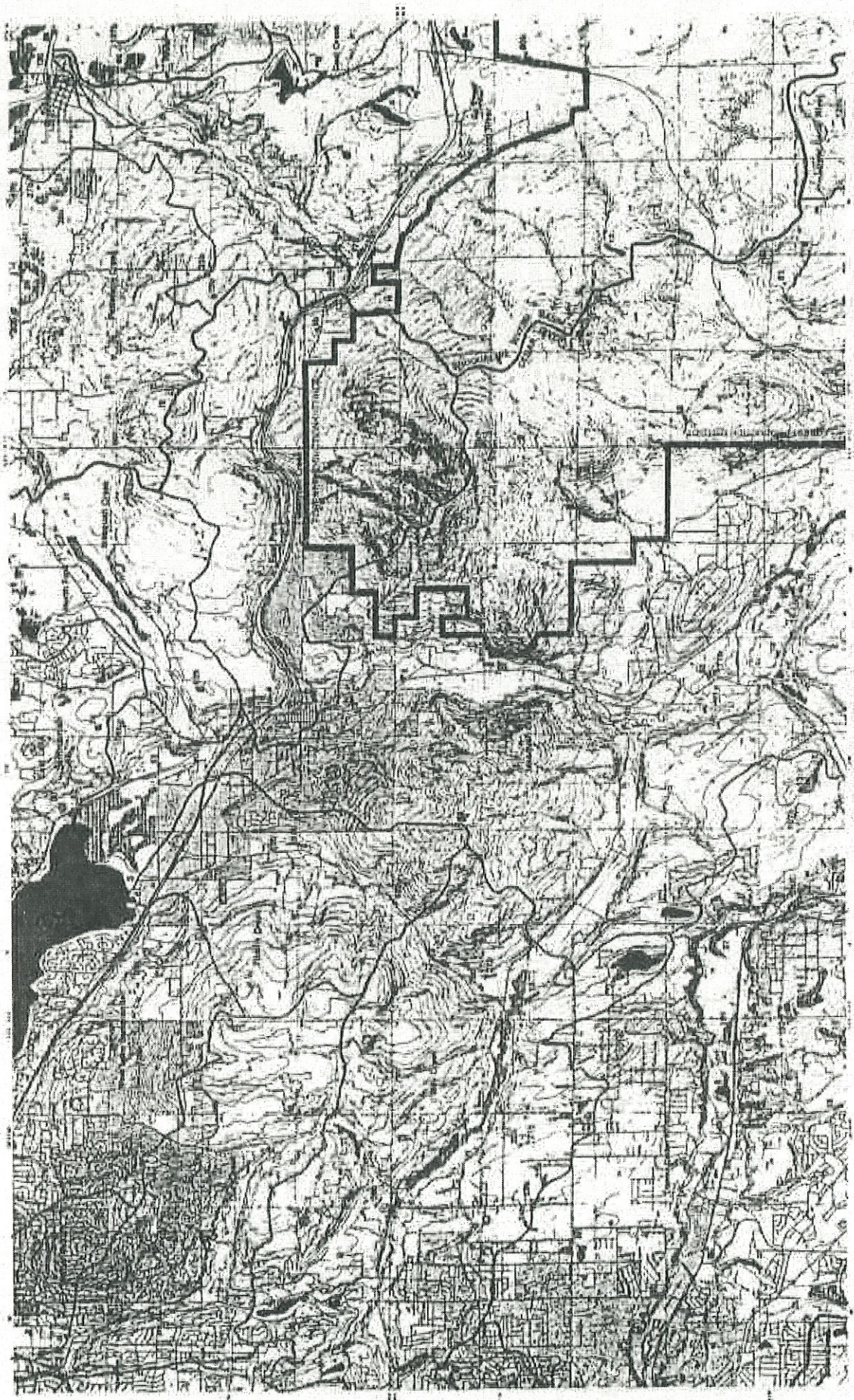
### Wetlands

Wetlands, situated in the center of the map, are characterized by a high water table and are subject to periodic flooding. The wetlands are located in the center of the map, and are surrounded by land with various elevations and features. The wetlands are located in the center of the map, and are surrounded by land with various elevations and features.

The boundaries of the wetlands are shown by a thick black line. The wetlands are located in the center of the map, and are surrounded by land with various elevations and features. The wetlands are located in the center of the map, and are surrounded by land with various elevations and features.







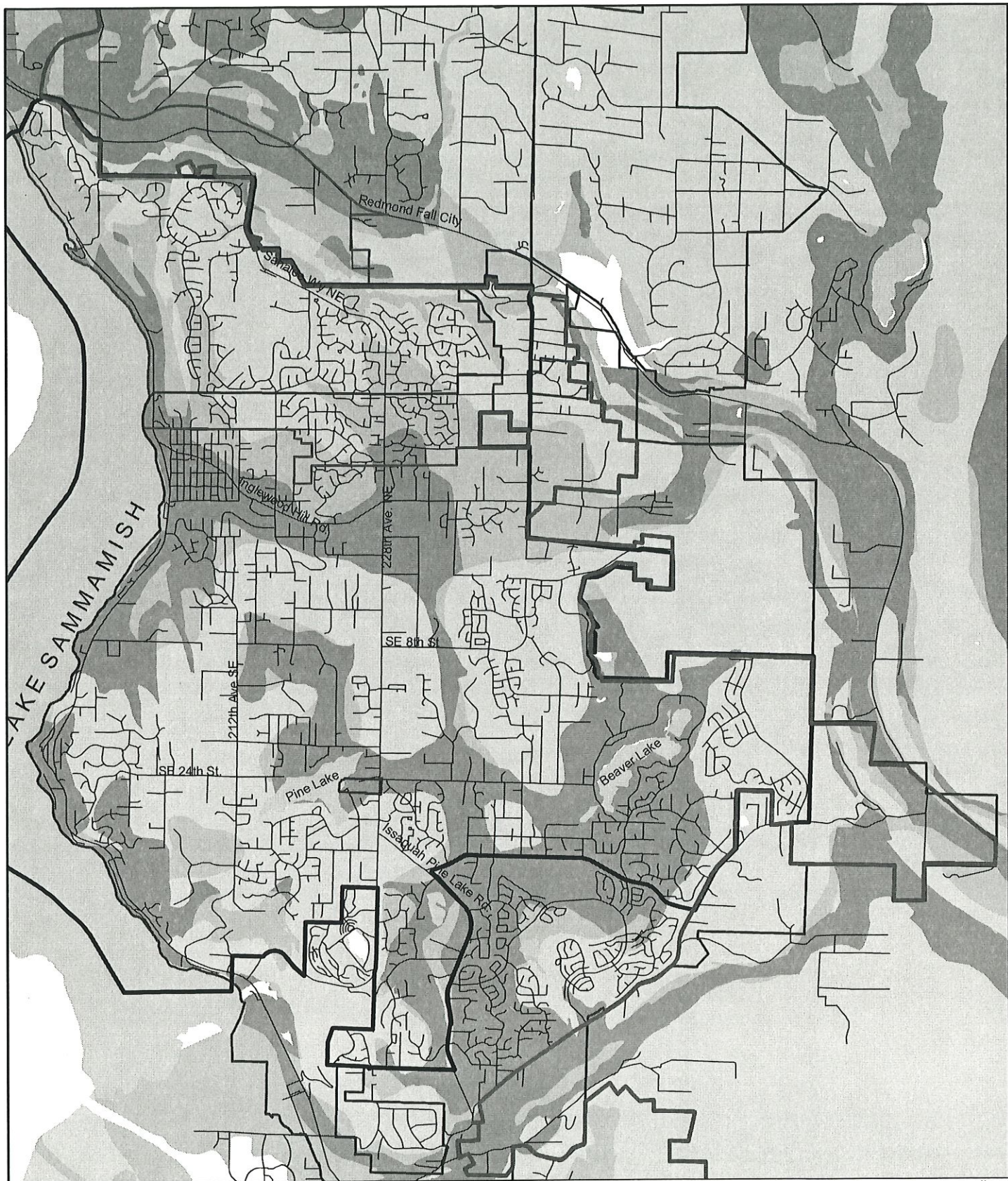
- Wetlands
- Open Water
- Marsh
- Subsided Wetlands

# Wetlands

Wetlands are areas that are periodically or permanently flooded or saturated with water. They are important for wildlife, fish, and water quality. The map shows the location of wetlands in the study area. The wetlands are located in the northwestern corner of the state of Georgia. The wetlands are located in the northwestern corner of the state of Georgia. The wetlands are located in the northwestern corner of the state of Georgia.

The boundaries of the wetlands are shown on the map. The wetlands are located in the northwestern corner of the state of Georgia. The wetlands are located in the northwestern corner of the state of Georgia. The wetlands are located in the northwestern corner of the state of Georgia.





## Aquifer Susceptibility



### Legend:

- |             |         |                             |                       |                    |
|-------------|---------|-----------------------------|-----------------------|--------------------|
| UGA         | Streets | NE Sammamish W/S Limit      | High Susceptibility   | Low Susceptibility |
| City Limits | Lakes   | Sammamish Plateau W/S Limit | Medium Susceptibility |                    |

100 0 100 Feet  
Scale 1" = 416 feet

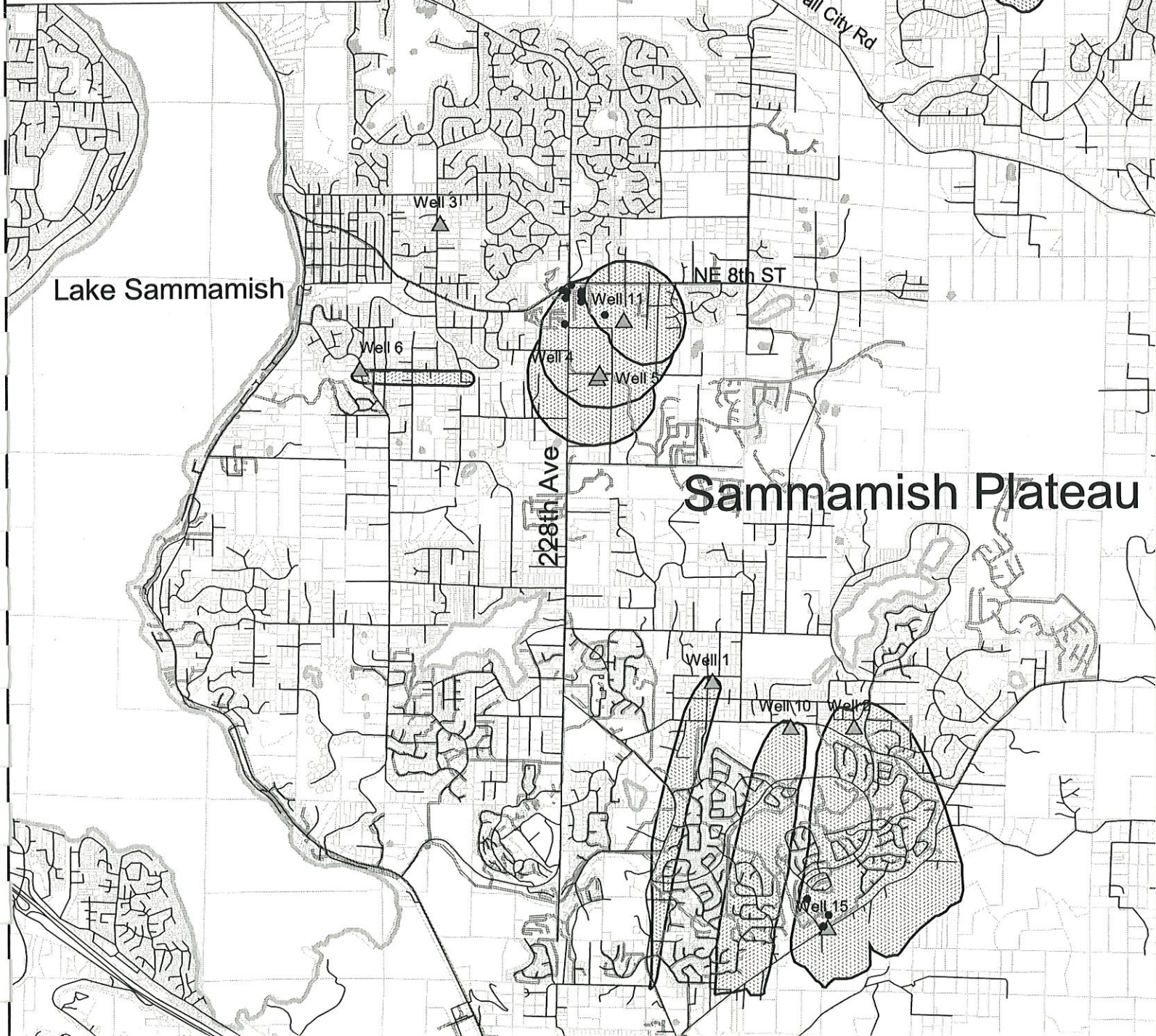
SOURCES: King County GIS CD #1,3 "Standard Data" dated March 2002, coverage date 08/28/01.  
DISCLAIMER: This map is derived from various data sources. While care has been taken to insure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided "AS IS".

Plot Date: 02/03



# LEGEND

- Potential Contaminant Sites
- ▲ Wellheads
- ~ Streets
- ~ SPWSD Sewer
- ~ City of Issaquah Sewer
- Wellhead Protection Area
- ~ Surface Water
- ~ Parcels





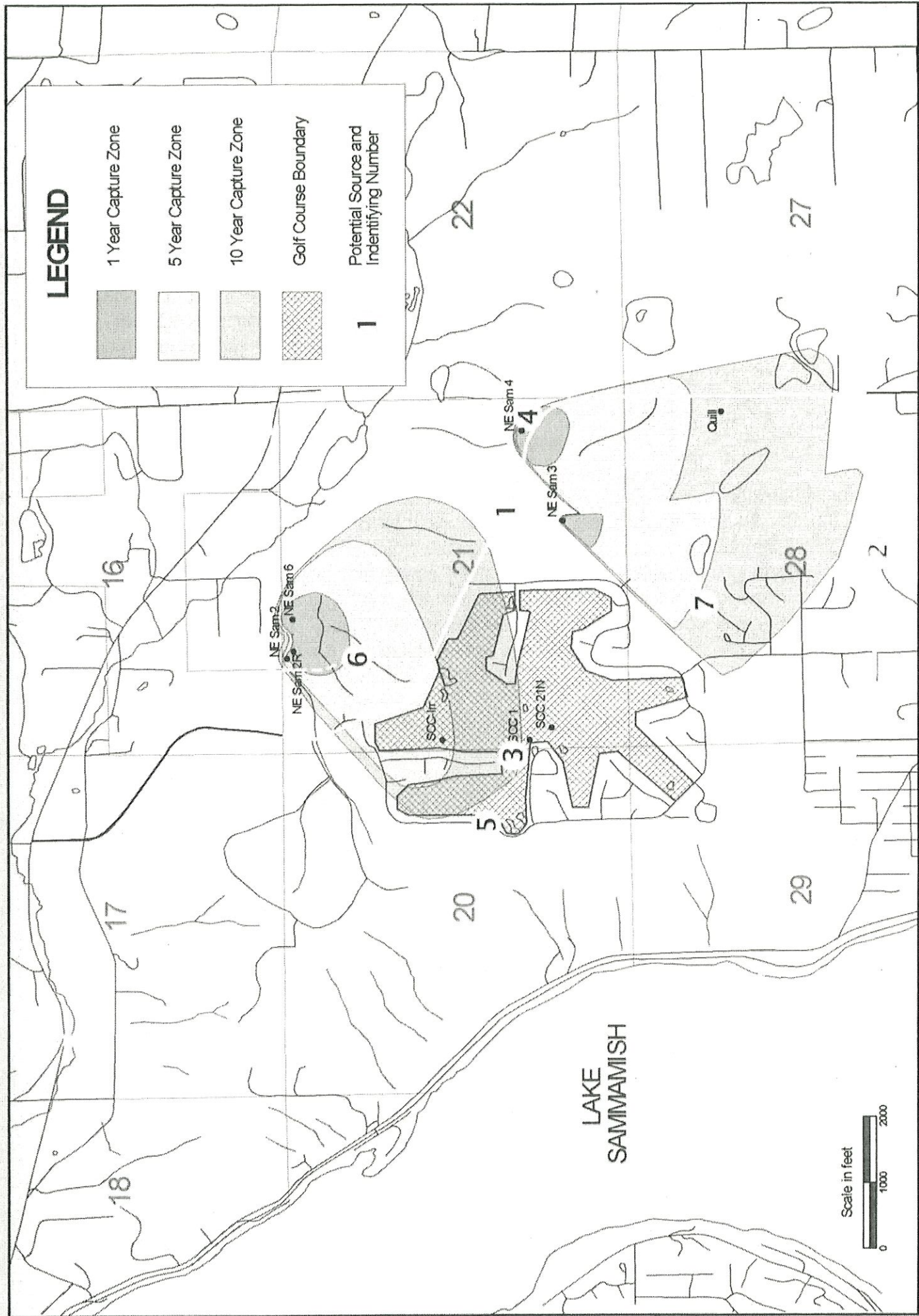


Figure 1-2

Distribution of Wellhead Protection Areas

NE Sammamish Water Dist.  
Well Head Protection  
Project # 15843.001



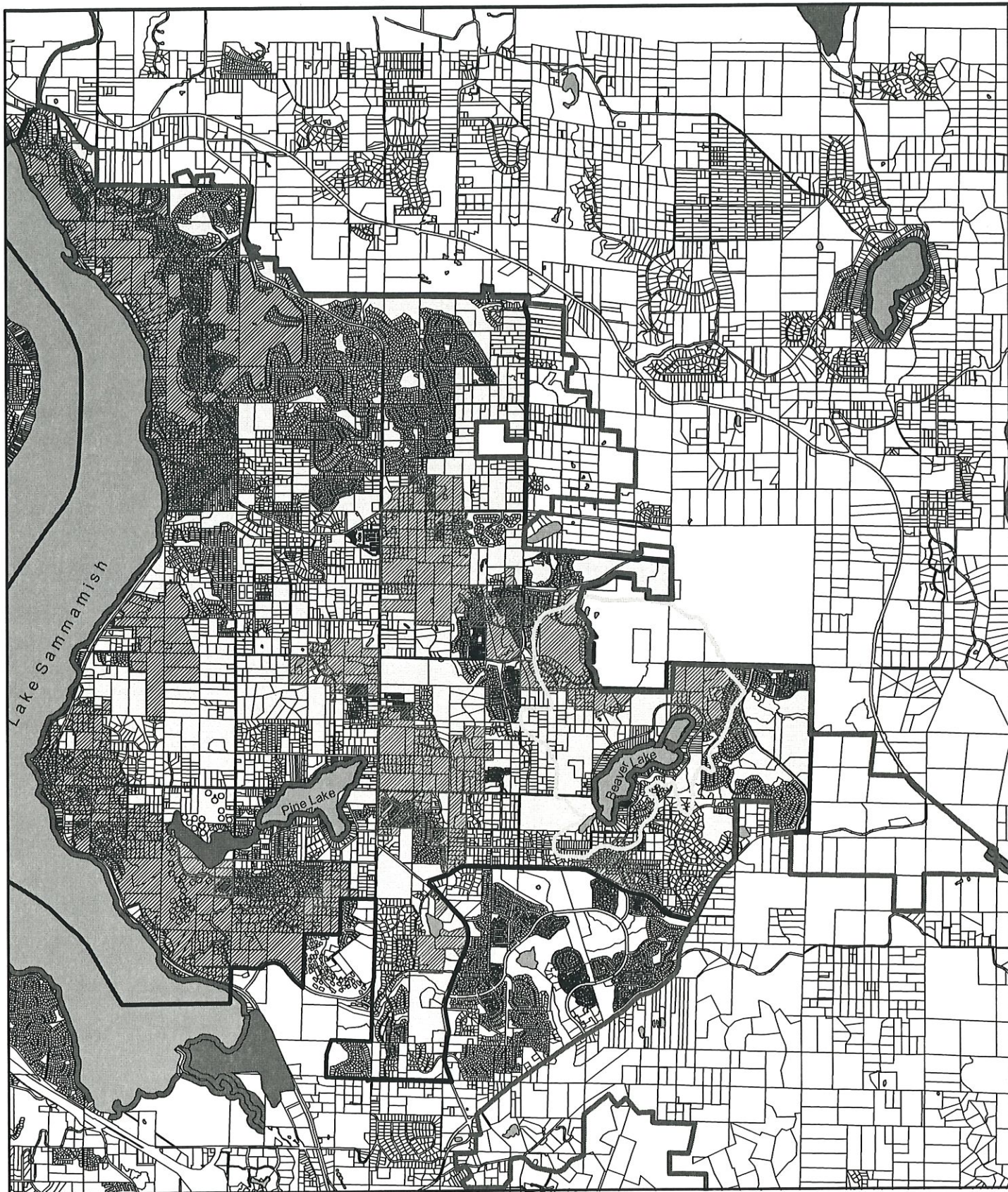




Lifelines and earthquake hazards in the greater Seattle area







## Special Overlays / Districts

Legend:

|             |        |               |             |                            |
|-------------|--------|---------------|-------------|----------------------------|
| UGA         | SO-180 | Lakes         | Conservancy | Beaver Lake Mgmt. District |
| City Limits | SO-190 | City Tax Lots | Rural       |                            |

100 0 100 Feet  
Scale 1" = 416 Ft.

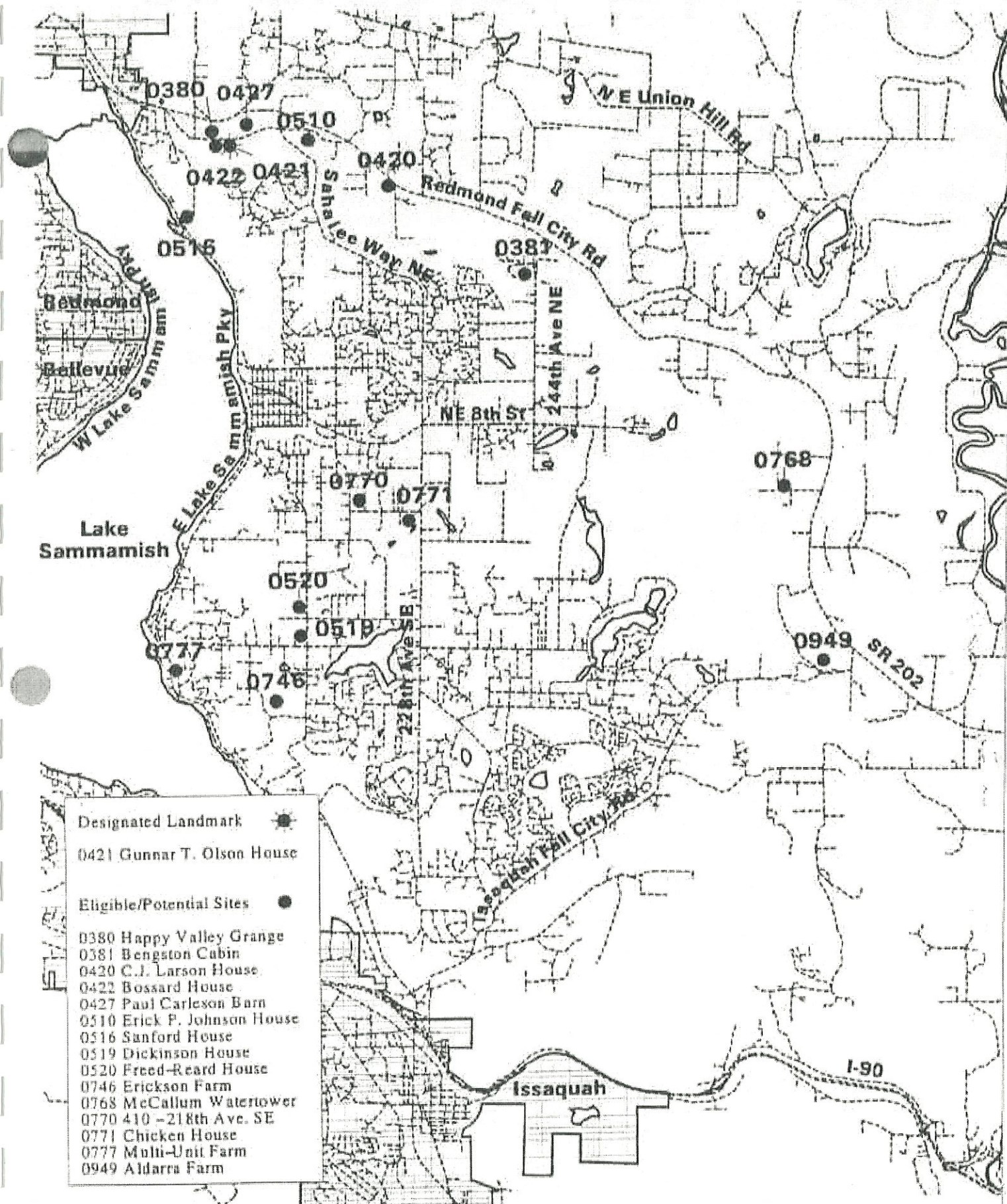


SOURCES: King County GIS CD #3, "Standard Data" dated March 2002.

DISCLAIMER: This map is derived from various data sources. While care has been taken to ensure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided, "as is".

Plot Date: 2/03





# 1993 East Sammamish Community Plan

Historic Preservation

Development Condition 14 -Ord. 10847 -June 1993



## **APPENDIX A – Historic Resources**

A working draft of the Sammamish Historic Resources summary is provided below. Additional efforts are planned to complete the summary with the area's Native American history, as well as update Euro-American settlement information.

### **NATIVE AMERICAN HISTORY**

|                                 |
|---------------------------------|
| This section under preparation. |
|---------------------------------|

### **SAMMAMISH SETTLEMENT**

The town of Monohon, Washington, located in the present-day site of the City of Sammamish, was founded by Martin Monohon, who homesteaded the area in 1877. (Bagley, 1929) Lumber and milling operations contributed to the financial success of the community along the eastern shore of Lake Sammamish.

The Allen and Nelson Mill Company was established in the community of Monohon in 1889 by Watson Allen, James D. Houghton, and James H. Watson. The mill's cutting capacity was 120,000 board feet per day and the plant included fifty houses for employees and a 20-room hotel. (Bagley, 1929) Other mills established in the vicinity included the Lake Sammamish Lumber and Shingle Company, incorporated in 1892, and Lake Sammamish Shingle Company, incorporated in 1901. (Erickson)

The mills facilitated other business ventures in the area, including logging camps, a wood-turning shop, and a boat and canoe company. Educational services in the early 1900s to the Monohon residents included a school with eight grades, where church services were held on Sundays. The area surrounding the mill town was populated with farms and summer residences. (Taylor, 1909)

In the 1900s, lumber companies also owned the land around Beaver Lake, located in southeast Sammamish. According to a 1912 map, the Weyerhaeuser Timber Company owned large tracts of land on the south and northeast ends of the lake, and the Allen Nelson Company owned a parcel that dominated most of the lake's western shore. (Heritage Research Associates, 1999)

The name Sammamish is derived from two Northwest Indian words: samena, meaning "hunter" and mish, meaning "people."

### **Historic Properties**

The King County Landmarks and Heritage Program maintains an inventory of over 1,000 historic resources located throughout the County. Some of these structures and sites are considered potentially eligible for listing in the State and National Register of Historic Places. The King County Historic Preservation Officer reviews proposals for development of historic resources listed on the King County Inventory.

Buildings and structures that are eligible for landmark designation are reviewed by the King County Landmark Commission. Buildings and structures must meet the following criteria to be eligible for listing as a King County landmark. Historic properties must be more than 40 years old and possess integrity of location, design, setting, materials, workmanship, feeling, and association.

An inventory conducted in the mid-1980s indicated 20 properties and one archaeological site within the present-day boundaries of the City of Sammamish that were eligible for King County landmark designation (see **Appendix B** for a map locating several historic sites). Of the 20 historic properties, 12 have been either moved, significantly altered, or demolished since the mid-1980s survey. One of the historic properties, the Reard/Freed Farmstead, has been determined eligible for listing on the National Register of Historic Places. (Krafft, 2002)

### **The Reard/Freed House**

This two-story decorated pioneer farmhouse, located on 212th Avenue SE, was constructed in the 1890s and is listed on the King County Historic Resource Inventory. The house was built on a post and beam foundation and has a high pitched gable roof. The exterior is finished with horizontal siding and the gable ends are decorated with octagonal wood shingles. (Sammamish Heritage Society, 1999)

A two-story wing projects from the east side of the house, and a single story wing projects from the west side of the house. The original covered front porch is missing from the east wing, and an enclosed porch is located on the south side of the west wing. Brick chimneys are centrally located on the ridges of both wings of the house. (Sammamish Heritage Society, 1999)

Jacob D. Reard purchased the 380 acres where the house is currently located from the Northern Pacific Railroad Company in approximately 1890. There were several owners of the property until O.L. Skogman purchased the property in 1915. Mr. Skogman was an employee of the Monohon mill for many years, and Mrs. Skogman worked as a maid at the Clise Manor. The house on the Skogman's property served as a gathering place for the community. Dances often took place on the second floor of the house. (Sammamish Heritage Society, 1999)

The property was purchased around 1930 by Oscar Freed, who created Water District 82 and served as the first water district commissioner in the Sammamish area. The house has not been significantly altered and is perhaps the best remaining example of a decorated pioneer style farmhouse in the Sammamish area. (Sammamish Heritage Society, 1999)

### **Additional Inventoried Properties**

Other properties in Sammamish are included in the Historic Sites Inventory, as follows:

- Sanford House, 3636 East Lake Sammamish Road NE
- Dickinson House, 2221 212th Avenue SE
- Unnamed Residence, 410 218th Avenue SE
- Erickson Farm, 20722 SE 34th Street
- Chicken House, 22605 SE 4th
- Matt Mattila Farm, 2714 East Lake Sammamish Parkway SE
- Earl and Minnie Baker Residence, 24122 SE 24th Street

Since the 1980s inventory, two properties were identified in the report authored by Heritage Research Associates, entitled "Norris Estates Historical Assessment, Issaquah, Washington" as being potentially eligible for listing as a King County Landmark. These properties include the Kamp Property, located at 25125 SE 23rd Street, and the Gamman Property, located at 2215 West Beaver Lake Drive SE.

The Kamp Property appears to be eligible for listing for its association with Jake Lott for his contribution to the early development of the community. The property is also a well preserved example of the 1930s



rustic-style architecture that was once common in the vicinity of Beaver Lake. (Heritage Research Associates, 1999)

The Gamman Property appears to be eligible for listing as a King County Landmark because it is a well-preserved example of the rustic-style architecture that typified the housing styles in the Beaver Lake area. The building would also be significant for its association with its building and one-time resident, Jake Lott. (Heritage Research Associates, 1999)

The Bengston Cabin, located just south of Redmond-Fall City Road near 244th Avenue NE, was listed as a potentially eligible designated landmark in the East Sammamish Community Plan (King County, 1993).

Planning policies addressing historic and cultural resources can be found in the Environment & Conservation Element, **Chapter IV**.

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Erickson, Eric. Collection of Eric Erickson. "Lake Sammamish Shingle Company" and "Lake Sammamish Lumber and Shingle Company."

Heritage Research Associates (December 14, 1999). *Final Report: Norris Estates Historical Assessment, Issaquah, Washington*. Prepared for Herrera Environmental Consultants, Seattle, Washington.

King County Planning and Community Development Division (1993). East Sammamish Community Plan. Historic Preservation map. Seattle, WA.

Krafft, Kate (July 23, 2002). Landmark Program Coordinator, King County Office of Cultural Resources. Personal communication.

Kuhn, Virginia (July 23, 2002). President, Sammamish Heritage Society. Personal communication.

Sammamish Heritage Society (December 1999). *The Reard/Freed House, White Paper No. 1*.

Taylor, Cherrie M. (June 1909). "Monohon, Washington" in *The Coast: Alaska and Greater Northwest*. Volume 17, Number 6.

Bagley, Clarence B. (1929). *History of King County Washington Volume I, Illustrated*. The S. J. Clarke Publishing Company: Chicago – Seattle.

Appendix B  
Draft Six-Year Capital Facility Plan





**Sammamish Plateau Water and Sewer District  
Comprehensive Water Plan**

**Six-Year Finance Plan**

| Type                                             | 2000        | 2001         | 2002        | 2003         | 2004        | 2005        | 2006-2015    | Total        |
|--------------------------------------------------|-------------|--------------|-------------|--------------|-------------|-------------|--------------|--------------|
| <b>Supply</b>                                    |             |              |             |              |             |             |              |              |
| Subtotal Supply Improvements for Alt #1          | \$0         | \$0          | \$698,500   | \$1,585,500  | \$0         | \$0         | \$0          | \$2,284,000  |
| Subtotal Supply Improvements for Alt #3          | \$0         | \$0          | \$4,207,500 | \$4,207,500  | \$4,207,500 | \$4,207,500 | \$0          | \$16,830,000 |
| Subtotal Supply Improvements for Alts #4 and #18 | \$0         | \$0          | \$2,000,000 | \$9,500,000  | \$0         | \$0         | \$14,800,000 | \$26,300,000 |
| <b>Conveyance Systems</b>                        |             |              |             |              |             |             |              |              |
| Conveyance Systems for Alt #1, #4, and #18       | \$3,864,250 | \$2,840,750  | \$1,703,750 | \$1,149,000  | \$451,500   | \$402,750   | \$1,913,000  | \$12,325,000 |
| Conveyance Systems for Alt #3                    | \$3,864,250 | \$2,840,750  | \$1,872,500 | \$1,655,250  | \$867,250   | \$1,650,000 | \$1,127,000  | \$13,877,000 |
| <b>Reservoirs</b>                                |             |              |             |              |             |             |              |              |
| New Reservoirs for Alt #1 & #3                   | \$1,234,500 | \$4,645,500  | \$1,637,324 | \$4,911,972  | \$0         | \$0         | \$0          | \$12,429,296 |
| New Reservoirs for Alt #4 & #18                  | \$1,234,500 | \$4,645,500  | \$0         | \$0          | \$0         | \$0         | \$0          | \$5,880,000  |
| <b>Pump Stations</b>                             |             |              |             |              |             |             |              |              |
| Pump Station Improvements for Alt #1             | \$860,600   | \$2,150,400  | \$62,500    | \$187,500    | \$0         | \$0         | \$950,000    | \$4,211,000  |
| Pump Station Improvements for Alt #3             | \$860,600   | \$2,150,400  | \$365,000   | \$1,095,000  | \$0         | \$0         | \$2,100,000  | \$6,571,000  |
| Pump Station Improvements for Alt #4             | \$860,600   | \$2,150,400  | \$62,500    | \$187,500    | \$0         | \$0         | \$1,190,000  | \$4,451,000  |
| Pump Station Improvements for Alt #18            | \$860,600   | \$2,150,400  | \$62,500    | \$187,500    | \$0         | \$0         | \$1,940,000  | \$5,201,000  |
| <b>Treatment Systems</b>                         |             |              |             |              |             |             |              |              |
| Treatment Systems for Alt #1                     | \$72,000    | \$633,000    | \$625,000   | \$1,871,000  | \$0         | \$0         | \$0          | \$3,201,000  |
| Treatment Systems for Alt #3, #4 and Alt #18     | \$72,000    | \$633,000    | \$513,000   | \$1,535,000  | \$0         | \$0         | \$0          | \$2,753,000  |
| <b>General</b>                                   |             |              |             |              |             |             |              |              |
| General Improvements                             | \$158,000   | \$3,660,000  | \$275,000   | \$275,000    | \$2,231,000 | \$2,931,000 | \$20,678,000 | \$30,208,000 |
| <b>TOTALS</b>                                    |             |              |             |              |             |             |              |              |
| <b>Total Improvements for Alternative #1</b>     | \$6,189,000 | \$13,930,000 | \$5,002,000 | \$9,980,000  | \$2,683,000 | \$3,334,000 | \$23,541,000 | \$64,658,000 |
| <b>Total Improvements for Alternative #3</b>     | \$6,189,000 | \$13,930,000 | \$8,870,000 | \$13,680,000 | \$7,306,000 | \$8,789,000 | \$23,905,000 | \$82,668,000 |
| <b>Total Improvements for Alternative #4</b>     | \$6,189,000 | \$13,930,000 | \$4,554,000 | \$12,647,000 | \$2,683,000 | \$3,334,000 | \$38,581,000 | \$81,917,000 |
| <b>Total Improvements for Alternative #18</b>    | \$6,189,000 | \$13,930,000 | \$4,554,000 | \$12,647,000 | \$2,683,000 | \$3,334,000 | \$39,331,000 | \$82,667,000 |

**Note:**

Alternative #1 - Groundwater Only  
Alternative #3 - North Regional Water to Segregated Plateau Zone  
Alternative #4 - South Regional Surface Water to Plateau Zone  
Alternative #18 - South Regional Water to Segregated Plateau Zone



**Sammamish Plateau Water and Sewer District  
Sewer Transmission and Distribution**

**2002 Capital Improvement Budget**

|                                                      |                                               | 2001 Budget | 2001<br>Estimated<br>Year End | 2002 Budget | 2003 Budget | 2004 Budget | 2005 Budget | 2006 Budget |
|------------------------------------------------------|-----------------------------------------------|-------------|-------------------------------|-------------|-------------|-------------|-------------|-------------|
| <b>Transmission &amp; Distribution - Sewer</b>       |                                               |             |                               |             |             |             |             |             |
| GFC                                                  | SKINNER NORTH TRUNK (GEO DAVIS CRK)           | \$150,000   | \$35,492                      | \$67,000    |             |             |             |             |
| GFC                                                  | TD51 METRO SEWER EXTENSION                    | \$70,000    | \$12,826                      | \$1,600,000 | \$3,000,000 | \$2,000,000 |             |             |
| Rates                                                | MANHOLE OVERLAY PROGRAM                       | \$5,000     | \$0                           |             |             |             |             |             |
| Other                                                | TAMARACK N SWR ULID POTENTIAL                 | \$300,000   | \$2,124                       | \$10,000    | \$250,000   | \$600,000   |             |             |
| Rates                                                | 228TH SE & NE MAIN INSTALLATIONS PHASE 1A     | \$125,000   | \$229,000                     | \$10,000    |             |             |             |             |
| Rates                                                | 228TH SE & NE MAIN INSTALLATIONS PHASE 1B     | \$550,000   | \$630,000                     | \$20,000    |             |             |             |             |
| Rates                                                | 228TH SE & NE MAIN INSTALLATIONS PHASE 1C     |             | \$31,368                      | \$605,000   | \$200,000   |             |             |             |
| GFC                                                  | ARC OF KC - OVERSIZING - W BRK LK INTERCEPTOR | \$650,000   | \$0                           | \$75,000    |             |             |             |             |
| GFC                                                  | KEMPTON DOWNS PARALLEL SEWER                  | \$20,000    | \$0                           | \$40,000    |             |             |             |             |
| Other                                                | NORTH INGLEWOOD SEWER - ULID S19              | \$165,000   | \$61,592                      | \$120,000   |             |             |             |             |
| Rates                                                | TDS4 KING COUNTY ROAD IMPROVEMENT FUND        | \$100,000   | \$0                           | \$100,000   | \$100,000   | \$100,000   | \$100,000   | \$100,000   |
| Rates                                                | RDS5 SAMMAMISH ROAD IMPROVEMENT FUND          | \$100,000   | \$0                           | \$100,000   | \$100,000   | \$100,000   | \$100,000   | \$100,000   |
| Rates                                                | MANHOLE CORROSION REPAIR/RESTORE              | \$10,000    | \$0                           |             |             |             |             |             |
| GFC                                                  | TDS6 PARALLEL MAIN LOUIS THOMPSON/S12         | \$120,000   | \$0                           | \$10,000    | \$100,000   | \$500,000   | \$400,000   |             |
| Rates                                                | LOWER INGLEWOOD/E LK SAMM                     | \$100,000   | \$0                           |             |             |             |             |             |
| Rates                                                | E LAKE SAMM SAFETY IMPROVEMENTS               | \$10,000    | \$1,396                       | \$10,000    |             |             |             |             |
| Rates                                                | TDS7 N SPAR SEWER IMPROVEMENTS                | \$100,000   | \$32,470                      | \$810,000   | \$150,000   | \$40,000    |             |             |
| GFC                                                  | TDS8 SUNNY HILLS INTERCEPTOR NORTH            |             | \$0                           | \$5,000     |             |             |             |             |
| Rates                                                | TDS9 CLAREMONT VISTA SEWER EVALUATION         |             | \$0                           | \$20,000    |             |             |             |             |
| <b>TOTAL TRANSMISSION &amp; DISTRIBUTION - SEWER</b> |                                               | \$2,575,000 | \$1,036,268                   | \$3,602,000 | \$3,900,000 | \$3,340,000 | \$600,000   | \$200,000   |

**Northeast Sammamish Sewer and Water District  
Comprehensive Water Plan**

**Six-Year Finance Plan  
(\$ in 1,000's)**

| Type                                   | 1999         | 2000         | 2001         | 2002         | 2003         | 2004         | 2005         | Total          |
|----------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|
| Transmission/Distribution Improvements | \$201        | \$255        | \$152        | \$73         | \$0          | \$0          | \$182        | \$863          |
| Facility Improvements                  | \$370        | \$100        | \$0          | \$0          | \$203        | \$812        | \$588        | \$2,073        |
| Miscellaneous Improvements             | \$94         | \$127        | \$103        | \$79         | \$79         | \$79         | \$129        | \$690          |
| <b>TOTAL</b>                           | <b>\$665</b> | <b>\$482</b> | <b>\$255</b> | <b>\$152</b> | <b>\$282</b> | <b>\$891</b> | <b>\$899</b> | <b>\$3,626</b> |



**Northeast Sammamish Sewer and Water District  
Comprehensive Sewer Plan**

**Six-Year Finance Plan**

| CIP # | Project                                            | 1997               | 1998             | 1999             | 2000            | 2001             | 2002             | 2003            | Total              |
|-------|----------------------------------------------------|--------------------|------------------|------------------|-----------------|------------------|------------------|-----------------|--------------------|
| 1     | Lift Station #6 EG Set Improvements                |                    | \$172,000        |                  |                 |                  |                  |                 | \$172,000          |
| 2     | Lift Station #3 Replacement                        | \$2,220,000        |                  |                  |                 |                  |                  |                 | \$2,220,000        |
| 3     | Lift Station #7 Elimination                        |                    | \$292,400        |                  |                 |                  |                  |                 | \$292,400          |
| 4     | Lift Station #2 Elimination                        |                    | \$50,000         |                  |                 |                  |                  |                 | \$50,000           |
| 5     | Lift Station #12 Elimination                       |                    | \$40,000         |                  |                 |                  |                  |                 | \$40,000           |
| 6     | Lift Station #11 Elimination                       |                    | \$50,000         |                  |                 |                  |                  |                 | \$50,000           |
| 7     | Office Building and Shop Additions                 | \$501,000          |                  |                  |                 |                  |                  |                 | \$501,000          |
| 8     | Telemetry and Control System Improvements          |                    | \$137,000        |                  |                 |                  |                  |                 | \$137,000          |
| 9     | New Mobile Generator Set                           |                    | \$35,000         |                  |                 |                  |                  |                 | \$35,000           |
| 10    | Lift Station #13 Improvements                      |                    |                  | \$133,900        |                 |                  |                  |                 | \$133,900          |
| 11    | Lift Station Wet Well Access Improvements          |                    |                  |                  |                 |                  | \$177,300        |                 | \$177,300          |
| 12    | Lift Station #8, 9 and 10 Pump & Motor Replacement |                    |                  |                  |                 |                  |                  | \$83,000        | \$83,000           |
| 13    | Sewer System Plan 6-Year Update                    |                    |                  |                  |                 | \$46,400         |                  |                 | \$46,400           |
| 14    | Replacement and Unscheduled Projects               | \$50,000           | \$50,000         | \$50,000         | \$50,000        | \$50,000         | \$50,000         |                 | \$300,000          |
| 15    | Equipment Addition Operations and Maintenance      | \$15,000           | \$15,000         | \$15,000         | \$15,000        | \$15,000         | \$15,000         |                 | \$90,000           |
|       | <b>TOTAL</b>                                       | <b>\$2,786,000</b> | <b>\$841,400</b> | <b>\$198,900</b> | <b>\$65,000</b> | <b>\$111,400</b> | <b>\$242,300</b> | <b>\$83,000</b> | <b>\$4,328,000</b> |

# Issaquah School District

## Six-Year Finance Plan

(\$ in 1,000's)

| BUILDING                      | N/M* | 2001                | 2002               | 2003                | 2004                | 2005               | 2006       | TOTAL               | Secured<br>Local/State** | Unsecured<br>Local*** |
|-------------------------------|------|---------------------|--------------------|---------------------|---------------------|--------------------|------------|---------------------|--------------------------|-----------------------|
| Cascade Ridge Elementary      | N    | \$8,857,000         |                    |                     |                     |                    |            | \$8,857,000         | \$8,857,000              |                       |
| Middle School #5              | N    | \$500,000           | \$400,000          | \$2,500,000         | \$16,824,000        | \$3,000,000        |            | \$23,224,000        | \$23,224,000             |                       |
| Elementary #13                | N    | \$800,000           | \$250,000          | \$7,500,000         | \$7,050,000         |                    |            | \$15,600,000        | \$15,600,000             |                       |
| Elementary #14                | N    | \$150,000           | \$250,000          | \$3,200,000         | \$8,200,000         | \$6,000,000        |            | \$17,800,000        | \$17,800,000             |                       |
| Sunset Elem. Expansion        | M    | \$50,000            | \$1,350,000        | \$1,100,000         |                     |                    |            | \$2,500,000         | \$2,500,000              |                       |
| Issaq. Valley Elem. Expansion | M    | \$50,000            | \$1,250,000        | \$1,100,000         |                     |                    |            | \$2,400,000         | \$2,400,000              |                       |
| May Valley Service Center     | M    | \$2,000,000         | \$1,711,000        |                     |                     |                    |            | \$3,711,000         | \$3,711,000              |                       |
| Transportation Dept.          | M    | \$455,000           |                    |                     |                     |                    |            | \$455,000           | \$455,000                |                       |
| Administration Building       | M    | \$1,250,000         | \$804,000          |                     |                     |                    |            | \$2,054,000         | \$2,054,000              |                       |
| Site Purchases                | N    | \$600,000           | \$600,000          | \$1,731,000         |                     |                    |            | \$2,931,000         | \$393,000                | \$2,538,000           |
| Portables                     | N    | \$550,000           | \$279,000          |                     |                     |                    |            | \$829,000           | \$629,000                | \$200,000             |
| <b>TOTALS</b>                 |      | <b>\$15,262,000</b> | <b>\$6,894,000</b> | <b>\$17,131,000</b> | <b>\$32,074,000</b> | <b>\$9,000,000</b> | <b>\$0</b> | <b>\$80,361,000</b> | <b>\$77,623,000</b>      | <b>\$2,738,000</b>    |

\*N = New Construction M = Modernization

\*\*The Issaquah School District, with voter approval, has front funded these projects

\*\*\*School impact fees may be utilized to offset funded expenditures associated with the cost of new facilities. Impact fees are currently collected from King County, City of Bellevue, City of Newcastle, City of Renton, City of Sammamish, and the City of Issaquah for projects within the Issaquah School District.

\*\*\*\* Funds for portable purchases may come from impact fees, state matching funds, interest earnings or future bond sale elections.



# Lake Washington School District

## Six-Year Finance Plan

| Site | Building                 | 2001                | 2002       | 2003                | 2004                | 2005                | 2006                | TOTAL                | Local                | Est. Secured State  | Unsecured Local*   |
|------|--------------------------|---------------------|------------|---------------------|---------------------|---------------------|---------------------|----------------------|----------------------|---------------------|--------------------|
| 19   | Mod Audubon Elementary   | \$10,159,790        |            |                     |                     |                     |                     | \$10,159,790         | \$8,904,639          | \$1,255,151         |                    |
| 10   | Mod Lakeview Elementary  | \$11,578,646        |            |                     |                     |                     |                     | \$11,578,646         | \$10,363,032         | \$1,203,614         | \$12,000           |
| 71   | Mod Redmond Jr High      | \$23,488,811        |            |                     |                     |                     |                     | \$23,488,811         | \$20,380,786         | \$3,108,025         |                    |
| 2    | Mod Thoreau Elementary   |                     |            | \$11,052,075        |                     |                     |                     | \$11,052,075         | \$9,513,535          | \$1,538,540         |                    |
| 22   | Mod Mann Elementary      |                     |            | \$11,683,439        |                     |                     |                     | \$11,683,439         | \$10,429,195         | \$1,254,244         |                    |
| 85   | Mod Redmond High         |                     |            | \$50,943,688        |                     |                     |                     | \$50,943,688         | \$46,475,733         | \$4,467,955         |                    |
| 65   | Mod Kirkland Jr High     |                     |            | \$22,858,537        |                     |                     |                     | \$22,858,537         | \$20,043,624         | \$2,771,497         | \$43,416           |
| 41   | New Elementary           |                     |            |                     |                     |                     | \$15,437,316        | \$15,437,316         | \$11,292,327         | \$0                 | \$4,144,989        |
| 16   | Mod Franklin Elementary  |                     |            |                     | \$12,679,316        |                     |                     | \$12,679,316         | \$11,229,411         | \$1,449,905         |                    |
| 3    | Mod Juanita Elementary   |                     |            |                     | \$12,788,215        |                     |                     | \$12,788,215         | \$11,263,683         | \$1,524,532         |                    |
| 15   | Mod Rose Hill Elementary |                     |            |                     |                     | \$13,141,098        |                     | \$13,141,098         | \$11,647,627         | \$1,493,471         |                    |
|      | <b>TOTALS</b>            | <b>\$45,227,247</b> | <b>\$0</b> | <b>\$96,537,739</b> | <b>\$25,467,531</b> | <b>\$13,141,098</b> | <b>\$15,437,316</b> | <b>\$195,810,931</b> | <b>\$171,543,592</b> | <b>\$20,066,934</b> | <b>\$4,200,405</b> |

\* These are expected to be secured through Impact and Mitigation Fees. (Calculation of estimated impact fees are shown in Appendix B & C.)

Unsecured local funds for Redmond High based on net increase in permanent capacity being added.

Note: Dollars are adjusted for expected inflation.

**East Lake Sammamish Basin Plan Recommendations--King County Basin Study Projects**  
(modified for use in Drainage CIPs established through the City of Sammamish Stormwater Management Comprehensive Plan)

| Project #                |          | Project Description                     | Priority <sup>1</sup> | Year 2000 Cost Estimate <sup>2</sup> (dollars) | Status (7/98) <sup>3</sup> | Planned Completion |
|--------------------------|----------|-----------------------------------------|-----------------------|------------------------------------------------|----------------------------|--------------------|
| Plan #                   | CIP #    |                                         |                       |                                                |                            |                    |
| 1532 & 155               | AB1005   | George Davis Lake & Beaver Lake Studies | 1a*                   | 86,100                                         |                            |                    |
| 1546 & 1599p             | OL1005   | Lower Zaccuse Creek                     | 1b                    | 646,900                                        |                            |                    |
| 1588                     | AB1005   | Water Quality Study Retrofits           | 1b                    | 230,600                                        | S                          | 1997*              |
| 1599c                    | In BW-10 | George Davis Fencing                    | 1b                    | 60,600                                         |                            |                    |
| 1599f, j                 | AK1005   | Small Revegetation                      | 2                     | 38,000                                         | PC/NF                      | 1997*              |
| 1533                     | OX1005   | Infiltration Pond (0144)                | 2                     | 461,100                                        |                            |                    |
| 1547 & 1599z             | OM1005   | Lower 0163                              | 2                     | 191,200                                        |                            |                    |
| 1549 & 1599r             | OR1005   | Laughing Jacobs Creek Relocation        | 2                     | 164,300                                        |                            |                    |
| 1530                     | OS1005   | Wetland 26 Trestle (SE 24th)            | 2                     | 521,600                                        | D                          | 1999*              |
| 1540                     | OU1005   | Wetland 30 Trestle @ 236th Ave. NE      | 2                     | 1,304,800                                      |                            |                    |
| 1537                     |          | Wetland 30 Trestle                      | 2                     | 1,935,600                                      |                            |                    |
| 1521 & 1599k             | OA1005   | Lower 0143A                             | 2                     | 150,300                                        |                            |                    |
| 1531 & 1538              | AB1006   | Small Water Quality CIPs                | 2                     | 89,100                                         |                            |                    |
| 1526                     | OF1005   | 0143G at Parkway                        | 3                     | 264,600                                        |                            |                    |
| 1523 & 1599m             | OC1005   | 0143C at Parkway                        | 3                     | 266,800                                        |                            |                    |
| 1528                     | OH1005   | 0143K RR Culvert                        | 3                     | 98,800                                         |                            |                    |
| 1527 & 1599n             | OG1005   | 0143H at Parkway                        | 3                     | 275,800                                        |                            |                    |
| 1522 & 1599 <sup>1</sup> | OB1005   | 0143B at Parkway                        | 3                     | 387,700                                        |                            |                    |
| 1524 & 1599a             | OD1005   | 0143E above Parkway                     | 3                     | 357,100                                        |                            |                    |
| 1525                     | OE1005   | 0143F at Parkway                        | 3                     | 417,700                                        |                            |                    |
| 1541                     | AG1005   | Pine Lake Revegetation                  | 3                     | 12,700                                         |                            |                    |
| 1552                     | AE1005   | Laughing Jacobs Lake Outlet             | 3                     | 432,300                                        |                            |                    |
| 1539                     | AA1005   | Pine Lake Creek Restoration             | 3                     | 419,300                                        |                            |                    |
| 1554                     |          | Beaver Lake Revegetating                | 3                     | 12,700                                         | PC/NF                      | 1996*              |
| 1534 & 15ppl             |          | 0144 - 212th NE Culvert                 | X                     | -                                              |                            |                    |

<sup>1</sup> Priority is highest for 1a, lowest for 3. X was not prioritized by the County.

<sup>2</sup> Year 2000 Cost Estimate is escalated cost based on information in the following documents: King County Surface Water Management Division, *Final Draft Estimated Unfunded Needs for Large Capital Improvement Projects*, August 7, 1996; *East Lake Sammamish Project Descriptions (Projects 1521-1599r, Copy 3)*; King County Surface Water Management Division, *Issaquah/East Lake Sammamish Watershed Management Committee (WMC)*, Final East Lake Sammamish Basin and Nonpoint Action Plan, December 1994; King County Surface Water Management Division, *Issaquah/East Lake Sammamish Watershed Management Committee (WMC)*, Draft East Lake Sammamish Basin and Nonpoint Action Plan, May 11, 1992. (and 13, both documents will be referred to 11 in Drainage CIP Database); King County Surface Water Management Division, *Issaquah/East Lake Sammamish Watershed Management Committee (WMC)*, *Watershed Management Committee - Proposed East Lake Sammamish Basin and Nonpoint Action Plan, Volume 2; Response to Public Comments*, December 1992 (and 11).

<sup>3</sup> Status Key: P = Pending; S = Study; D = Design; C = Under Construction; PC = Project Constructed; PD = Project Dropped; PC/NF = Partial Construction Only.

\* Some work was done, but project incomplete.



# Drainage CIP Projects: Annual Expenditures<sup>1</sup>

| Project ID # | Project                                                       | Category <sup>2</sup> | 2000      | 2001      | 2002        | 2003        | 2004        | 2005        | 2006        | Beyond     |
|--------------|---------------------------------------------------------------|-----------------------|-----------|-----------|-------------|-------------|-------------|-------------|-------------|------------|
| 1            | Erosion/Roadway Failure on 212th <sup>3</sup>                 | Y                     |           | \$50,000  |             |             |             |             |             |            |
| 2            | Erosion/Roadway Failure on ELSF & NE 22nd                     | D                     | \$5,000   | \$40,000  |             |             |             |             |             |            |
| 3            | Flooding at NE Sammamish S&WD Sewer Lift Station <sup>4</sup> | QF                    | \$40,000  |           |             |             |             |             |             |            |
| 4            | Flooding at 212th & SE 14th Place <sup>5</sup>                | S                     | \$100,000 |           |             |             |             |             |             |            |
| 5            | Flooding/Erosion on Tributary to George Davis Creek           | D                     |           | \$50,000  | \$200,000   |             |             |             |             |            |
| 6            | George Davis Creek Improvement Culvert                        | S                     |           | \$100,000 |             |             |             |             |             |            |
| 7            | Flooding at SE 24th St & 238th Ave SE                         | D                     |           | \$1,000   | \$10,000    |             |             |             |             |            |
| 8            | Allen Lake System Joint City/County Project                   | D                     |           | \$5,000   | \$40,000    |             |             |             |             |            |
| 9            | Erosion/WQ Problems at Spring (Eagle Crest)                   | D                     |           |           | \$2,000     | \$30,000    |             |             |             |            |
| 10           | Flooding at 202nd 202nd Ave SE                                | Y,S                   |           | \$2,000   | \$20,000    |             |             |             |             |            |
| 11           | Flooding at lss. Pine Lk Rd, bwn SE 48th St & SE 44th St      | S <sup>4</sup>        |           | \$40,000  |             |             |             |             |             |            |
| 12           | Trestle Projects                                              | S                     |           | \$120,000 |             |             |             |             |             |            |
| 13           | George Davis Creek Habitat Improvements                       | QF                    |           | \$2,000   |             |             |             |             |             |            |
| 14           | Flooding on Trib 0.167 at 4500 Block of lss. Pine Lk Rd SE    | S                     |           |           | \$50,000    |             |             |             |             |            |
| 15           | Flooding/WQ at NE 18th and 228th                              | Y,S                   |           |           | \$5,000     |             |             |             |             |            |
| 16           | Flooding at NE 20th and Outlet for Mystic Lake                | Y                     |           |           | \$5,000     |             |             |             |             |            |
| 17           | Erosion/Flooding at 21509 NE 6th Place                        | Y,S                   |           | \$10,000  |             |             |             |             |             |            |
| 18           | RD Facility Retrofit at 20200 NE 16th Street                  | D                     |           | \$5,000   |             | \$50,000    |             | \$50,000    | \$50,000    | Varies     |
| 19           | Laughing Jacobs Creek Culvert Replacement                     | S                     |           | \$25,000  |             |             |             |             |             |            |
| 20           | Laughing Jacobs Creek Stream Enhancement                      | S                     |           | \$100,000 |             |             |             |             |             |            |
| 21           | Laughing Jacobs Water Quality Study and Revegetation          | D                     |           | \$70,000  | \$400,000   |             |             |             |             |            |
|              | Unplanned Emergency CIPs (Annual, miscellaneous)              | Varies                |           | \$20,000  | \$882,000   | \$130,000   | \$50,000    | \$50,000    | \$50,000    | Varies     |
|              | <b>Subtotal</b>                                               |                       | \$145,000 | \$641,000 | \$882,000   | \$130,000   | \$50,000    | \$50,000    | \$50,000    | Varies     |
| T1           | 228th Avenue Phase 1A <sup>6</sup>                            | C                     | \$150,000 |           |             |             |             |             |             |            |
| T2           | 228th Avenue Phase 1B                                         | D                     |           |           |             |             |             |             |             |            |
| T3           | 228th Avenue Phase 1C                                         | D                     |           |           |             | \$1,200,000 |             |             |             |            |
| T4           | 224th Avenue Phase I                                          | D                     |           |           |             |             | \$600,000   | \$600,000   |             |            |
| T5           | 224th Avenue Phase II                                         | D                     |           |           |             |             |             |             |             |            |
| T6           | Sahalee Way NE Phase I                                        | D                     |           |           |             | \$200,000   |             |             |             |            |
| T7           | Sahalee Way NE Phase II                                       | D                     |           |           |             |             | \$315,000   |             |             |            |
| T8           | 212th Avenue Phase I                                          | D                     |           |           |             | \$180,000   | \$210,000   | \$210,000   |             |            |
| T9           | 212th Avenue Phase II                                         | D                     |           |           |             |             | \$180,000   | \$210,000   | \$210,000   |            |
| T10          | Trossachs Blvd. Extension                                     | D                     |           |           |             |             |             | \$250,000   |             |            |
| T11          | Intersection Improvements                                     | D                     |           | \$18,000  | \$42,000    |             |             |             |             |            |
| T12          | East Lake Sammamish Parkway Phase I                           | D                     |           |           |             |             | \$120,000   | \$280,000   |             |            |
| T13          | Issaquah Pine Lake Road Extension                             | D                     |           |           |             |             | \$72,000    | \$168,000   |             |            |
| T14          | Sidewalk Projects (drainage component)                        | S                     | \$90,000  | \$70,000  | \$70,000    | \$70,000    | \$70,000    | \$70,000    | \$70,000    | \$70,000   |
|              | <b>Subtotal</b>                                               |                       | \$240,000 | \$98,000  | \$762,000   | \$1,650,000 | \$1,567,000 | \$2,386,000 | \$880,000   | Varies     |
|              | <b>Basin Study Projects<sup>7</sup></b>                       | Varies                |           | \$86,000  | \$469,000   | \$469,000   | \$1,619,000 | \$1,619,000 | \$1,619,000 | 2,900,000+ |
|              | <b>Subtotal</b>                                               |                       | \$0       | \$86,000  | \$469,000   | \$469,000   | \$1,619,000 | \$1,619,000 | \$1,619,000 | Varies     |
|              | <b>Total</b>                                                  |                       | \$385,000 | \$815,000 | \$2,113,000 | \$2,249,000 | \$3,236,000 | \$4,057,000 | \$2,549,000 | Varies     |

<sup>1</sup>All values are estimates and can be expected to change after detailed scopes and fees are developed.

<sup>2</sup>QF = Quick Fix; Y = Study; S = Simple Design/Construction; C = Construction only; D = Study/Design/Construction. The categories are explained in the document text (see "Prioritization").

<sup>3</sup>Additional CIP funds will be required to implement an interim solution prior to a permanent solution in conjunction with the 212th Roadway project (2003-2005).

<sup>4</sup>Year 2000 CIP completed.

<sup>5</sup>Year 2000 project completed; however, additional work might be required on the private road associated with this project, and costs might increase accordingly.

<sup>6</sup>Potential for cooperative funding solution with County Roads.

<sup>7</sup>Costs based on Basin Plan Information and Prioritized list from County (Tina Miller). Does not include all projects identified in Basin Plans. See Table 5-2 for prioritized, updated list of projects included in this CIP.

Priority 1a = roughly 86,000 — handle in first year

Priority 2 = roughly 4,856,000 — split among 2004, 2005, 2006

Priority 1b = roughly 938,000 — split between 2002 and 2003

Priority 3 = roughly 2,848,000 — handle in years after the 6-year CIP

## Appendix C

### Draft Parks, Recreation & Open Space Comprehensive Plan

This plan is available under separate cover.



## **APPENDIX D. HOUSING NEEDS ASSESSMENT**

### **Community & Housing**

#### **1. Household Composition**

Figure D-1 Household Types 2000: City, Eastside, County

Figure D-2 Persons by Age 2000: City, Eastside, County

Figure D-3 Persons per Unit 2000: City, Eastside, County

#### **2. Housing Resources**

Figure D-4 Housing Units by Type 1998 – 2000: City, Eastside, County

Figure D-5 Residential Unit Permit Activity 1995 – 2000: City

Figure D-6 Units in a Housing Structure 2000: City, County

Figure D-7 Single Family vs. Multiple Family 1991 & 2000: City, Eastside, County

#### **3. Housing Access & Tenure**

Figure D-8 Housing Occupancy 2000: City, Eastside, County

#### **4. Housing Cost**

Figure D-9 Average Rents 1990 – 2001: Sammamish Market Area, Eastside, County

Figure D-10 Rental Survey 2002: City

Figure D-11 Income Guidelines and Housing Affordability 2002: County

Figure D-12 Detached and Attached Home Sale Price 2001: City

Figure D-13 Average Home Prices 1996 – 2000: City by zip code, Eastside, County

#### **4. Housing Conditions**

Figure D-14 Year Housing Built: City, County

### **Housing Needs**

#### **1. Household Incomes**

Figure D-15 Income in 1999: City, County

Figure D-16 Household Income Levels

Figure D-17 Percent of Affordable Housing Units 2000: City, Eastside, County

Figure D-18 Housing Affordable to Low & Mod Income Households 1999: City, County

Figure D-19 Poverty Status 1999: City, County

#### **2. Special Needs and At Risk Populations**

Figure D-20 Population with Disability 2000: City, County

Figure D-21 Fair Housing Areas & Protected Classes: US, Washington State, County

Figure D-22 Emergency and Transitional Housing Units 2002: Eastside

### **Population, Household & Employment Forecast**

Figure D-23 PSRC Covered Employment Estimates 2000: City, County

Figure D-24 GMPC Job Growth to Housing Units Built 1993-2000: City, Eastside

Figure D-25 GMPC Job Targets to Household Targets 2001-2022: City, Eastside

Figure D-26 Existing (2000) & Potential Build-out Housing Supply 2002-2022: City

Figure D-27 Housing Unit Growth Targets 2022: City

### **Washington Housing Policy Act**

## HOUSING NEEDS ASSESSMENT

### INTRODUCTION

The Housing Needs Assessment provides inventory and analysis of existing and projected housing needs for the City of Sammamish Housing Element, Housing Strategy Plan and associated development regulations.

The Housing Needs Assessment also fulfills the Growth Management Act requirement for a complete inventory and analysis of a community's current housing resources and housing needs. The GMA and the King County Countywide Planning Policies also require that communities' Comprehensive Plans address housing for all economic segments of the community as well as persons with special housing needs.

The planning area for this Housing Needs Assessment is the 2000 City of Sammamish boundary as shown in **Figure I-1** of **Chapter I**. Throughout the Housing Needs Assessment and Housing Element, references to "Eastside" or "East King County" include the cities of Beaux Arts Village, Bellevue, Bothell, Clyde Hill, Hunts Point, Issaquah, Kenmore, Kirkland, Medina, Mercer Island, Newcastle, Redmond, Sammamish, Woodinville, and Yarrow Point.

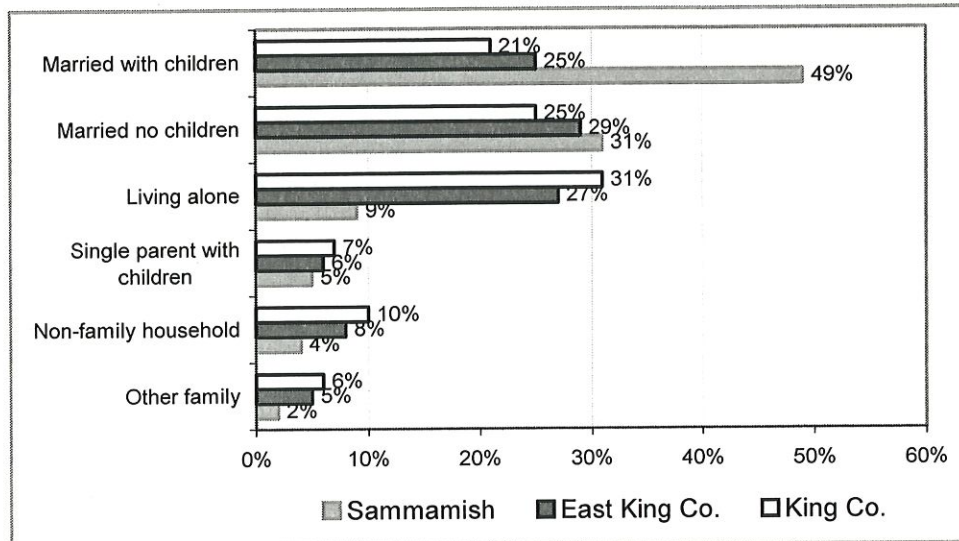


## COMMUNITY & HOUSING

### 1. Household Composition

Household composition in Sammamish is closely divided between households with children (54%) and those with no children (46%). Sammamish has far more households with children and fewer one-person households than East King County or King County as a whole.

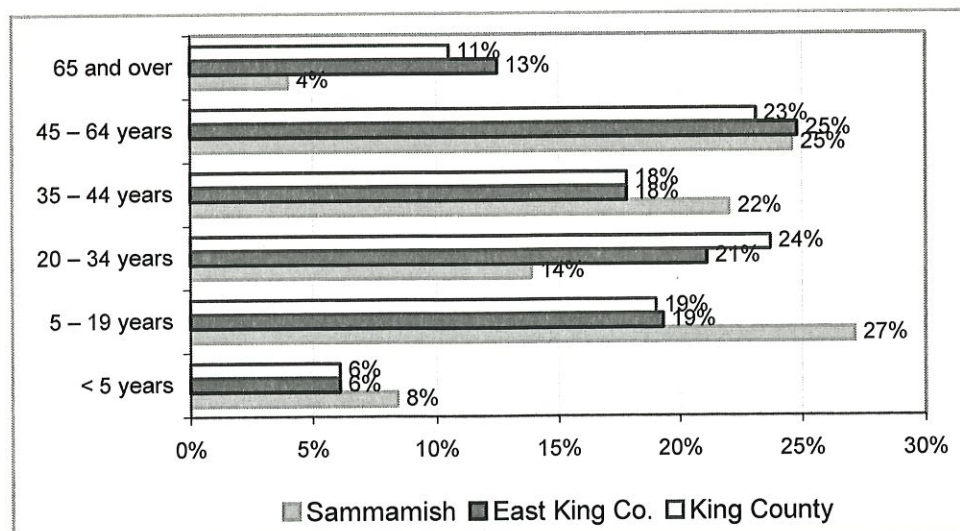
**Figure D-1**  
**Household Types 2000: City, Eastside, County**



Source: U.S. Census Bureau, Census 2000

The 2000 Census reports the median age of Sammamish residents as 35.3 years. This is comparable to residents of King County at 35.7 years. A closer look at age data shows significantly more children and fewer elderly in Sammamish. Only 4 percent of the City's total households include individuals who are 65 years and over compared to 11% and 13% for the county and eastside respectively.

**Figure D-2**  
**Persons by Age 2000: City, Eastside, County**



Source: U.S. Census Bureau, Census 2000

The average number of persons per household for the City of Sammamish in 2000 was 3.0, which is greater than the county-wide or East King County average of about 2.4 persons per household. Households in the City of Sammamish and Issaquah area are expected to decline to 2.6 persons per household by 2020 (PSRC Population & Employment Estimates 2001). As the average household size decreases, a greater number of housing units will be required to accommodate the population.

**Figure D-3**  
**Persons per Unit 2000: City, Eastside, County**

|                        | Sammamish |       | East King Co. |       | King Co. |       |
|------------------------|-----------|-------|---------------|-------|----------|-------|
| Total units            | 11,131    | %     | 138,682       | %     | 710,916  | %     |
| 1-person               | 1,051     | 9.4%  | 37,353        | 27.0% | 217,163  | 30.5% |
| 2-person               | 3,416     | 30.0% | 49,456        | 35.6% | 240,334  | 33.8% |
| 3-person               | 2,298     | 20.6% | 21,658        | 15.6% | 106,579  | 15.0% |
| 4-person               | 2,947     | 26.5% | 20,005        | 14.4% | 89,918   | 12.6% |
| 5-person               | 1,104     | 9.9%  | 7,061         | 5.1%  | 35,842   | 5.0%  |
| 6-person               | 233       | 2.1%  | 2,101         | 1.5%  | 12,685   | 1.8%  |
| 7 or more person       | 82        | .7%   | 1,048         | 0.7%  | 8,395    | 0.1%  |
| Average Household Size | 3.0       |       | 2.43          |       | 2.39     |       |

Source: U.S. Census Bureau, Census 2000

## 2. Housing Resources

**Figure D-4**  
**Housing Units by Type 1998-2000: City, Eastside, County**

|                              | 1998    |     | 1999    |     | 2000    |     |
|------------------------------|---------|-----|---------|-----|---------|-----|
| Sammamish Single Family      | 9,380   | 95% | 9,495   | 95% | 10,155  | 91% |
| Sammamish Multi-family       | 540     | 5%  | 547     | 5%  | 986     | 9%  |
| Sammamish Total Units        | 9,920   |     | 10,042  |     | 11,141  |     |
| EKC Single Family            | 79,257  | 61% | 81,102  | 60% | 82,604  | 59% |
| EKC Multifamily              | 51,569  | 39% | 56,875  | 39% | 57,892  | 41% |
| East King County Total Units | 130,826 |     | 137,977 |     | 140,496 |     |
| KC Single Family             | 437,312 | 62% | 449,719 | 61% | 454,274 | 61% |
| KC Multi family              | 273,141 | 38% | 289,419 | 39% | 295,931 | 39% |
| King County Total Units      | 710,453 |     | 739,138 |     | 750,205 |     |

Source: 1999, 2000, & 2001 King County Annual Growth Reports.

Figure D-4 shows housing growth and existing housing supply for Sammamish East King County and King County. In 2000, single family detached housing accounts for more than 90 percent of the City's housing stock, compared with East King County's average of 59% percent and the County's average of 61 percent.



**Figure D-5**  
**Residential Unit Permit Activity 1995-2000: City**

|              | Single Family | Multifamily | Total      |
|--------------|---------------|-------------|------------|
| 1995         | 16            | --          | 16         |
| 1996         | 68            | --          | 68         |
| 1997         | 44            | --          | 44         |
| 1998         | 50            | --          | 50         |
| 1999         | 40            | --          | 40         |
| 2000         | 86            | 195         | 281        |
| <b>TOTAL</b> | <b>317</b>    | <b>195</b>  | <b>512</b> |

Source: 2001 King County Annual Growth report (King County Office of Regional Policy and Planning building permit files)

Over 500 housing units were built between 1995 and 2000, nearly 5% of the City's housing stock. Nearly 75% of the city's housing stock was built in the 20 years between 1980 and 2000 (see **Figure D-14**). Although Sammamish has seen an increase in multifamily units from 5 percent in 1998 to 9 percent in 2000, this number is below East King County and King County percentages of multifamily units of about 40 percent.

**Figure D-6**  
**Units in a Housing Structure 2000: City, County**

|                                   | Sammamish |      | King Co. |      |
|-----------------------------------|-----------|------|----------|------|
|                                   | Number    | %    | Number   | %    |
| Total Housing units               | 11,682    | 100  | 742,237  | 100  |
| Single unit, detached             | 10,792    | 92.4 | 423,328  | 57.0 |
| Single unit, attached             | 115       | 1.0  | 23,838   | 3.2  |
| 2-unit housing structure          | 46        | 0.4  | 15,831   | 2.1  |
| 3 or 4 unit housing structure     | 43        | 0.4  | 31,428   | 4.2  |
| 5 to 9 unit housing structure     | 118       | 1.0  | 49,573   | 6.7  |
| 10 to 19 unit housing structure   | 340       | 2.9  | 57,782   | 7.8  |
| 20 or more unit housing structure | 143       | 1.2  | 120,380  | 16.2 |
| Mobile home                       | 85        | 0.7  | 18,539   | 2.5  |
| Boat, RV, van etc.                | --        |      | 1,538    | 0.2  |

Source: U.S. Census Bureau, Census 2000

### **Multi-Family Housing**

**Figure D-6** shows the breakdown by unit size of the City's and County's multifamily housing. The City of Sammamish has a smaller proportion of multi-family housing in every size category compared to King County. In 2000, townhouse and multifamily homes comprised less than 8 percent of the City's housing units compared to about 40% in King County. **Figure D-7** shows the number and percent distribution of single family and multifamily units in Sammamish, East King County and King County. Note that 1991 Sammamish data is based on East Sammamish Community Planning Area.

**Figure D-7**  
**Single Family vs. Multiple Family 1991 & 2000: City, Eastside, County**

|                      | SF units | %   | MF units | %   | Total units |
|----------------------|----------|-----|----------|-----|-------------|
| <b>Sammamish*</b>    |          |     |          |     |             |
| 1991                 | 10,500   | 87% | 1,600    | 13% | 12,100      |
| 2000                 | 10,155   | 91% | 986      | 9%  | 11,141      |
| <b>East King Co.</b> |          |     |          |     |             |
| 1991                 | 63,576   | 59% | 43,373   | 41% | 106,949     |
| 2000                 | 82,604   | 59% | 57,892   | 41% | 140,496     |
| <b>King County</b>   |          |     |          |     |             |
| 1991                 | 401,994  | 61% | 260,984  | 39% | 662,978     |
| 2000                 | 454,274  | 61% | 295,931  | 39% | 750,283     |

Source: 1991 Housing Mix: 1992 King County Annual Growth Report, included in PAB Background Housing Data  
2000 Housing Mix: 2001 King County Annual Growth Report  
Notes: \*Sammamish 1991 Data based on East Sammamish Community Planning Area  
Mobile Home included with SF

### 3. Housing Access / Tenure

#### Owner Versus Renter Occupied Dwelling Units

Sammamish housing is primarily owner occupied. Of occupied dwellings, 90 percent are owner occupied and 10 percent are renter occupied. This percentage of owner occupied housing is higher than county-wide and East King County figures, where owner occupied housing units comprise 60 and 66 percent of the total housing stock, respectively.

#### Occupied Versus Vacant Dwelling Units

Of the total housing units in the City of Sammamish, the 2000 Census reported that 96 percent were occupied and only four percent were vacant. This is comparable to the vacancy rate in both the Eastside and King County. Vacancy rates below 5% are considered low, and an indication of a strong housing market.

**Figure D-8**  
**Housing Occupancy 2000: City, Eastside, County**

|                                                        | Sammamish    |      | East King Co. |      | King Co.     |      |
|--------------------------------------------------------|--------------|------|---------------|------|--------------|------|
|                                                        | Number       | %    | Number        | %    | Number       | %    |
| <b>Total housing units</b>                             | 11,599       | 100% | 145,593       | 100% | 742,237      | 100% |
| <b>Total occupied housing units</b>                    | 11,131       | 96%  | 138,682       | 95%  | 710,916      | 96%  |
| <b>Total vacant housing units</b>                      | 468          | 4%   | 6,911         | 5%   | 31,321       | 4%   |
| <b>Owner occupied units</b>                            | 10,029       | 90%  | 91,056        | 66%  | 425,436      | 60%  |
| <b>Renter occupied units</b>                           | 1,102        | 10%  | 47,626        | 34%  | 285,480      | 40%  |
| <b>Homeowner vacancy rate</b>                          | --           | 2.1% | --            | --   | --           | 1.2% |
| <b>Average household size of owner-occupied units</b>  | 3.12 persons |      | --            |      | 2.60 persons |      |
| <b>Average household size of renter occupied units</b> | 2.52 persons |      |               |      | 2.08 persons |      |

Source: U.S. Census Bureau, Census 2000



affordability. A family would need to earn between \$40,000 and \$45,000 a year to afford a 2-bedroom apartment renting at \$1,000 month.

**Figure D-11**  
**Income Guidelines and Housing Affordability 2002: County**

|                              | Studio<br>(1 person) | 1-bedroom<br>(2person) | 2-bedroom<br>(3 person) | 3-bedroom<br>(4 person) |
|------------------------------|----------------------|------------------------|-------------------------|-------------------------|
| <b>Low Income</b>            |                      |                        |                         |                         |
| <b>50% of Median Income</b>  |                      |                        |                         |                         |
| Household Income             | \$27,265             | \$31,160               | \$35,055                | \$38,950                |
| Rental                       | \$651                | \$733                  | \$815                   | \$897                   |
| Owner *                      | \$70,000             | \$80,500               | \$91,500                | \$102,500               |
| <b>Moderate Income</b>       |                      |                        |                         |                         |
| <b>80% of Median Income</b>  |                      |                        |                         |                         |
| Household Income             | \$43,624             | \$49,856               | \$56,088                | \$62,320                |
| Rental                       | \$1,060              | \$1,200                | \$1,341                 | \$1,481                 |
| Owner *                      | \$120,500            | \$139,000              | \$157,000               | \$175,000               |
| <b>Median Income</b>         |                      |                        |                         |                         |
| <b>100% of Median Income</b> |                      |                        |                         |                         |
| Household Income             | \$54,530             | \$62,320               | \$70,110                | \$77,900                |
| Rental                       | \$1,332              | \$1,512                | \$1,692                 | \$1,871                 |
| Owner *                      | \$154,500            | \$177,500              | \$200,500               | \$223,500               |

Source: 2002 HUD Income Guidelines for King County. Included in PAB Background Housing Data.

Note: \*Owner estimate assuming 10% down payment, 30 year fixed mortgage at 8%, Property taxes and 1.25% mortgage insurance, homeowner dues/insurance \$120-\$160.

#### Single Family Detached and Attached (Condominium) Sales

**Figure D-12**  
**Detached and Attached Home Sale Price 2001: City**

| Housing Type        | Number Sales | Average Sales Price |
|---------------------|--------------|---------------------|
| Resales: Detached   | 211          | \$420,377           |
| Resales: Attached   | 3            | \$245,333           |
| All Resales         | 214          | \$417,923           |
| New Sales: Detached | 168          | \$553,529           |
| New Sales: Attached | 70           | \$200,092           |
| All New Sales       | 238          | \$449,577           |
| All Sales           | 452          | \$434,590           |

Source: Central Puget Sound Real Estate Research Reports, Fall, 2001  
Included in PAB Background Housing Data.

**Figure D-13**  
**Average Home Prices 1996 - 2000: City by zip code, Eastside, County**

|                              | Samm. Area | East King Co. | King Co.  |
|------------------------------|------------|---------------|-----------|
| % Increase 1996 - 2000       | 35%        | 46%           | 43%       |
| Average Home Price           |            |               |           |
| 1 <sup>st</sup> Quarter 1996 | \$248,228  | \$206,296     | \$177,128 |
| 1 <sup>st</sup> Quarter 1997 | \$266,288  | \$222,342     | \$185,703 |
| 1 <sup>st</sup> Quarter 1998 | \$286,085  | \$236,419     | \$200,928 |
| 1 <sup>st</sup> Quarter 1999 | \$311,363  | \$251,659     | \$214,859 |
| 1 <sup>st</sup> Quarter 2000 | \$335,362  | \$300,230     | \$253,241 |

Central Puget Sound Real Estate Research Reports (Seattle-Everett Real Estate Report prior to 1999) Sammamish Data is based on Zip Codes: 98029 and 98053. Included in PAB Background Housing Data.

## 5. Housing Conditions

**Figure D-14**  
**Year Housing Built: City, County**

|                    | Sammamish |      | King Co. |      |
|--------------------|-----------|------|----------|------|
|                    | Number    | %    | Number   | %    |
| 1999 to March 2000 | 1,339     | 11.5 | 15,525   | 2.1  |
| 1995 to 1998       | 1,453     | 12.4 | 47,065   | 6.3  |
| 1990 to 1994       | 1,723     | 14.7 | 61,077   | 8.2  |
| 1980 to 1989       | 4,002     | 34.3 | 128,514  | 17.3 |
| 1970 to 1979       | 2,027     | 17.4 | 127,095  | 17.1 |
| 1960 to 1969       | 523       | 4.5  | 114,611  | 15.4 |
| 1940 to 1959       | 378       | 3.2  | 139,605  | 18.8 |
| 1939 or earlier    | 237       | 2.0  | 108,745  | 14.7 |

Source: U.S. Census Bureau, Census 2000

Almost 75% of Sammamish housing was built between 1980 and March 2000, indicating a relatively new community with housing stock in good condition.



## **HOUSING NEEDS**

### **1. Household Incomes**

#### **Housing Affordability**

Year 2000 U.S. Census sample data indicates median household income in Sammamish (\$101,592 for 1999) was nearly twice that of King County (\$53,157 for 1999). However, many Sammamish households face housing affordability concerns. Housing affordability, regardless of income, relates to the balance between a family's resources and their desire for acceptable housing and amenities. Housing costs are considered "affordable" when no more than 30 percent of a household's income is spent on housing. In 1999 36.4 percent of Sammamish renter households spent more than 30% of household income on gross rent. In the same year, 27.5 percent of Sammamish owner households spent more than 30% of household income on mortgage and other selected housing costs (U.S. Bureau of Census, Census 2000).

Family income levels in Sammamish are distributed across defined income groups: About 5% are low income earning less than 50% of King County median income; about 7% are moderate income earning between 50 and 80% of King County median income; about 15% are median income earning between 80 and 120% of King County median income; and about 70% are high income earning more than 120% of King County median income.

Almost 12% of Sammamish households earn below median income, while only about 5% of the community's housing is affordable to these households.

In most Eastside cities housing affordable to moderate income households is provided through existing market rate multifamily (condominium or rental) and older single family homes. Housing affordable to low income households is provided through market rate housing alternatives such as accessory units or mobile homes, or below market rate, subsidized housing. As our housing data shows, the City of Sammamish is composed predominately of newer, single family detached homes, so fewer of these moderate and low income housing options are currently available.

Households in need refers to lower income households which are paying such a high proportion of their incomes for housing that they are likely to sacrifice other vital expenses. Housing and Urban Development's definition of households in need is households earning below 80 percent of the median income and paying more than 30 percent of their income for housing. In 1999 36.4 percent of Sammamish renter households spent more than 30% of household income on gross rent; and 27.5 percent of Sammamish owner households spent more than 30% of household income on mortgage and selected housing costs (U.S. Bureau of Census, Census 2000).

**Figure D-15**  
**Income in 1999: City, County**

|                                   | Sammamish |      | King Co. |      |
|-----------------------------------|-----------|------|----------|------|
|                                   | Number    | %    | Number   | %    |
| <b>Households</b>                 | 11,172    | 100  | 711,235  | 100  |
| Less than \$10,000                | 151       | 1.4  | 45,534   | 6.4  |
| \$10,000 to \$14,999              | 106       | 0.9  | 30,146   | 4.2  |
| \$15,000 to \$24,999              | 258       | 2.3  | 66,414   | 9.3  |
| \$25,000 to \$34,999              | 407       | 3.6  | 77,320   | 10.9 |
| \$35,000 to \$49,999              | 761       | 6.8  | 111,224  | 15.6 |
| \$50,000 to \$74,999              | 1,701     | 15.2 | 150,548  | 21.2 |
| \$75,000 to \$99,999              | 2,056     | 18.4 | 96,885   | 13.6 |
| \$100,000 to \$149,999            | 2,880     | 25.8 | 81,613   | 11.5 |
| \$150,000 to \$199,999            | 1,434     | 12.8 | 24,479   | 3.4  |
| \$200,000 or more                 | 1,418     | 12.7 | 27,072   | 3.8  |
| Median household income (dollars) | \$101,592 |      | \$53,157 |      |

Source: U.S. Census Bureau, Census 2000, based on a sample

The King County County-wide Planning Policies define income groups as a percentage of the County median income as follows:

**Figure D-16**  
**Household Income Levels**

|                  |                  |                   |                   |
|------------------|------------------|-------------------|-------------------|
| <b>Low</b>       | <b>Moderate</b>  | <b>Median</b>     | <b>High</b>       |
| <b>Below 50%</b> | <b>50 to 80%</b> | <b>80 to 120%</b> | <b>Above 120%</b> |

Source: King County countywide Planning Policies

In King County, approximately 21% of the population earns less than 50% of the median income, and another 17% earns 50% to 80% median income. The following table shows the percentage of housing units that are affordable to low and moderate income groups:

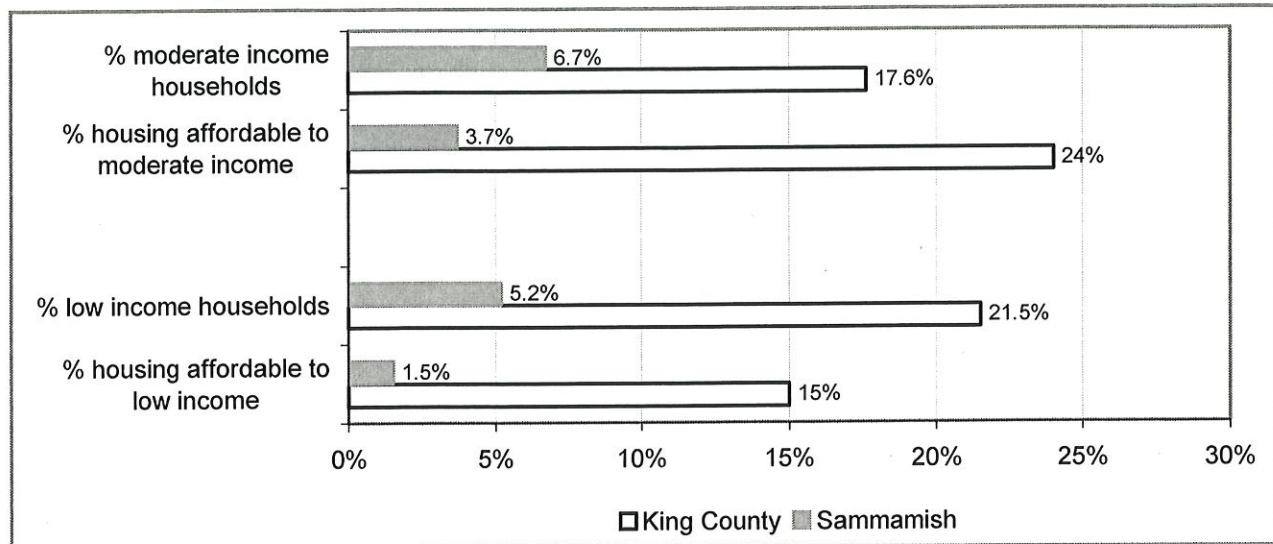
**Figure D-17**  
**Percent of All Affordable Housing Units 2000: City, Eastside, County**

|                                  |                                   | Sammamish | Eastside | King County |
|----------------------------------|-----------------------------------|-----------|----------|-------------|
| <b>Low Income</b>                | <b>0 – 50% of Median Income</b>   | 0.5%      | 2.1%     | 14.9%       |
| <b>Moderate Income</b>           | <b>50% - 80% of Median Income</b> | 5.7%      | 20.2%    | 30.2%       |
| <b>Low &amp; Moderate Income</b> | <b>0 - 80% of Median Income</b>   | 6.2%      | 22.3%    | 45.1%       |

Source: 2001 King County Benchmark Report



**Figure D-18**  
**Housing Affordable to Low & Moderate Income Households 1999: City, County**



Note: 1999 80% median income for a 4-person household: \$50,080

Source: U.S. Census Bureau, Census 2000, Value, Gross Rent and Income in 1999, based on a sample.

Low, moderate, and Median income 1999 for King County as established by HUD

**Figure D-18** shows the percent of all units, both rental and ownership, that are affordable to low income households earning below 50% of median income and moderate income households earning 50 to 80% of median income. In 2000 the King County median income was \$53,157. Approximately 5% of Sammamish households earned less than 50% of the County median income and 6.7% earned between 50% and 80% of the County median income. **Figure D-18** shows the existing gap between what families can afford and the available housing for Sammamish and King County families that earn less than 80% of median income.

One household type which can often be categorized as a household in need is the single female-headed household with children. Single female-headed households with children under 5 years represents 37.5 percent of the 152 Sammamish families living in poverty<sup>1</sup>.

<sup>1</sup> The U.S. Census Bureau determines poverty (per the Office of Financial Management definition) by using 48 thresholds that vary by family size and number of children within the family and age of the householder. To determine whether a person is poor, one compares the total income of that person's family with the threshold appropriate for that family. If the total family income is less than the threshold, then the person is considered poor, together with every member of his or her family. Not every person is included in the poverty universe: institutionalized people, people in military group quarters, people living in college dormitories, and unrelated individuals under 15 years old are considered neither as "poor" nor as "nonpoor," and are excluded when calculating poverty rates.

**Figure D-19**  
**Poverty Status 1999: City, County**

|                                                             | Sammamish |      | King Co. |      |
|-------------------------------------------------------------|-----------|------|----------|------|
|                                                             | Number    | %    | Number   | %    |
| <b>Families below poverty level</b>                         | 152       | 1.6  | 22,597   | 5.3  |
| <b>With related children under 18 years</b>                 | 110       | 1.8  | 17,362   | 8.0  |
| <b>With related children under 5 years</b>                  | 46        | 2.1  | 8,740    | 10.3 |
| <b>Families with female householder, no husband present</b> | 38        | 6.3  | 10,831   | 17.4 |
| <b>With related children under 18 years</b>                 | 30        | 6.3  | 9,768    | 23.4 |
| <b>With related children under 5 years</b>                  | 30        | 37.5 | 4,713    | 36.7 |
| <b>Individuals</b>                                          | 674       | 2.0  | 142,546  | 8.4  |

Source: U.S. Census Bureau, Census 2000

## 2. Special Needs and At Risk Populations

Every community includes persons with special housing needs facing either temporary or permanent challenges. The Housing Element supports equal and fair housing access for all members of the community, including individuals with disabilities. Census 2000 reports 100 Sammamish residents (0.9%) that receive Supplemental Security Income providing financial assistance for individuals who are aged, blind, or disabled and have limited income or resources. The census also reports 152 Sammamish families (1.6%) with incomes below the poverty level. Nearly 75% of those families include children below the age of 18. The population in Sammamish with a disability (Census 2000) includes 5% of children (under age 20), 7% of the adult population (age 21-64), and 23% of seniors (age 65+).

**Figure D-20**  
**Population with Disability 2000: City, County**

|                             | Sammamish |      | King County |      |
|-----------------------------|-----------|------|-------------|------|
|                             | Number    | %    | Number      | %    |
| <b>Population age 5-20</b>  | 9,513     | 100  | 349,496     | 100  |
| <b>Disability age 5-20</b>  | 522       | 5.5  | 25,048      | 7.2  |
| <b>Population age 21-64</b> | 20,697    | 100  | 1,092,800   | 100  |
| <b>Disability age 21-64</b> | 1,581     | 7.6  | 165,148     | 15.1 |
| <b>Population age 65+</b>   | 1,231     | 100  | 175,083     | 100  |
| <b>Disability age 65+</b>   | 285       | 23.2 | 69,647      | 39.8 |

Source: Disability status of the civilian noninstitutionalized population, U.S. Bureau of the Census, Census 2000.

**Fair Housing Rights for Individuals with Disabilities:** The Sammamish Housing Element supports the mandates of federal and state fair housing law. The Federal Housing Amendments Act of 1988 ("FHAA") amended the federal Fair Housing Act (Title VIII) to include individuals with disabilities as a protected class. "The FHAA clearly prohibits the use of stereotypes and prejudice to deny critically needed housing to handicapped persons. The right to be free from housing discrimination is essential to the goal of independent living." Id. Furthermore, the objectives of the Washington housing policy act shall be to attain the state's goal of a decent home in a healthy, safe environment for every resident of the state. RCW 43.185B.009



The FHAA uses a three part definition found in Chapter 151B to define an individual with a handicap, as being a person who has:

- (a) a physical or mental impairment which substantially limits one or more of such person's major life activities;
- (b) a record of having such an impairment; or
- (c) being regarded as having such an impairment. (44 U.S.C 3602(h))

The Social Security Administration defines disability as "The inability to do any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a least twelve months."

### **Figure D-21**

#### **Fair Housing Areas & Protected Classes: U.S. Washington State. County**

##### **United States**

- race
- color
- religion
- sex
- familial status
- national origin
- disability

HUD Fair Housing Enforcement Center

<http://www.hud.gov/complaints/housediscrim.cfm> (206) 220-5172 TDD: 1-800-927-9275

##### **State of Washington**

- race
- color
- national origin
- creed
- sex
- marital status
- disability
- use of guide dog

Washington State Human Rights Commission --<http://www.wa.gov/hrc/> Seattle: (206) 464-6500

##### **Unincorporated King County**

- race
- color
- national origin
- religion
- age
- sex
- marital status
- parental status
- participation in the Section 8 program
- sexual orientation
- disability
- use of guide dog

King County Office of Civil Rights Enforcement --<http://www.metrokc.gov/dias/ocre/> (206) 296-7592

**Continuum of Care:** The concept of the Continuum of Care is designed to help communities develop the capacity to envision, organize, and plan comprehensive and long-term solutions to addressing the goals of fair and safe housing opportunities, providing social and medical services without duplication, and maximizing self sufficiency and independence. An effective Continuum of Care system is coordinated within the region to provide necessary linkages and referral mechanisms among the components to facilitate the movement of individuals and families towards stable housing and maximum independence.

The following is a list of appropriate Continuum of Care Services or Programs:

Intensive Case Management; Home Based Treatment Services; Day Treatment Programs For Children and Adolescents; Adult Day Health Programs; Emergency/Crisis services; Respite Care; Therapeutic Group Homes for Children and Adolescents; Adult Family Homes; Assisted Living; Residential Treatment Facility for Children and Adolescents; and Skilled Nursing Facilities.

### **Needs of Homeless**

There is no reliable way to estimate the numbers of homeless people within East King County or the City of Sammamish. The 2001 King County Benchmark Report of Affordable Housing Indicators (Indicator 23 – Homelessness) estimates the total persons homeless in King County are in the range of 6,500 on any given night. This is equal to nearly .4 percent of the County's population or 4 persons out of every 1,000 persons. This number includes approximately 4,500 persons in shelters or transitional housing, unsheltered persons in Seattle, and unsheltered persons outside of Seattle.

The County Community Information Line (The Crisis Clinic) is a key referral source for homeless people and is often the first point of contact for homeless persons seeking assistance. This service received nearly 12,000 calls in 2000 from callers identified as homeless. Ten percent of those calls were from East King County. From 1996 – 2000, the Clinic experienced a 20% increase in callers seeking emergency shelter.

The King County Benchmark Report notes that a major obstacle for finding permanent housing for the homeless is the high cost of moving into a rental unit. An \$840 apartment (average rent of all units in the county) typically requires the first and last month's rent plus a security deposit to move in. Without financial assistance, a homeless person or family would need to save roughly \$2,000 to move into this apartment.

### **Emergency and Transitional Housing Services**

Numerous emergency shelters operate in East King County. They house individuals or families in dormitories or smaller rooms. Emergency and transitional shelter capacity is measured in household or family units. The Seattle/King County Safe Harbors Project Spring 2002 Inventory of Homeless Units reports that there are 84 existing and planned emergency household units and 126 transitional units in East King County.



**Figure D-22**  
**Emergency and Transitional Housing Units 2002: Eastside**

|                                           | Single Adults | Families Women<br>w/ Children | Young Parents | Youth/ Young<br>Adults | Total |
|-------------------------------------------|---------------|-------------------------------|---------------|------------------------|-------|
| <b>Emergency Shelter Housing Units</b>    |               |                               |               |                        |       |
| East King County                          | 37            | 29*                           |               | 18                     | 84    |
| <b>Transitional Shelter Housing Units</b> |               |                               |               |                        |       |
| East King County                          | 16            | 104                           | 6             | 0                      | 126   |

\* Includes 15 units under development: 7 units "Momma's Hands House of Hope" late 2002, and 8 units Eastside Housing Assoc. 2004.  
Source: Seattle/King County Safe Harbors Project Inventory of Homeless Units Spring 2002.

One of the larger human services agencies serving Sammamish residents is Hopelink, formerly the Multi-Service Centers of North and East King County. Hopelink assists Sammamish residents with emergency and transitional housing, rental assistance, motel vouchers, foodbanks and energy assistance. Hopelink also administers two longer term transitional housing facilities: Hopelink Place in Bellevue with 20 units and Avondale Park in Redmond with 12 units. These facilities provide up to two years of housing for homeless families with children. A shorter term service is provided at Hopelink's Kenmore Family Emergency Shelter. This shelter provides nine units of emergency housing, for stays of 3 to 4 weeks, for families with children under 18. This shelter served four families from Sammamish in 2001. The Kenmore Family Emergency Shelter typically receives about 225 calls per month for housing services, 75 of these calls from families.

## POPULATION HOUSEHOLD & EMPLOYMENT FORECAST

### Employment Estimates

Sammamish is primarily a bedroom community with only 4,757 covered jobs in 2000 (covered employment is the number of jobs covered by state unemployment insurance, it excludes corporate officers, sole proprietors and some others). Despite this small employment base, it is important to consider employment type and employment growth when estimating the City's housing need.

Figure D-23

PSRC Covered Employment Estimates 2000: City, County

|                                                               | Sammamish    |     | King Co.         |     |
|---------------------------------------------------------------|--------------|-----|------------------|-----|
|                                                               | Number       | %   | Number           | %   |
| Construction & Resources                                      | 472          | 10% | 69,949           | 6%  |
| FIRES (Finance, Insurance., Real Estate, Services)            | 1,079        | 23% | 440,364          | 38% |
| Manufacturing                                                 | 43           | 1%  | 147,933          | 13% |
| Retail                                                        | 1,819        | 38% | 189,457          | 16% |
| WTCU (Wholesale, Transportation., Communications & Utilities) | 332          | 7%  | 158,307          | 14% |
| Education                                                     | 928          | 19% | 64,454           | 6%  |
| Government                                                    | 84           | 2%  | 80,542           | 7%  |
| <b>Total</b>                                                  | <b>4,757</b> |     | <b>1,151,006</b> |     |

Source: Puget Sound Regional Council. Employment data are suppressed according to EESD confidentiality agreements. The data represents all employees "covered" under the State's unemployment insurance act. This excludes proprietors, self-employed individuals and others. Sammamish employment update per Chandler Felt 07/15/02.

Most employees in Sammamish are those who provide community services such as teachers, police and city workers, and those working in retail shops and restaurants. Typically retail represents the lower wage jobs, education and government represent middle wage jobs and the other categories include higher wage jobs. In Sammamish, 57% of community based workers are from the three lower paying categories: retail, education and government. The King County Countywide Planning Policies (Table LU-1) include an employment target of 1,230 potential new jobs within the City during the 20-year planning period. With no planned increase in higher wage employment centers, lower wage employees will continue to predominate as the community based workers in Sammamish.

County and regional employment growth will also affect Sammamish housing need. Between 1993 and 2000 the ratio of new jobs to new housing in East King County has averaged 4 new jobs/1 housing unit. By comparison, a ratio of 1.7 jobs to each housing unit is considered balanced. Employment outpacing household growth in East King County is projected to continue through the 20-year planning period, with 2.3 new jobs new jobs for every new household.

Figure D-24

GMPC Job Growth to Housing Units Built 1993-2000: City, Eastside

|                              | Job Growth<br>covered jobs | Housing<br>Units Built | Job/Housing<br>ratio |
|------------------------------|----------------------------|------------------------|----------------------|
| Sammamish                    | 2,299                      | 4,494                  | .5                   |
| East King County<br>(cities) | 93,253                     | 22,808                 | 4.0                  |

GMPC Buildable Lands and Targets Subcommittee,  
Prepared by Michael Hubner, Suburban Cities Association of KC 3/22/02



**Figure D-25**  
**GMPC Job Targets to Household Targets 2001-2022: City, Eastside**

|                                  | Job Target | Household Target | Job/Housing ratio |
|----------------------------------|------------|------------------|-------------------|
| <b>Sammamish</b>                 | 1,230      | 3,842            | .3                |
| <b>East King County (cities)</b> | 93,890     | 40,844           | 2.3               |

*GMPC Amendments to the Countywide Planning Policies July 2002*

Local employers report the impact of the area's lack of housing for community based workers. For example, Lake Washington School District loses one third of new hires within five years. Many of these exiting teachers report their decision to leave is based on housing costs and long commutes. Affordable housing is one of the 8 strategic goals for the District. Issaquah School District's 850 teachers and equal number of support staff struggle with affordable housing. Only one third of the district's 1,500 employees live within the Issaquah School District, lessening their community connection to the schools and families where they work.

**Figure D-26**  
**Existing (2000) and Potential Build-out Housing Supply 2002-Buildout: City**

|                                           | Existing Housing Supply <sup>1</sup> | 2002 Approximation of Existing Housing Supply (May 31, 2002) <sup>2</sup> | Additional Units based on Proposed Comp Plan Build-out <sup>3</sup> (My 31, 2002 base) | Total Housing (2002 Base + Additional) at Build-out based on Proposed Final Comp Plan |
|-------------------------------------------|--------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Total Housing</b>                      | 11,141                               | 14,350                                                                    | 5,564                                                                                  | 19,915                                                                                |
| <b>Single Family (Approx. % of Total)</b> | 91%                                  | 88%                                                                       | 92%                                                                                    | 89%                                                                                   |

<sup>1</sup>Existing Housing Supply: Census 2000, U.S. Census Bureau

<sup>2</sup>Utilizes a different methodology than Census. Based on City *approximation* of single-family development using GIS and a multifamily inventory for purposes of transportation modeling. Includes recorded plats of lots greater than 2,000 s.f. and recently permitted multifamily. See Appendix E for additional information.

<sup>3</sup>Potential build-out housing: Comprehensive Plan Land Use Map. Includes vacant and underdeveloped land capacity and unissued permits in development pipeline, based on disaggregated TAZ information, which does include some rounding. See Appendix E for additional information. See Appendix E, page E-4 for data based on May 31, 2003 information.

**Housing Targets:** Through local and regional population projections, in accordance with the provisions of the GMA, 20-year population growth estimates are established. Based on these population projections, future development "targets", expressed in the number of housing units, are determined through an interactive, multi-jurisdictional process between King County and the cities located within. Through this ongoing regional process, the City's preliminary growth target for the years 2001 to 2022 is currently estimated to be 3,842 net new housing units

**Figure D-27** compares the Sammamish existing and target low and moderate priced housing units to the existing low and moderate households. Low and moderate income Sammamish households in 1999 (1,329) plus projected increases considering target increase in community based workers (1,230) point to a need from *within the community* for targeted amounts of housing affordable to low and moderate households (2,134).

Affordability targets can be achieved in a variety of ways including new construction, preservation of existing housing and accessory dwelling units. Each jurisdiction develops and applies strategies which are determined to be most appropriate to the local housing market.

**Figure D-27**  
**Housing Growth: City**

|                          | King County<br>Housing Units 1999 |      | Sammamish<br>Housing Units<br>Existing 1999 |      | Sammamish Target<br>Housing Units |      | Sammamish<br>Housing Units<br>(Exist + Target) |      | Sammamish<br>Households by<br>Income 1999 |      |
|--------------------------|-----------------------------------|------|---------------------------------------------|------|-----------------------------------|------|------------------------------------------------|------|-------------------------------------------|------|
|                          | Number                            | %    | Number                                      | %    | Number                            | %    | Number                                         | %    | Number                                    | %    |
| <b>Total</b>             | 640,355                           | 100% | 10,717                                      | 100% | 3,842                             | 100% | 14,559                                         | 100% | 11,172                                    | 100% |
| <b>Low (0-50%)</b>       | 93,264                            | 15%  | 158                                         | 1.5% | 922                               | 24%  | 1,080                                          | 7.4% | 576                                       | 5.2% |
| <b>Moderate (50-80%)</b> | 153,134                           | 24%  | 401                                         | 3.7% | 653                               | 17%  | 1,054                                          | 7.2% | 753                                       | 6.7% |
| <b>Median (80-100%)</b>  | 62,800                            | 9.8% | 253                                         | 2.3% | --                                | --   | --                                             | --   | 374                                       | 3.3% |

*Housing Units Affordable to those earning below 100% Median Income: based on U.S. Census Bureau, Census 2000, Value & Gross Rent in 1999, based on a sample.*

*Low & Moderate Income Households based on U.S. Census Bureau, Census 2000 Income in 1999, based on a sample.*

*Low, Moderate, & Median income 1999 for King County as established by HUD*

*Sammamish Housing Targets King County Countywide Planning Policies Targets August 2002*

*Affordable Home Price: low=\$75,000; moderate=\$125,000; median=\$160,000*

*Affordable Rent: low=\$619; moderate=\$1,018; median=\$1,284.*

## WASHINGTON STATE HOUSING POLICY ACT

### Chapter 43.185B RCW

### Washington Housing Policy Act

### RCW 43.185B.009

#### Objectives.

The objectives of the Washington housing policy act shall be to attain the state's goal of a decent home in a healthy, safe environment for every resident of the state by strengthening public and private institutions that are able to:

- (1) Develop an adequate and affordable supply of housing for all economic segments of the population;
- (2) Assist very low-income and special needs households who cannot obtain affordable, safe, and adequate housing in the private market;
- (3) Encourage and maintain home ownership opportunities;
- (4) Reduce life-cycle housing costs while preserving public health and safety;
- (5) Preserve the supply of existing affordable housing;
- (6) Provide housing for special needs populations;
- (7) Ensure fair and equal access to the housing market;
- (8) Increase the availability of mortgage credit at low interest rates; and
- (9) Coordinate and be consistent with the goals, objectives, and required housing element of the comprehensive plan in the state's growth management act in RCW 36.70A.070.



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## APPENDIX E

### SUMMARY OF EXISTING AND FUTURE LAND USE ESTIMATES

#### CITY OF SAMMAMISH COMPREHENSIVE PLAN

##### EXISTING LAND USE INVENTORY

An inventory or estimate of existing land uses is an important comprehensive planning tool, particularly for the coordination of capital facility planning, such as transportation system modeling. For the purposes of estimating existing land uses in Sammamish, the City utilized the following sources of data:

- **Single Family Dwellings – City estimate.** To calculate an approximation of existing dwellings by Transportation Analysis Zone (TAZ), City Staff estimated the existing single-family dwellings in the City by counting the number of developed parcels zoned R-1 to R-8, subtracting parcels identified as vacant, lots identified as part of future growth in the permit pipeline, and those less than 2,000 s.f., generally an unbuildable lot size<sup>1</sup>. Utilizing this methodology, the number of single family units was estimated to be 12,599.
- **Multifamily Dwellings – City estimate.** In Spring 2002, the City utilized King County Assessor Data, building permit data, and other field review to provide a list of existing multifamily units. This list was further updated by Jones & Stokes, consultants to the City, in Fall 2002 to address additional projects recently completed through the City's permit pipeline. Within the City limits, the existing number of multifamily dwellings was estimated as 1,751.
- **Commercial Square Feet – City estimate.** The number of commercial square feet was derived from King County Assessor Data in Spring 2002 and compiled by City Staff. The existing commercial square footage was estimated at around 521,000 square feet.

Data for existing uses outside the City were developed for transportation modeling purposes by the City's consultant Earthtech, utilizing Puget Sound Regional Council data. The City assisted Earthtech with some information for the Klahanie area in terms of multifamily and commercial uses.

The transportation model was calibrated with the existing land use estimates, and found to be a reasonable predictor when compared to existing traffic counts, as detailed in the traffic forecasting model documentation report.

<sup>1</sup> The basis for the number of single family parcels is the King County Geographic Information System parcel layer produced in Spring 2002, along with the City's adopted 1998 area zoning. The location of vacant lots is identified initially in the final EDAW December 2001 report, "Analysis of Population Projections, Existing Land Use, and Development Capacity for the City of Sammamish," but was modified by the City staff in Spring 2002 to exclude some vacant land subject to erosion hazards, or easements or other unbuildable conditions.



## FUTURE GROWTH FORECASTS

Growth management planning involves estimating the amount of future growth that may occur in a community based on a series of assumptions about vacant and underdeveloped lands, also known as buildable lands. In Washington State, local governments are periodically required to analyze the amount of buildable lands in their communities. The buildable lands analysis prepared as a part of this comprehensive planning process, utilized a common King County methodology to project growth which generally involves estimating:

- **Vacant acres:** acres without building improvements. The original database is from Spring 2001, updated by the City in Spring 2002.
- **Underdeveloped acres:** those parcels containing existing residential uses, but large enough to be subdivided further under City zoning requirements, which for the City's analysis were determined to be those lots greater than 4 times the typical gross density allowed under that zoning. For example, those lots zoned R-4 but of a size 43,560 or greater were considered potential lots for additional subdivision or development.
- **Pipeline dwelling units:** Pending the completion of the City's Comprehensive Plan and development regulations, the City has had a moratorium in place, and, generally speaking, has not accepted new development applications during this time. Pipeline projects are those that have received final plat and/or concurrency approval from King County prior to the City's incorporation, but not yet completed as of May 31, 2002, unless otherwise noted. There are approximately 2,000 building permits left to issue on pipeline projects as of May 2002.

For the vacant and underdeveloped land gross acres were determined, and then discounted the amount of acres for the following purposes:

- Environmentally Sensitive Areas (based on King County inventories)
- Roads/Rights-Of-Way/Utilities/Public Purpose (15%)
- Market Factors (25%; i.e. property may not be available)

Additionally, for underdeveloped lots, properties with a high improvement value were excluded, as were existing units on these lots.

The future development estimates originated with the EDAW December 2001 report, "Analysis of Population Projections, Existing Land Use, and Development Capacity for the City of Sammamish." This report was *modified and refined* by the City of Sammamish and later by the City of Sammamish consultants Jones & Stokes as follows:

### City of Sammamish Adjustments:

- Number of vacant and underdeveloped acres minus sensitive areas and buffers: The City amended EDAW information. Some of the EDAW identified land was removed due to erosion hazards, particularly in the western portion of the City. Also, there was also a review of easements and other nonbuildable areas.

- The 15% reduction for roads/parks/other infrastructure was only applied by EDAW to vacant acres, but the City applied it to both vacant and underdeveloped properties, to indicate that even underdeveloped properties that are subsequently developed may require additional access and facilities.
- The City applied a 25% market factor reduction to vacant as well as to underdeveloped property, whereas EDAW applied it to only the underdeveloped property, to recognize in both cases that not all property owners would want to sell/redevelop their properties, and that the real estate market is not 100% efficient (per EDAW report).

#### Jones & Stokes Adjustments:

- Steep Slope Acres: EDAW assumed that some limited development may be possible, although costly, on lands with landslides. Therefore, 10% of landslide area was added to the vacant/underdeveloped acres. This assumption was retained; however, 9.9 acres of steep slope under the R-24 category were removed since there is no vacant/underdeveloped R-24 property in the City.
- Adjustments were made in several existing and future data sets to add undercounted units or to avoid double-counting of properties. 1) There was some double counting of Pipeline developments among the various data sets; 2) there were several Multifamily developments that were not addressed either in the Existing Multifamily Unit list nor in the Vacant/Underdeveloped Land Capacity Analysis; 3) there were many larger Single Family Pipeline projects that were not included either in the count of Existing Lots or Vacant/Underdeveloped Land Capacity Analysis.

Upon analysis of the City's databases, the following sets of corrected databases were provided to the City and consultant team: A) Existing Single Family Lots minus double counted Future Pipeline Lots; B) Vacant/Underdeveloped Capacity Analysis minus public parks/schools/fire station properties and minus double counted Multifamily developments; C) Undercounted Single Family Pipeline Developments *not otherwise addressed* in Existing counts or Vacant/Underdeveloped Land Counts; D) Existing and Future Multifamily Units; E) Commercial/Nonresidential Assumptions for the Special Study Area. Most of the larger Pipeline developments were undercounted (roughly about 400 single family or multifamily pipeline units were addressed, but about 1,600 single family or multifamily pipeline units were not included), but prior to traffic modeling and environmental analysis, this was corrected.

#### Future Growth Numbers

With the above summarized methodology, the City estimated the following modified "buildout" growth estimates within the *City limits* for each of the Land Use Alternatives as of May 31, 2002:

- No Action – 5,803 additional dwellings
- Dispersed – 5,131 additional dwellings



- Gateway Corridor – 5,607 additional dwellings
- PAB Preferred (Summer 2002) – 5,103 to 5,456 additional dwellings (higher end assumes increased developed in a Special Study Area developed for review in the Comprehensive Plan Draft SEIS)
- PAB Recommended (December 2002) – 5,413 additional dwellings
- City Council Proposed Final – 5,383

If considering building permits issued *as of May 31, 2003*, the remaining capacity with the City Council Proposed Final Plan would be *4,858 units*.

It should be noted that almost half of the future growth in the City would be derived from pipeline projects (approximately 2,000 units remaining in the pipeline as of May 31, 2002; approximately 1,535 remaining as of May 31, 2003).

City capacity estimates may be compared to the City's growth targets allotted through the Countywide Planning Process. The Growth Management Act and Countywide Planning Policies for King County require that the City accommodate its fair share of the future growth projected for King County. Future development "targets", expressed in the number of housing units, are determined through an interactive, multi-jurisdictional process between King County and cities located within. Through this ongoing regional process, the City's growth target for the years 2001 to 2022 is currently set at 3,842 units of which approximately 3,029 target units would remain given building permits issued through May 31, 2002. If considering building permits issued as of May 31, 2003, 2,479 target units would remain.

Comparing land capacity to the growth targets, there is an excess of capacity of around 2,000+ units. The City's Comprehensive Plan includes policies and measures for growth management including concurrency of capital improvements, and threshold levels to determine if additional growth controls are needed.

To determine potential effects on planning, particularly transportation, of a 20-year growth level consistent with City targets, a "3,000 scenario" was developed. This scenario reflects partial development of the buildable land within the City of Sammamish. Rather than the 5000+ residential units that are estimated at "build-out" in the various Land Use Alternatives, this scenario assumes the addition of approximately 3,136 residential units to existing development. The distribution of the approximately 3,136 units was determined by assuming completion of all development in the permit pipeline, and the infill of one home per vacant lot. The "3000 Scenario" allowed analysis of the intermediate impacts of additional development on the City systems such as transportation. It also approximately reflects the City's 20-year planning growth target.

Regarding growth estimates outside the City, data for projected uses were developed for transportation modeling purposes by the City's consultant Earthtech, utilizing Puget Sound Regional Council data.

### **Special Study Area**

For purposes of environmental review, given the number of current land use development applications, and interest in determining potential impacts of various development scenarios,

including very low density residential up to mixed use commercial and multifamily residential along the City's major spine, 228<sup>th</sup> Avenue, future development estimates were made within an Supplemental Environmental Impact Statement (SEIS) Special Study Area roughly between NE 4<sup>th</sup> and SE 8<sup>th</sup> along 228<sup>th</sup> Avenue (see Preferred Alternative Map Figure in SEIS). The SEIS and transportation modeling included the following Special Study Area Assumptions:

- City Civic Center - Civic center assumptions include a city hall, community center, library, and active/passive park
- Eastside Catholic High School - application is for 75-90 employees (applicant transportation report reviews up to 176 employees), 205,000 square feet, 1,200 students
- Proposed Church - application is for 40-45,000 square feet, 2-5 employees
- Proposed Lake Washington Housing Proposal: approximately 157 dwelling units

Aside from the specific land use proposals identified above, a portion of the net developable acreage assumed for analysis purposes to be developed at an R-12 level, with the other portion of the net developable acreage in commercial use. Since a portion of the commercial property would be in parking usage, one should convert the net commercial acreage further to get to a gross building area figure.

According to City GIS estimates there are about 207 gross acres in the SEIS Special Study Area. Subtracting the City Civic Center Site, Church Site, Lake Washington School District Site, and Eastside Catholic Site, as well as environmentally sensitive areas, there are 29 net vacant or underdeveloped acres.

Assuming 75% of the net available land would be residential there would be 21.75 acres, and applying a 40% reduction to be consistent with market factors and other adjustments that the City made in its Buildable Lands worksheet, there would then be 13.05 acres. The density would be 12 units per gross acre, and converting that to a net density used in the City's March 2002 Buildable Lands chart, 15 units per acre would be used. With these assumptions, there would be 196 dwelling units.

There would then be 7.25 acres for commercial/office development. Using a 40% discount rate to be consistent with market factors and other adjustments that the City made in its Buildable Lands worksheet (adjustments not made in the GIS files) there would then be 4.35 acres to which a building coverage of 40% is applied since there would need to be space for parking. This would lead to a potential of 75,794 square feet of new commercial and/or office development.

### **SEIS Review and Other Future Alternatives**

A final Land Use Plan will be adopted by the City Council, which is similar to the land use alternatives analyzed in the Comprehensive Plan Draft SEIS: i.e. the No Action, Gateway Corridor, Dispersed, Preferred and Preferred with Special Study Area alternatives. The City Council Proposed Final Land Use Plan (July 2003) includes the potential of approximately 5,383 new units, and is within the range of the studied alternatives (5,100 to 5,800 units roughly). A final model run and subsequent additional traffic analyses have been prepared to test the final long-range transportation network and long-range land use. However, analysis of the various



land use alternatives to date has shown that their relative differences in traffic impacts are generally slight, and this is generally the case for other environmental topics as well.

### **BUILDABLE LANDS SPREADSHEET AND TAZ ASSUMPTIONS**

The City prepared two future development estimate databases – 1) a general aggregate estimate of all vacant or underdeveloped acres by zoning district, discounted for sensitive areas, roads/public purpose, and market factors, with a general total of future units in the City, and 2) a disaggregation of the total development potential from the first aggregate estimate into data by Transportation Analysis Zone (TAZ). There is a difference between the Buildable Lands Capacity Analysis Numbers and the TAZ Numbers for three reasons: A) the City desired a count of lots rather than building permits (assumed in the aggregate capacity analysis) to match in units how the existing single family dwellings were estimated; B) the rounding of fractional units; C) Not all Buildable Lands Capacity Analysis calculations could be repeated in the same manner in the GIS system when numbers were disaggregated by TAZ. However, the numbers by TAZ are close to the Buildable Lands Capacity Analysis and a little higher for a potential conservative analysis (3% to 5% higher).

**Table E-1**  
**Comparison Aggregate and TAZ Land Use Forecasts (as of May 31, 2002)**

| <b>ALTERNATIVE</b>                   | <b>BULDABLE LANDS<br/>AGGREGATE ANALYSIS<br/>Residential Land Use Forecast</b> | <b>TRANSPORTATION<br/>MODELING –<br/>DISAGGREGATION INTO TAZs<br/>Residential Land Use Forecast<sup>1</sup></b> |
|--------------------------------------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| No Action                            | 5,803                                                                          | 5,983                                                                                                           |
| Preferred                            | 5,103                                                                          | 5,371                                                                                                           |
| Preferred with Special Study<br>Area | 5,456                                                                          | 5,724                                                                                                           |
| Proposed Final                       | 5,383 <sup>2</sup>                                                             | 5,564                                                                                                           |

Source: Jones & Stokes

<sup>1</sup> The transportation model numbers reported in transportation model documentation under separate cover are slightly different than the totals reported in this column likely due to some TAZ's which include both land in the City limits and land outside the City limits.

<sup>2</sup> See page E-4 for capacity as of May 31, 2003 accounting for recent building permits issued.

### **HOW TO READ MAP OF VACANT/UNDERDEVELOPED AND PIPELINE LAND**

A map of vacant and underdeveloped land and pipeline developments is provided in this Appendix. The following notes should be considered when reviewing the map:

1. Acres of vacant and underdeveloped land appear on the map with sensitive areas already deducted. Sensitive areas deducted include wetlands, streams, landslide hazards, and their buffers.
2. Acres shown are further reduced beyond what is shown on the map. What is not reflected on the map, but is reflected in future growth calculations:

- a. 25% deducted for market factors (developable land that won't be available on the market).
- b. 15% deducted for public parks, roads, and other infrastructure needs.
- c. Density potential is applied to *net* acres rather than gross although the latter is currently allowed by code. Density assumptions for single family zones (the overwhelming majority of zoned land) indicate that the maximum density *won't* be achieved even on net acres:
  - i. R-1 = 0.5 units per acre
  - ii. R-4 = 3.0 units per acre
  - iii. R-6 = 4.5 units per acre
  - iv. R-8 = 7 units per acre
- d. Pipeline Projects are identified. It is noted which pipeline projects were subtracted from the vacant/underdeveloped property list later in the data calculations due to all building permits having been issued and/or due to construction completed.

## **GENERAL NOTE ABOUT REVIEWING DEVELOPMENT ESTIMATES**

Geographic Information Systems were used along with several existing databases to determine existing and future growth estimates. GIS analysis is a tool. "Precisely reported" numbers do not indicate precision. This is a policy level analysis using a technical tool (GIS) applied to existing databases that have varying degrees of timeliness with several assumptions and criteria made and applied. Additionally, when layering several spatial databases, slight differences in boundaries as digitized originally, can lead to "slivers" that cause slight differences in results. These slivers are corrected manually where feasible, but there is still some possibility of slivers remaining. For a programmatic, policy level it is a broad predictive tool similar to other jurisdictions' approaches. The Growth Management Act encourages monitoring and the City can further refine and update the database and its approach over time.



**Table E-2**  
**Data Analysis Levels**

| <b>Data Type</b>                                                                         | <b>Purpose</b>                                                                       | <b>Assumptions</b>                                                                                                                                                    | <b>Approximate Acres</b>                                                                                |
|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| City limits                                                                              | Total management area of land and Lake Sammamish                                     | None                                                                                                                                                                  | 13,788<br>(21.5 square miles)                                                                           |
| Mainland, portion of city of limits                                                      | Land area under City management                                                      | Exclude city limit area in Lake Sammamish                                                                                                                             | 11,692<br>(18.27 square miles)                                                                          |
| Zoned acres                                                                              | Acres subject to zoning requirements                                                 | Parcels with zoning (excludes rights-of-way)                                                                                                                          | 10,305<br>(16.09 square miles)                                                                          |
| Vacant, underdeveloped, and pipeline acres – partial net Environmentally Sensitive Areas | Future development estimates before locally-determined reduction factors are applied | Pipeline land plus vacant and underdeveloped land (excludes Environmentally Sensitive Areas on vacant and underdeveloped land)                                        | 3,009<br>(Approximately 786 acres vacant, 1,361 acres underdeveloped, 862 acres pipeline <sup>1</sup> ) |
| Vacant, underdeveloped, and pipeline acres – partial net surface water                   | Future impervious surface estimates                                                  | Pipeline plus vacant and underdeveloped land (excludes Environmentally Sensitive Areas and lands unavailable due to market factors on vacant and underdeveloped land) | 2,462 to 2,472 acres<br>(3.86 square miles)                                                             |
| Vacant, underdeveloped, and pipeline acres – net additional development land use         | To estimate future dwelling units                                                    | Pipeline plus vacant and underdeveloped land (exclude Environmentally Sensitive Areas, market factors, roads/public purpose on vacant and underdeveloped land)        | 2,150<br>(3.4 square miles)                                                                             |

<sup>1</sup>The number of vacant, underdeveloped and pipeline acres is similar to, but differs from, data used in buildable lands estimates in attached spreadsheets due to adjustments made for the purposes of this chart to list pipeline acres independent from vacant and underdeveloped acres; there is some small overlap otherwise.

**Table E-3**  
**Land Use Alternatives Comparison (May 31, 2002)**  
(See page E-4 for capacity as of May 31, 2003 accounting for recent building permits issued.)

| NO ACTION                                                                                                                                                                                                                   | DISPERSED                                                                                                                                                                                                                                                                                               | CORRIDOR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | PREFERRED                                                                                                                                                                                                                                                                                                                                                                                           | RECOMMENDED                                                                                                                                                                                                                                                                                                                                                                                                                                                               | PROPOSED FINAL                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>RESIDENTIAL</b>                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Approximately <b>5,803</b> new units estimated at buildout in accordance with current zoning and development regulations. <sup>3</sup>                                                                                      | Approximately <b>5,131</b> new units estimated at buildout in accordance with current zoning and development regulations, except that selected vacant and underdeveloped parcels designated SO 180/190 would be rezoned R-1 in accordance with the 1994 East Lake Sammamish Basin Plan "prescriptions". | Approximately <b>5,607</b> new units estimated at buildout. All vacant and underdeveloped parcels zoned R-6 or greater would be rezoned R-4, and select vacant and underdeveloped parcels designated SO 180/190 would be rezoned R-1 in accordance with the 1994 East Lake Sammamish Basin Plan "prescriptions". Vacant and underdeveloped parcels in the 228th Avenue SE corridor suitable for development would be upzoned to accommodate about 1,200 new units, which is part of the total unit count. | Approximately <b>5,103 to 5,456</b> new units estimated at buildout. Selected vacant and underdeveloped parcels designated SO 180/190 would be rezoned R-1 in accordance with the 1994 East Lake Sammamish Basin Plan "prescriptions". Provides for the adoption of growth controls if necessary, to limit growth to approximately 3,000 new units within the 20-year planning period. <sup>3</sup> | Approximately <b>5,413</b> new units estimated at buildout. Selected vacant and underdeveloped parcels designated SO 180/190 would be rezoned R-1 in accordance with 1994 East Lake Sammamish Basin Plan prescriptions. Plan designations further refined with additional environmental and policy analysis. Provides for the adoption of growth controls if necessary, to limit growth to approximately 3,000 new units within the 20-year planning period. <sup>3</sup> | Approximately <b>5,383</b> new units estimated at buildout. Selected vacant and underdeveloped parcels designated SO 180/190 would be rezoned R-1 in accordance with 1994 East Lake Sammamish Basin Plan prescriptions. Plan designations further refined with additional environmental and policy analysis. Provides for the adoption of growth controls if necessary, to limit growth to approximately 3,000 new units within the 20-year planning period. <sup>3</sup> |
| <b>INSTITUTIONAL</b> <sup>1,2</sup>                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Current zoning would permit the construction of new civic center as well as a new high school in residential zones. No vacant or underdeveloped land is appropriately zoned for the construction of a new medical facility. | The construction of a new civic center complex at 228th Avenue/SE 8th, and a new high school in the vicinity of 228th Avenue SE and SE 4th would be permitted, and a new medical facility could be developed in the vicinity of 228th Avenue SE and SE 20th.                                            | The construction of a new civic center complex at 228th Avenue/SE 8th, and a new high school near 228th Avenue SE and SE 4th would be permitted, and a new medical facility could be developed in the vicinity of 228th and SE 20th, near Pine Lake Village, or Inglewood commercial district.                                                                                                                                                                                                            | The construction of a new civic center complex at 228th Avenue/SE 8th, and a new high school in the vicinity of 228th Avenue SE and SE 4th would be permitted.                                                                                                                                                                                                                                      | The construction of the new Civic Center complex, and a new high school would be permitted on sites in the vicinity of 228th Avenue and SE 8th Street and SE 4th Street, respectively.                                                                                                                                                                                                                                                                                    | The construction of the new Civic Center complex, and a new high school would be permitted on sites in the vicinity of 228th Avenue and SE 8th Street and SE 4th Street, respectively.                                                                                                                                                                                                                                                                                    |
| <b>COMMERCIAL</b>                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

<sup>1</sup> Note: Zoning would permit the construction of a new high school. To allow for a worst case PM peak-hour traffic analysis, the No Action Alternative assumes a single-family development on the proposed Eastside Catholic High School site for comparative purposes only.

<sup>2</sup> All zones have some allowances for religious facilities. For the transportation analysis, a recently proposed church along 228th Avenue was assumed in the No Action, Preferred, and Proposed Final Alternatives.

<sup>3</sup> Numbers provided for traffic modeling were 5,983 for No Action, 5,371 for Preferred, 5,724 for Preferred with Special Study Area, and 5,564 for the City Council Final Land Use Plan which are a little higher than the basic capacity analysis in Table E-3 due to the rounding of fractional units when disaggregating capacity analysis numbers into multiple Transportation Analysis Zones.

SO=Special District Overlay

R-# = Number of dwelling units per acre (R-1 is 1 dwelling unit per acre)



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PREFERRED DEVELOPMENT CAPACITY, JONES AND STOKES REEVALUATION

| VACANT LAND SUPPLY |          |                                    |                   |                          |                          |                  |                       |                  |                                     | REDEVELOPABLE LAND SUPPLY |                                     |                                |                         |                       |                    |                         |                                       |                                        |                               | DEVELOPMENT CAPACITY CALCULATIONS |                            |                                                                              |                                                                                |                                                                              |                    |     |      |                               |                               | PIPELINE                      |  |  | TOTAL W/P PIPELINE | SPECIAL STUDY | SPECIAL STUDY | SPECIAL STUDY |
|--------------------|----------|------------------------------------|-------------------|--------------------------|--------------------------|------------------|-----------------------|------------------|-------------------------------------|---------------------------|-------------------------------------|--------------------------------|-------------------------|-----------------------|--------------------|-------------------------|---------------------------------------|----------------------------------------|-------------------------------|-----------------------------------|----------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------|-----|------|-------------------------------|-------------------------------|-------------------------------|--|--|--------------------|---------------|---------------|---------------|
| A                  | C        | D                                  | E                 | F                        | G                        | H                | I                     | J                | L                                   | M                         | N                                   | O                              | P                       | Q                     | R                  | S                       | T                                     | U                                      | V                             | W                                 | X                          | Y                                                                            | Z                                                                              | AA                                                                           | TOTAL W/P PIPELINE |     |      | SPECIAL STUDY                 | SPECIAL STUDY                 | SPECIAL STUDY                 |  |  |                    |               |               |               |
| Zoning             |          | Vacant Acres (Minus ESA & Buffers) | Steep Slope Acres | 10% of Steep Slope Acres | 15% of Steep Slope Acres | Net Vacant Acres | 25% Market Adjustment | Net Vacant Acres | Redevelopable Acres (Minus Buffers) | High Value Home Acres     | Redevelopable Acres (Minus Buffers) | 15% Gross/Net Conversion Acres | Net Redevelopable Acres | 25% Market Adjustment | Adjusted Net Acres | Dwelling Units Per Acre | Potential New Dwelling Units (Vacant) | Potential New Dwelling Units (Rebuild) | Existing Dwelling Units (75%) | Net Capacity (Rebuild) (75%)      | Total Development Capacity | Building Permits as of 5/31/02 on Pipeline Projects Included in Vacant Acres | Single Family Pipeline Units (not included in vacant and undeveloped; 5/31/02) | Multifamily Pipeline Units (not included in vacant and undeveloped; 5/31/02) | TOTAL W/P PIPELINE |     |      | SPECIAL STUDY AREA ASSUMPTION | SPECIAL STUDY AREA ASSUMPTION | SPECIAL STUDY AREA ASSUMPTION |  |  |                    |               |               |               |
| (Impair)           | (Impair) | (Impair)                           | (Ex-10)           | (C+E)                    | (F+G)                    | (F+G)            | (H+I)                 | (H+I)            | (Impair)                            | EDAW                      | (L+M)                               | (N+O)                          | (P+Q)                   | (P+Q)                 | (P+Q)              | (U/S)                   | (U/S)                                 | (R+S)                                  | (Import)                      | (L+V)                             | (L+V)                      | Recent Acres                                                                 | 5/31/02                                                                        | 5/31/02                                                                      | TOTAL W/P PIPELINE |     |      | SPECIAL STUDY AREA ASSUMPTION | SPECIAL STUDY AREA ASSUMPTION | SPECIAL STUDY AREA ASSUMPTION |  |  |                    |               |               |               |
| CB                 | 1.4      | 0.0                                | 0.0               | 0.0                      | 0.0                      | 0.0              | 0.0                   | 0.0              | 0.0                                 | 0.0                       | 0.0                                 | 0.0                            | 0.0                     | 0.0                   | 0.0                | 0.0                     | 17                                    | 0                                      | 0                             | 0                                 | 0                          | 17                                                                           |                                                                                |                                                                              |                    |     |      |                               |                               |                               |  |  |                    |               |               |               |
| NS                 | 0.0      | 0.0                                | 0.0               | 0.0                      | 0.0                      | 0.0              | 0.0                   | 0.0              | 0.0                                 | 0.0                       | 0.0                                 | 0.0                            | 0.0                     | 0.0                   | 0.0                | 0.0                     | 0                                     | 0                                      | 0                             | 0                                 | 0                          | 0                                                                            |                                                                                |                                                                              |                    |     |      |                               |                               |                               |  |  |                    |               |               |               |
| R1                 | 0.8      | 0.0                                | 0.0               | 0.8                      | 0.1                      | 0.5              | 0.1                   | 0.4              | 0.0                                 | 0.0                       | 0.0                                 | 0.0                            | 0.0                     | 0.0                   | 0.0                | 0.0                     | 0                                     | 0                                      | 0                             | 0                                 | 0                          | 0                                                                            |                                                                                |                                                                              |                    |     |      |                               |                               |                               |  |  |                    |               |               |               |
| R4                 | 333.3    | 257.5                              | 25.8              | 350.7                    | 52.8                     | 285.0            | 73.7                  | 221.2            | 427.6                               | 0.1                       | 427.4                               | 64.1                           | 383.3                   | 608.3                 | 272.5              | 0.5                     | 111                                   | 138                                    | 28                            | 0                                 | 201                        |                                                                              |                                                                                |                                                                              |                    |     |      |                               |                               |                               |  |  |                    |               |               |               |
| R6                 | 133.0    | 111.1                              | 11.1              | 134.1                    | 20.1                     | 114.0            | 23.5                  | 89.5             | 304.8                               | 0.0                       | 304.8                               | 44.1                           | 249.9                   | 62.8                  | 369.2              | 3.0                     | 671                                   | 1168                                   | 268                           | 888                               | 1559                       |                                                                              |                                                                                |                                                                              |                    |     |      |                               |                               |                               |  |  |                    |               |               |               |
| R8                 | 14.0     | 0.0                                | 0.0               | 14.0                     | 2.1                      | 11.9             | 3.0                   | 8.9              | 34.7                                | 0.0                       | 34.7                                | 5.2                            | 29.5                    | 7.4                   | 22.1               | 7.0                     | 62                                    | 155                                    | 16                            | 139                               | 201                        |                                                                              |                                                                                |                                                                              |                    |     |      |                               |                               |                               |  |  |                    |               |               |               |
| R12                | 10.8     | 27.7                               | 2.8               | 13.7                     | 2.1                      | 11.7             | 2.9                   | 8.7              | 3.9                                 | 0.0                       | 3.9                                 | 0.5                            | 3.4                     | 2.8                   | 2.1                | 15.0                    | 131                                   | 31                                     | 9                             | 22                                | 154                        |                                                                              |                                                                                |                                                                              |                    |     |      |                               |                               | 363                           |  |  |                    |               |               |               |
| R18                | 14.7     | 0.0                                | 0.0               | 14.7                     | 2.2                      | 12.5             | 3.1                   | 9.4              | 2.7                                 | 0.0                       | 2.7                                 | 0.4                            | 2.3                     | 0.6                   | 1.7                | 20.0                    | 187                                   | 34                                     | 1                             | 33                                | 223                        |                                                                              |                                                                                |                                                                              |                    |     |      |                               |                               |                               |  |  |                    |               |               |               |
| R24                | 0.0      | 0.0                                | 0.0               | 0.0                      | 0.0                      | 0.0              | 0.0                   | 0.0              | 0.0                                 | 0.0                       | 0.0                                 | 0.0                            | 0.0                     | 0.0                   | 0.0                | 0.0                     | 0                                     | 0                                      | 0                             | 0                                 | 0                          |                                                                              |                                                                                |                                                                              |                    |     |      |                               |                               |                               |  |  |                    |               |               |               |
| Totals             | 822.7    | 433.8                              | 43.4              | 876.1                    | 131.4                    | 744.7            | 182.1                 | 562.5            | 1359.3                              | 17.3                      | 1372.0                              | 205.3                          | 1167.0                  | 281.8                 | 872.3              | NA                      | 1871                                  | 2368                                   | 438                           | 1930                              | 3502                       | 46                                                                           | 1572                                                                           | 87                                                                           | 5103               | 353 | 5426 | 353                           | 5426                          | 353                           |  |  |                    |               |               |               |

Total Vacant and Redevelopable Acres (Minus ESA & Buffers) = 2,223.5  
 (Alternative Identifies Public Parks, Schools, and Fire Stations)  
 Results include Eatside Catholic High School site as possible vacant/redevelopable residential site.



DISPERSED: JONES AND STOKES REEVALUATION

| Zoning |  | VACANT LAND SUPPLY                 |                    |                      |                            |                      |                  |                       |                    |                                           |                       | REDEVELOPABLE LAND SUPPLY                         |                                |                         |                       |                              |                         |                                       |                                              |                               |                              | DEVELOPMENT CAPACITY CALCULATIONS |                                                                                          |                                                                        |                                                                      |                   |  |  |  |  |  | Y | PIPELINE |  | AA | TOTAL W/ PIPELINE |
|--------|--|------------------------------------|--------------------|----------------------|----------------------------|----------------------|------------------|-----------------------|--------------------|-------------------------------------------|-----------------------|---------------------------------------------------|--------------------------------|-------------------------|-----------------------|------------------------------|-------------------------|---------------------------------------|----------------------------------------------|-------------------------------|------------------------------|-----------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------|--|--|--|--|--|---|----------|--|----|-------------------|
|        |  | A                                  | C                  | D                    | E                          | F                    | G                | H                     | I                  | J                                         | L                     | M                                                 | N                              | O                       | P                     | Q                            | R                       | S                                     | T                                            | U                             | V                            | W                                 | X                                                                                        | Z                                                                      |                                                                      |                   |  |  |  |  |  |   |          |  |    |                   |
|        |  | Vacant Acres (Minus ESA & Buffers) | 10% of Slope Acres | Plus 10% Slope Acres | Gross/Net Conversion Acres | 15% Conversion Acres | Net Vacant Acres | 25% Market Adjustment | Net Adjusted Acres | Redevelopable Acres (Minus ESA & Buffers) | High Value Home Acres | Redevelopable Acres (Minus High Value Home Acres) | 15% Gross/Net Conversion Acres | Net Redevelopable Acres | 25% Market Adjustment | Adjusted Redevelopable Acres | Dwelling Units Per Acre | Potential New Dwelling Units (Vacant) | Potential New Dwelling Units (Redevelopable) | Existing Dwelling Units (75%) | Net Capacity (Redevelopable) | Total Development Capacity        | Building Permits as of 5/31/02 on Pipeline Projects included in Vacant/ Redevelop. Acres | Single Family Pipeline Units (not included in underdeveloped; 5/31/02) | Multifamily Pipeline Units (not included in underdeveloped; 5/31/02) | TOTAL W/ PIPELINE |  |  |  |  |  |   |          |  |    |                   |
|        |  | (Import)                           | (Ex-10)            | (C+E)                | (F+15)                     | (F+15)               | (H+25)           | (H+J)                 | (I+L)              | (Import)                                  | EDAW                  | (L-M)                                             | (N+15)                         | (N-O)                   | (P+25)                | (P-Q)                        | (Import)                | (J+S)                                 | (R+S)                                        | (Import)                      | (U-V)                        | (T+W)                             |                                                                                          |                                                                        |                                                                      |                   |  |  |  |  |  |   |          |  |    |                   |
| CB     |  | 4                                  | 0.0                | 0.0                  | 0.0                        | 0.0                  | 0.0              | 0.0                   | 0.0                | 0.0                                       | 0.0                   | 0.0                                               | 0.0                            | 0.0                     | 0.0                   | 0.0                          | 0.0                     | 0.0                                   | 0.0                                          | 0.0                           | 0.0                          | 0.0                               | 17                                                                                       |                                                                        |                                                                      |                   |  |  |  |  |  |   |          |  |    |                   |
| NB     |  | 4                                  | 0.0                | 0.0                  | 0.0                        | 0.0                  | 0.0              | 0.0                   | 0.0                | 0.0                                       | 0.0                   | 0.0                                               | 0.0                            | 0.0                     | 0.0                   | 0.0                          | 0.0                     | 0.0                                   | 0.0                                          | 0.0                           | 0.0                          | 0.0                               | 7                                                                                        |                                                                        |                                                                      |                   |  |  |  |  |  |   |          |  |    |                   |
| O      |  | 0.6                                | 0.0                | 0.0                  | 0.0                        | 0.0                  | 0.0              | 0.0                   | 0.0                | 0.0                                       | 0.0                   | 0.0                                               | 0.0                            | 0.0                     | 0.0                   | 0.0                          | 0.0                     | 0.0                                   | 0.0                                          | 0.0                           | 0.0                          | 0.0                               | 7                                                                                        |                                                                        |                                                                      |                   |  |  |  |  |  |   |          |  |    |                   |
| R1     |  | 331.9                              | 137.5              | 13.8                 | 345.7                      | 51.9                 | 283.8            | 73.5                  | 220.4              | 426.7                                     | 0.1                   | 426.5                                             | 64.0                           | 362.6                   | 90.6                  | 271.9                        | 0.5                     | 110                                   | 136                                          | 46                            | 90                           | 200                               |                                                                                          |                                                                        |                                                                      |                   |  |  |  |  |  |   |          |  |    |                   |
| R4     |  | 301.6                              | 257.5              | 25.8                 | 327.3                      | 49.1                 | 278.2            | 69.6                  | 208.7              | 618.8                                     | 6.9                   | 611.9                                             | 91.8                           | 520.1                   | 130.0                 | 390.1                        | 3.0                     | 626                                   | 1170                                         | 280                           | 890                          | 1516                              |                                                                                          |                                                                        |                                                                      |                   |  |  |  |  |  |   |          |  |    |                   |
| R6     |  | 158.0                              | 11.1               | 1.1                  | 159.1                      | 23.9                 | 135.3            | 33.8                  | 101.4              | 304.8                                     | 10.8                  | 294.0                                             | 44.1                           | 249.9                   | 62.5                  | 187.4                        | 4.5                     | 457                                   | 843                                          | 86                            | 757                          | 1214                              |                                                                                          |                                                                        |                                                                      |                   |  |  |  |  |  |   |          |  |    |                   |
| R8     |  | 14.0                               | 0.0                | 0.0                  | 14.0                       | 2.1                  | 11.9             | 3.0                   | 8.9                | 34.7                                      | 0.0                   | 34.7                                              | 5.2                            | 29.5                    | 7.4                   | 22.1                         | 7.0                     | 62                                    | 155                                          | 16                            | 139                          | 201                               |                                                                                          |                                                                        |                                                                      |                   |  |  |  |  |  |   |          |  |    |                   |
| R12    |  | 10.9                               | 27.7               | 2.8                  | 137.7                      | 2.1                  | 11.7             | 2.9                   | 8.7                | 3.3                                       | 0.0                   | 3.3                                               | 0.0                            | 2.3                     | 0.6                   | 1.1                          | 15.0                    | 131                                   | 31                                           | 9                             | 53                           | 220                               |                                                                                          |                                                                        |                                                                      |                   |  |  |  |  |  |   |          |  |    |                   |
| R18    |  | 14.7                               | 0.0                | 0.0                  | 14.7                       | 2.2                  | 12.5             | 0.0                   | 0.0                | 0.0                                       | 0.0                   | 0.0                                               | 0.0                            | 0.0                     | 0.0                   | 0.0                          | 2.0                     | 0.0                                   | 0.0                                          | 0.0                           | 0.0                          | 0.0                               | 6                                                                                        |                                                                        |                                                                      |                   |  |  |  |  |  |   |          |  |    |                   |
| R24    |  | 0.0                                | 0.0                | 0.0                  | 0.0                        | 0.0                  | 0.0              | 0.0                   | 0.0                | 0.0                                       | 0.0                   | 0.0                                               | 0.0                            | 0.0                     | 0.0                   | 0.0                          | 0.0                     | 0.0                                   | 0.0                                          | 0.0                           | 0.0                          | 0.0                               | 6                                                                                        |                                                                        |                                                                      |                   |  |  |  |  |  |   |          |  |    |                   |
| Totals |  | 535.1                              | 423.3              | 42.4                 | 876.5                      | 131.5                | 748.0            | 185.2                 | 662.7              | 1391.0                                    | 17.3                  | 1373.1                                            | 206.9                          | 1167.2                  | 291.8                 | 876.4                        | NA                      | 1698                                  | 2370                                         | 438                           | 1932                         | 3530                              | -48                                                                                      | 1672                                                                   | 87                                                                   | 6131              |  |  |  |  |  |   |          |  |    |                   |

Total Vacant and Redevelopable Acres (Minus ESA & Buffers) = 2,224.1

Results include Eastside Catholic High School site as possible vacant/redevelopable residential site.

GATEWAY CORRIDOR: JONES AND STOKES REEVALUATION

| A C D  |                                    |    | VACANT LAND SUPPLY                                           |                            |       |        |       |        |       | REDEVELOPABLE LAND SUPPLY |        |       |        |       |        |       |        |          |       | DEVELOPMENT CAPACITY CALCULATIONS |       |       |      |   |    |    |  |  |  | PIPELINE |  | TOTAL W/ PIPELINE |  |
|--------|------------------------------------|----|--------------------------------------------------------------|----------------------------|-------|--------|-------|--------|-------|---------------------------|--------|-------|--------|-------|--------|-------|--------|----------|-------|-----------------------------------|-------|-------|------|---|----|----|--|--|--|----------|--|-------------------|--|
| Zoning | Vacant Acres (Minus ESA & Buffers) | ID | Steep Slope Adjustment                                       |                            | F     | G      | H     | I      | J     | L                         | M      | N     | O      | P     | Q      | R     | S      | T        | U     | V                                 | W     | X     | Y    | Z | AA | AB |  |  |  |          |  |                   |  |
|        |                                    |    | 10% of Steep Slope Acres                                     | Plus 10% Steep Slope Acres |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | (Import)                                                     | (Export)                   | (C+E) | (F-15) | (F-G) | (H-25) | (I-J) | (Import)                  | (EDAW) | (L-M) | (N-15) | (N-O) | (P-25) | (P-Q) | (R-25) | (Import) | (R-S) | (T-25)                            | (U-V) | (W-X) |      |   |    |    |  |  |  |          |  |                   |  |
| CB     |                                    |    | 1.4                                                          | 0.0                        | 0.0   | 0.4    | 0.2   | 0.2    | 0.3   | 0.6                       | 0.0    | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   | 0.0    | 0.0      | 0.0   | 0.0                               | 0.0   | 0.0   | 17   |   |    |    |  |  |  |          |  |                   |  |
| NB     |                                    |    | 0.0                                                          | 0.0                        | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   | 0.0                       | 0.0    | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   | 0.0    | 0.0      | 0.0   | 0.0                               | 0.0   | 0.0   | 0.0  |   |    |    |  |  |  |          |  |                   |  |
| O      |                                    |    | 0.6                                                          | 0.0                        | 0.0   | 0.6    | 0.1   | 0.5    | 0.1   | 0.4                       | 0.0    | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   | 0.0    | 0.0      | 0.0   | 0.0                               | 0.0   | 0.0   | 7    |   |    |    |  |  |  |          |  |                   |  |
| R1     |                                    |    | 331.9                                                        | 137.5                      | 13.8  | 345.7  | 51.9  | 293.8  | 73.5  | 220.4                     | 426.7  | 0.1   | 426.5  | 0.0   | 0.0    | 0.0   | 0.0    | 0.0      | 0.0   | 0.0                               | 0.0   | 0.0   | 200  |   |    |    |  |  |  |          |  |                   |  |
| R4     |                                    |    | 407.9                                                        | 257.5                      | 25.8  | 433.6  | 65.0  | 368.6  | 92.1  | 276.4                     | 864.2  | 6.9   | 857.3  | 123.6 | 728.7  | 182.2 | 546.6  | 3.0      | 829   | 1540                              | 280   | 1360  | 2189 |   |    |    |  |  |  |          |  |                   |  |
| R6     |                                    |    | 39.9                                                         | 11.1                       | 1.1   | 41.0   | 6.2   | 34.9   | 8.7   | 25.1                      | 19.2   | 10.8  | 8.4    | 1.3   | 7.1    | 1.8   | 5.3    | 4.5      | 118   | 24                                | 86    | 46    | 90   |   |    |    |  |  |  |          |  |                   |  |
| R8     |                                    |    | 5.7                                                          | 0.0                        | 0.0   | 5.7    | 0.9   | 4.9    | 1.2   | 3.7                       | 11.1   | 0.0   | 11.1   | 0.0   | 0.0    | 0.0   | 0.0    | 0.0      | 0.0   | 0.0                               | 0.0   | 0.0   | 200  |   |    |    |  |  |  |          |  |                   |  |
| R12    |                                    |    | 2.4                                                          | 27.7                       | 2.8   | 32.9   | 4.4   | 1.1    | 3.3   | 0.9                       | 0.0    | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   | 0.0    | 0.0      | 0.0   | 0.0                               | 0.0   | 0.0   | 0.0  |   |    |    |  |  |  |          |  |                   |  |
| R13    |                                    |    | 43.2                                                         | 0.0                        | 0.0   | 43.2   | 6.5   | 36.8   | 9.2   | 0.0                       | 0.0    | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   | 0.0    | 0.0      | 0.0   | 0.0                               | 0.0   | 0.0   | 0.0  |   |    |    |  |  |  |          |  |                   |  |
| R14    |                                    |    | 0.0                                                          | 0.0                        | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   | 0.0                       | 0.0    | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   | 0.0    | 0.0      | 0.0   | 0.0                               | 0.0   | 0.0   | 0.0  |   |    |    |  |  |  |          |  |                   |  |
| Totals |                                    |    | 833.1                                                        | 433.8                      | 43.4  | 876.6  | 131.6 | 746.0  | 186.2 | 555.7                     | 1391.0 | 17.9  | 1373.1 | 206.0 | 1167.2 | 231.8 | 876.4  | NA       | 1708  | 2736                              | 438   | 2298  | 4065 |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total Vacant and Redevelopable Acres (Minus ESA & Buffers) = |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | Total W/ Pipeline                                            |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    | 2,224.1                                                      |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |
|        |                                    |    |                                                              |                            |       |        |       |        |       |                           |        |       |        |       |        |       |        |          |       |                                   |       |       |      |   |    |    |  |  |  |          |  |                   |  |

Total Vacant and Redevelopable Acres (Minus ESA & Buffers) = 2,224.1

Results include Eastside Catholic High School site as possible vacant/redevelopable residential site.



NO ACTION DEVELOPMENT CAPACITY: JONES AND STOKES REEVALUATION

| A C    |                                  | VACANT LAND SUPPLY       |                            |                                |                  |                       |                           |                                           | REDEVELOPABLE LAND SUPPLY |                                           |                                |                         |                       |                              |                         | DEVELOPMENT CAPACITY CALCULATIONS     |                                              |                               |                              |                                    |                                                                                             |                                                                                |                                                                              |    |  | Y | PIPELINE |  | TOTAL W/ PIPELINE |
|--------|----------------------------------|--------------------------|----------------------------|--------------------------------|------------------|-----------------------|---------------------------|-------------------------------------------|---------------------------|-------------------------------------------|--------------------------------|-------------------------|-----------------------|------------------------------|-------------------------|---------------------------------------|----------------------------------------------|-------------------------------|------------------------------|------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------|----|--|---|----------|--|-------------------|
|        |                                  | D                        | E                          | F                              | G                | H                     | I                         | J                                         | L                         | M                                         | N                              | O                       | P                     | Q                            | R                       | S                                     | T                                            | U                             | V                            | W                                  | X                                                                                           | Z                                                                              | AA                                                                           | AB |  |   |          |  |                   |
| Zoning | Vacant Acres Minus ESA & Buffers | 10% of Steep Slope Acres | Plus 10% Steep Slope Acres | 15% Gross/Net Conversion Acres | Net Vacant Acres | 25% Market Adjustment | Net Adjusted Vacant Acres | Redevelopable Acres (Minus ESA & Buffers) | High Value Home Acres     | Redevelopable minus High Value Home Acres | 15% Gross/Net Conversion Acres | Net Redevelopable Acres | 25% Market Adjustment | Adjusted Redevelopable Acres | Dwelling Units Per Acre | Potential New Dwelling Units (Vacant) | Potential New Dwelling Units (Redevelopable) | Existing Dwelling Units (75%) | Net Capacity (Redevelopable) | Total Development Capacity (T+V+X) | Building Permits as of 5/31/02 on Pipeline Projects Included in Vacant/ Redevelopable Acres | Single Family Pipeline Units (not included in vacant and undeveloped; 5/31/02) | Multifamily Pipeline Units (not included in vacant and undeveloped; 5/31/02) |    |  |   |          |  |                   |
|        |                                  | [Import]                 | [Import]                   | [Ex-10]                        | [C+E]            | [F-15]                | [F-G]                     | [H-25]                                    | [H-I]                     | [Import]                                  | EDAW                           | [L-M]                   | [N-15]                | [N-O]                        | [P-25]                  | [P-Q]                                 | [Import]                                     | [U-S]                         | [R-S]                        | [Import]                           | [U-V]                                                                                       |                                                                                |                                                                              |    |  |   |          |  |                   |
| CB     | 1.4                              | 0.0                      | 0.0                        | 1.4                            | 0.2              | 1.2                   | 0.3                       | 0.9                                       | 0.0                       | 0.0                                       | 0.0                            | 0.0                     | 0.0                   | 0.0                          | 0.0                     | 20.0                                  | 17                                           | 0                             | 0                            | 17                                 |                                                                                             |                                                                                |                                                                              |    |  |   |          |  |                   |
| NB     | 0.0                              | 0.0                      | 0.0                        | 0.0                            | 0.0              | 0.0                   | 0.0                       | 0.0                                       | 0.0                       | 0.0                                       | 0.0                            | 0.0                     | 0.0                   | 0.0                          | 0.0                     | 7.0                                   | 0                                            | 0                             | 0                            | 0                                  |                                                                                             |                                                                                |                                                                              |    |  |   |          |  |                   |
| 01     | 0.0                              | 0.0                      | 0.0                        | 0.0                            | 0.0              | 0.0                   | 0.0                       | 0.0                                       | 0.0                       | 0.0                                       | 0.0                            | 0.0                     | 0.0                   | 0.0                          | 0.0                     | 36.0                                  | 13                                           | 0                             | 0                            | 13                                 |                                                                                             |                                                                                |                                                                              |    |  |   |          |  |                   |
| R1     | 208.8                            | 137.5                    | 13.8                       | 220.6                          | 33.1             | 187.5                 | 46.9                      | 140.6                                     | 259.3                     | 0.1                                       | 259.2                          | 38.9                    | 220.3                 | 55.1                         | 185.2                   | 0.5                                   | 70                                           | 83                            | 46                           | 37                                 | 107                                                                                         |                                                                                |                                                                              |    |  |   |          |  |                   |
| R4     | 390.9                            | 257.5                    | 25.8                       | 416.6                          | 62.5             | 354.1                 | 88.5                      | 265.6                                     | 725.6                     | 6.9                                       | 718.7                          | 107.8                   | 610.9                 | 152.7                        | 458.2                   | 3.0                                   | 797                                          | 1375                          | 280                          | 1095                               | 1891                                                                                        |                                                                                |                                                                              |    |  |   |          |  |                   |
| R6     | 182.1                            | 11.1                     | 1.1                        | 183.3                          | 27.5             | 155.8                 | 38.9                      | 116.8                                     | 347.1                     | 10.8                                      | 336.2                          | 50.4                    | 285.8                 | 71.4                         | 214.3                   | 4.5                                   | 526                                          | 955                           | 86                           | 879                                | 1404                                                                                        |                                                                                |                                                                              |    |  |   |          |  |                   |
| R8     | 14.0                             | 0.0                      | 0.0                        | 14.0                           | 2.1              | 11.9                  | 3.0                       | 8.9                                       | 53.0                      | 0.0                                       | 53.0                           | 7.9                     | 45.0                  | 11.3                         | 33.6                    | 7.0                                   | 62                                           | 236                           | 16                           | 220                                | 283                                                                                         |                                                                                |                                                                              |    |  |   |          |  |                   |
| R12    | 22.6                             | 27.7                     | 2.8                        | 25.4                           | 3.8              | 21.6                  | 5.4                       | 16.2                                      | 3.3                       | 0.0                                       | 3.3                            | 0.5                     | 2.8                   | 0.7                          | 2.1                     | 15.0                                  | 243                                          | 31                            | 9                            | 22                                 | 265                                                                                         |                                                                                |                                                                              |    |  |   |          |  |                   |
| R18    | 14.7                             | 0.0                      | 0.0                        | 14.7                           | 2.2              | 12.5                  | 3.1                       | 9.4                                       | 2.7                       | 0.0                                       | 2.7                            | 0.4                     | 2.3                   | 0.6                          | 1.7                     | 20.0                                  | 187                                          | 34                            | 1                            | 33                                 | 220                                                                                         |                                                                                |                                                                              |    |  |   |          |  |                   |
| R24    | 0.0                              | 0.0                      | 0.0                        | 0.0                            | 0.0              | 0.0                   | 0.0                       | 0.0                                       | 0.0                       | 0.0                                       | 0.0                            | 0.0                     | 0.0                   | 0.0                          | 0.0                     | 22.0                                  | 0                                            | 0                             | 0                            | 0                                  |                                                                                             |                                                                                |                                                                              |    |  |   |          |  |                   |
| Totals | 833.1                            | 433.8                    | 43.4                       | 876.5                          | 131.5            | 745.0                 | 186.2                     | 558.7                                     | 1391.0                    | 17.9                                      | 1373.1                         | 206.0                   | 1167.2                | 291.8                        | 875.4                   | NA                                    | 1916                                         | 2724                          | 438                          | 2286                               | 4202                                                                                        | -58                                                                            | 1572                                                                         | 87 |  |   |          |  |                   |

Total Vacant and Redevelopable Acres (Minus ESA & Buffers and excluding Public Properties per Pref. At. Map) = 2,224.1

Results include Eastside Catholic High School site as possible vacant/redevelopable residential site.

PAB RECOMMENDED DEVELOPMENT CAPACITY, JONES AND STOKES REEVALUATION

| A C                                                          |                                    | VACANT LAND SUPPLY |                    |                    |                  |                             |                           |                                           | REDEVELOPABLE LAND SUPPLY |                                           |                                |                         |                             |                                  |                               | DEVELOPMENT CAPACITY CALCULATIONS     |                                              |                               |                              |                                  |                                                                                         |                                                                                |                                                                              |    |  | PIPELINE |  | TOTAL W/ PIPELINE |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------|------------------------------------|--------------------|--------------------|--------------------|------------------|-----------------------------|---------------------------|-------------------------------------------|---------------------------|-------------------------------------------|--------------------------------|-------------------------|-----------------------------|----------------------------------|-------------------------------|---------------------------------------|----------------------------------------------|-------------------------------|------------------------------|----------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------|----|--|----------|--|-------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                                                              |                                    | D                  | E                  | F                  | G                | H                           | I                         | J                                         | L                         | M                                         | N                              | O                       | P                           | Q                                | R                             | S                                     | T                                            | U                             | V                            | W                                | X                                                                                       | Y                                                                              | Z                                                                            | AA |  |          |  |                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Zoning                                                       | Vacant Acres (Minus ESA & Buffers) | 10% of Slope Acres | 10% of Slope Acres | 15% of Slope Acres | Net Vacant Acres | 25% Market Adjustment Acres | Net Adjusted Vacant Acres | Redevelopable Acres (Minus ESA & Buffers) | High Value Home Acres     | Redevelopable Acres (Minus ESA & Buffers) | 15% Gross/Net Conversion Acres | Net Redevelopable Acres | 25% Market Adjustment Acres | Adjusted Net Redevelopable Acres | Dwelling Units per Acre Yield | Potential New Dwelling Units (Vacant) | Potential New Dwelling Units (Redevelopable) | Existing Dwelling Units (75%) | Net Capacity (Redevelopable) | Total Development Capacity (T+W) | Building Permits as of 5/31/02 on Pipeline Projects Included in Vacant Redevelop. Acres | Single Family Pipeline Units (not included in vacant and undeveloped; 5/31/02) | Multifamily Pipeline Units (not included in vacant and undeveloped; 5/31/02) |    |  |          |  |                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                              |                                    | [Import]           | [Import]           | [Ex.10]            | [C-E]            | [F-15]                      | [F-G]                     | [H-25]                                    | [H-J]                     | [Import]                                  | EDAW                           | [L-M]                   | [N-15]                      | [N-O]                            | [P-25]                        | [P-Q]                                 | [Import]                                     | [J-S]                         | [R-S]                        | [Import]                         | [U-V]                                                                                   |                                                                                |                                                                              |    |  |          |  |                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CB                                                           | 1.4                                | 0.0                | 0.0                | 0.0                | 1.4              | 0.2                         | 0.3                       | 0.9                                       | 0.0                       | 0.0                                       | 0.0                            | 0.0                     | 0.0                         | 0.0                              | 20.0                          | 17                                    | 0                                            | 0                             | 0                            | 17                               |                                                                                         |                                                                                |                                                                              |    |  |          |  |                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NB                                                           | 0.0                                | 0.0                | 0.0                | 0.0                | 0.0              | 0.0                         | 0.0                       | 0.0                                       | 0.0                       | 0.0                                       | 0.0                            | 0.0                     | 0.0                         | 0.0                              | 7.0                           | 0                                     | 0                                            | 0                             | 0                            | 0                                |                                                                                         |                                                                                |                                                                              |    |  |          |  |                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| O                                                            | 0.6                                | 0.0                | 0.0                | 0.0                | 0.6              | 0.1                         | 0.1                       | 0.4                                       | 0.0                       | 0.0                                       | 0.0                            | 0.0                     | 0.0                         | 0.0                              | 20.0                          | 7                                     | 0                                            | 0                             | 0                            | 7                                |                                                                                         |                                                                                |                                                                              |    |  |          |  |                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| R1                                                           | 265.6                              | 137.5              | 13.8               | 279.4              | 419.3            | 237.5                       | 59.4                      | 178.1                                     | 317.8                     | 0.1                                       | 317.8                          | 47.6                    | 270.0                       | 67.5                             | 202.5                         | 0.5                                   | 89                                           | 101                           | 46                           | 55                               | 144                                                                                     |                                                                                |                                                                              |    |  |          |  |                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| R4                                                           | 401.2                              | 257.5              | 25.8               | 426.9              | 640.0            | 362.9                       | 90.7                      | 272.1                                     | 705.1                     | 6.9                                       | 698.3                          | 104.7                   | 593.5                       | 148.4                            | 445.2                         | 3.0                                   | 816                                          | 1335                          | 280                          | 1055                             | 1872                                                                                    |                                                                                |                                                                              |    |  |          |  |                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| R6                                                           | 124.4                              | 11.1               | 1.1                | 125.5              | 18.8             | 106.7                       | 26.7                      | 80.0                                      | 332.3                     | 10.8                                      | 321.4                          | 48.2                    | 273.2                       | 68.3                             | 204.9                         | 4.5                                   | 360                                          | 922                           | 86                           | 636                              | 1196                                                                                    |                                                                                |                                                                              |    |  |          |  |                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| R8                                                           | 14.0                               | 0.0                | 0.0                | 14.0               | 2.1              | 11.9                        | 2.9                       | 8.7                                       | 34.7                      | 0.0                                       | 34.7                           | 5.2                     | 29.5                        | 7.4                              | 22.1                          | 15.0                                  | 62                                           | 155                           | 16                           | 139                              | 201                                                                                     |                                                                                |                                                                              |    |  |          |  |                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| R12                                                          | 10.9                               | 27.7               | 2.8                | 13.7               | 2.1              | 11.7                        | 2.9                       | 8.7                                       | 3.3                       | 0.0                                       | 3.3                            | 2.3                     | 0.6                         | 1.7                              | 20.0                          | 187                                   | 34                                           | 1                             | 33                           | 220                              |                                                                                         |                                                                                |                                                                              |    |  |          |  |                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| R16                                                          | 14.7                               | 0.0                | 0.0                | 14.7               | 2.6              | 12.1                        | 2.9                       | 9.4                                       | 0.0                       | 0.0                                       | 0.0                            | 0.0                     | 0.0                         | 0.0                              | 0.0                           | 0                                     | 0                                            | 0                             | 0                            | 0                                |                                                                                         |                                                                                |                                                                              |    |  |          |  |                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| R20                                                          | 0.0                                | 0.0                | 0.0                | 0.0                | 0.0              | 0.0                         | 0.0                       | 0.0                                       | 0.0                       | 0.0                                       | 0.0                            | 0.0                     | 0.0                         | 0.0                              | 0.0                           | 0                                     | 0                                            | 0                             | 0                            | 0                                |                                                                                         |                                                                                |                                                                              |    |  |          |  |                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total                                                        | 832.7                              | 433.8              | 43.4               | 876.1              | 1314.4           | 744.6                       | 186.2                     | 555.5                                     | 1395.9                    | 17.9                                      | 1378.0                         | 206.7                   | 1171.3                      | 292.8                            | 875.6                         | NA                                    | 1671                                         | 2579                          | 438                          | 2141                             | 3812                                                                                    | -58                                                                            | 1572                                                                         | 87 |  | 5413     |  |                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total Vacant and Redevelopable Acres (Minus ESA & Buffers) = |                                    |                    |                    |                    |                  |                             |                           |                                           |                           |                                           |                                |                         |                             |                                  |                               |                                       |                                              |                               |                              |                                  |                                                                                         |                                                                                | 2,228.5                                                                      |    |  |          |  |                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Total Vacant and Redevelopable Acres (Minus ESA & Buffers) = 2,228.5  
 (Alternative identifies Public Parks, Schools, and FI)  
 Results include Eastside Catholic High School site as possible vacant/redevelopable residential site.



CITY COUNCIL PROPOSED FINAL LAND USE PLAN DEVELOPMENT CAPACITY

| VACANT LAND SUPPLY |                                    |                   |                          |                            |                                |                  |                             |                           |                                           | REDEVELOPABLE LAND SUPPLY |                       |                                                 |                         |                             |                                  |                         |                                       |                                              |                               | DEVELOPMENT CAPACITY CALCULATIONS |                                  |                                                                                     |                                                                                |                                                                              |                   |       |        |       |          | PIPELINE |        |       | TOTAL W/ PIPELINE |       |
|--------------------|------------------------------------|-------------------|--------------------------|----------------------------|--------------------------------|------------------|-----------------------------|---------------------------|-------------------------------------------|---------------------------|-----------------------|-------------------------------------------------|-------------------------|-----------------------------|----------------------------------|-------------------------|---------------------------------------|----------------------------------------------|-------------------------------|-----------------------------------|----------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------|-------|--------|-------|----------|----------|--------|-------|-------------------|-------|
| A                  | C                                  | D                 | E                        | F                          | G                              | H                | I                           | J                         | L                                         | M                         | N                     | O                                               | P                       | Q                           | R                                | S                       | T                                     | U                                            | V                             | W                                 | X                                | Y                                                                                   | Z                                                                              | AA                                                                           | TOTAL W/ PIPELINE |       |        |       |          |          |        |       |                   |       |
| Zoning             | Vacant Acres (Minus ESA & Buffers) | Steep Slope Acres | 10% of Steep Slope Acres | Plus 10% Steep Slope Acres | 15% Gross/Net Conversion Acres | Net Vacant Acres | 25% Market Adjustment Acres | Net Adjusted Vacant Acres | Redevelopable Acres (Minus ESA & Buffers) | EDAW                      | High Value Home Acres | Redevelopable Acres minus High Value Home Acres | Net Redevelopable Acres | 25% Market Adjustment Acres | Adjusted Net Redevelopable Acres | Dwelling Units Per Acre | Potential New Dwelling Units (Vacant) | Potential New Dwelling Units (Redevelopable) | Existing Dwelling Units (75%) | Net Capacity (Redevelopable)      | Total Development Capacity [1+W] | Building Permits as of 5/31/02 on Pipeline Projects Included in Vacant/Redev. Acres | Single Family Pipeline Units (not included in vacant and undeveloped; 5/31/02) | Multifamily Pipeline Units (not included in vacant and undeveloped; 5/31/02) | TOTAL W/ PIPELINE |       |        |       |          |          |        |       |                   |       |
|                    |                                    |                   |                          |                            |                                |                  |                             |                           |                                           |                           |                       |                                                 |                         |                             |                                  |                         | [Import]                              | [Ex.10]                                      | [C+E]                         | [F*15]                            |                                  |                                                                                     |                                                                                |                                                                              |                   | [F-G] | [H*25] | [H-J] | [Import] | [L-M]    | [N*15] | [N-O] | [P*25]            | [P-Q] |
| CB                 | 1.4                                | 0.0               | 0.0                      | 0.0                        | 1.4                            | 0.2              | 1.2                         | 0.3                       | 0.9                                       | 0.0                       | 0.0                   | 0.0                                             | 0.0                     | 0.0                         | 0.0                              | 0.0                     | 20.0                                  | 17                                           | 0                             | 0                                 | 17                               |                                                                                     |                                                                                |                                                                              |                   |       |        |       |          |          |        |       |                   |       |
| NB                 | 0.0                                | 0.0               | 0.0                      | 0.0                        | 0.0                            | 0.0              | 0.0                         | 0.0                       | 0.0                                       | 0.0                       | 0.0                   | 0.0                                             | 0.0                     | 0.0                         | 0.0                              | 0.0                     | 7.0                                   | 0                                            | 0                             | 0                                 | 0                                |                                                                                     |                                                                                |                                                                              |                   |       |        |       |          |          |        |       |                   |       |
| O                  | 0.6                                | 0.0               | 0.0                      | 0.0                        | 0.6                            | 0.1              | 0.5                         | 0.1                       | 0.4                                       | 0.0                       | 0.0                   | 0.0                                             | 0.0                     | 0.0                         | 0.0                              | 0.0                     | 20.0                                  | 7                                            | 0                             | 0                                 | 0                                |                                                                                     |                                                                                |                                                                              |                   |       |        |       |          |          |        |       |                   |       |
| R1                 | 265.3                              | 137.5             | 13.8                     | 279.1                      | 41.9                           | 237.2            | 59.3                        | 177.9                     | 318.8                                     | 0.1                       | 318.7                 | 47.5                                            | 269.2                   | 67.3                        | 201.9                            | 0.5                     | 89                                    | 101                                          | 46                            | 55                                | 147                              |                                                                                     |                                                                                |                                                                              |                   |       |        |       |          |          |        |       |                   |       |
| R4                 | 400.8                              | 257.5             | 25.8                     | 428.6                      | 64.0                           | 365.9            | 90.9                        | 274.3                     | 708.1                                     | 6.9                       | 699.2                 | 104.9                                           | 594.3                   | 148.6                       | 445.8                            | 3.0                     | 816                                   | 1077                                         | 280                           | 1057                              | 1876                             |                                                                                     |                                                                                |                                                                              |                   |       |        |       |          |          |        |       |                   |       |
| R6                 | 124.4                              | 11.1              | 1.1                      | 125.5                      | 13.8                           | 105.7            | 28.7                        | 86.0                      | 325.1                                     | 10.8                      | 314.3                 | 47.1                                            | 267.1                   | 66.8                        | 200.3                            | 4.5                     | 360                                   | 902                                          | 86                            | 816                               | 1176                             |                                                                                     |                                                                                |                                                                              |                   |       |        |       |          |          |        |       |                   |       |
| R8                 | 14.0                               | 0.0               | 0.0                      | 14.0                       | 2.1                            | 11.9             | 2.9                         | 8.8                       | 33.0                                      | 0.0                       | 33.0                  | 0.5                                             | 28.0                    | 7.0                         | 21.0                             | 7.0                     | 62                                    | 147                                          | 16                            | 131                               | 183                              |                                                                                     |                                                                                |                                                                              |                   |       |        |       |          |          |        |       |                   |       |
| R12                | 14.7                               | 27.7              | 2.8                      | 14.7                       | 2.2                            | 12.5             | 3.1                         | 9.4                       | 2.7                                       | 0.0                       | 2.7                   | 0.4                                             | 2.3                     | 0.6                         | 1.7                              | 20.0                    | 129                                   | 31                                           | 9                             | 22                                | 151                              |                                                                                     |                                                                                |                                                                              |                   |       |        |       |          |          |        |       |                   |       |
| R18                | 14.0                               | 0.0               | 0.0                      | 14.0                       | 2.2                            | 12.5             | 3.1                         | 9.4                       | 2.7                                       | 0.0                       | 2.7                   | 0.4                                             | 2.3                     | 0.6                         | 1.7                              | 20.0                    | 187                                   | 34                                           | 1                             | 33                                | 220                              |                                                                                     |                                                                                |                                                                              |                   |       |        |       |          |          |        |       |                   |       |
| R24                | 0.0                                | 0.0               | 0.0                      | 0.0                        | 0.0                            | 0.0              | 0.0                         | 0.0                       | 0.0                                       | 0.0                       | 0.0                   | 0.0                                             | 0.0                     | 0.0                         | 0.0                              | 0.0                     | 0                                     | 0                                            | 0                             | 0                                 | 0                                |                                                                                     |                                                                                |                                                                              |                   |       |        |       |          |          |        |       |                   |       |
| TOTAL              | 831.7                              | 433.8             | 43.4                     | 875.1                      | 131.3                          | 743.9            | 185.0                       | 557.9                     | 1386.9                                    | 17.9                      | 1369.0                | 205.4                                           | 1163.7                  | 290.9                       | 872.8                            | NA                      | 1668                                  | 2552                                         | 438                           | 2114                              | 3782                             | -58                                                                                 | 1572                                                                           | 87                                                                           | 5383              |       |        |       |          |          |        |       |                   |       |

Total Vacant and Redevelopable Acres (Minus ES/ (Alternative Identifies Public Parks, Schools, and Fire Stations.) Results include Eastside Catholic High School site as possible vacant/redevelopable residential site.

2,218.6

## Technical Memorandum

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Date: January 31, 2003

To: Delora Kerber, City of Sammamish

From: Ron Loewen

Subject: **Methodology for AWDT calculation**

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This memorandum describes the methods used to derive Average Weekday Daily Traffic (AWDT) volumes within the City of Sammamish for the Transportation Element of the Comprehensive Plan.

As an initial step in preparing the Transportation Element, 24-hour traffic counts were collected at 16 locations throughout the City. The count locations were selected according to screen lines that were defined to assist in calibrating the traffic forecasting model. Three east-west screen lines were drawn across the City: one at the northern end, one approximately through the center of the City, and one at the southern end. The 24-hour traffic counts were collected at the locations where these lines crossed roadways classified as Arterials or Collectors. These counts provided the baseline values against which AWDT estimates would be calibrated.

Two-hour PM peak period turning movement counts were also conducted at numerous intersections throughout the City. A K-factor (ratio of peak hour volume to daily traffic volume) was calculated at each location where a 24-hour count had been taken by dividing the PM peak hour volume by the 24-hour volume. The result was a K-factor derived for each of the areas of the City where a 24-hour count had been conducted.

A traffic forecasting model was developed, as described in the City of Sammamish *Traffic Forecasting Model Documentation Report* (Earth Tech 2003), to provide projections of future PM peak hour traffic volumes based upon alternative land use scenarios. The initial component of the modeling process was to develop a calibrated model of existing conditions. Since traffic counts were taken at fewer locations than those identified for analysis, model volumes were used for existing conditions analysis as well as for future conditions analysis.

For both existing and future conditions analysis, AWDTs for the roadway segments were derived by dividing the modeled PM peak hour volume by the geographically closest K-factor (calculated as described above).



## Appendix F

January 31, 2003

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The calibrated model of existing conditions, as described in the Model Documentation Report, had a system-wide correlation of 0.94 with actual counts, which exceeds industry standards. While the system-wide model volumes fell within reasonable parameters for model development, the model appeared to understate the two-way PM peak hour volumes for the section of E Lake Sammamish Parkway, between the north City Limits and Inglewood Hill Road, by approximately 200 vehicles per hour. When these PM peak hour volumes were expanded with the K-factor, the resulting AWDTs were 2,100 to 2,200 vehicles per day fewer than existing daily counts indicated. This difference between the modeled volumes and existing counts was of greater proportion than the differences on the other high volume roadways within the City. However, it was determined that adjusting the model to account for this one discrepancy would result in a disproportionate degradation of the system-wide model accuracy.

A special committee of the PAB, which included five professional transportation engineers, convened on November 21, 2002, to discuss this discrepancy and to suggest solutions. The committee verified that the overall modeling process and results were reasonable. It could not be determined how the model could produce the apparent discrepancy in the existing PM peak hour. Therefore, the decision was made to apply a post-processing step in which the calculated AWDT volumes on E Lake Sammamish Parkway north of Inglewood Hill Road would be adjusted upward by an appropriate amount to better portray the existing daily volume counts. Thus, the calculated AWDT volumes on E Lake Sammamish Parkway were increased by 2,200 between the north City Limits and 196<sup>th</sup> Ave NE, and by 2,100 between 196<sup>th</sup> Ave NE and Inglewood Hill Road.

AWDT volumes for future conditions were estimated at the same locations that had been estimated for existing conditions, and the calculations were likewise based upon modeled PM peak hour volumes. The acknowledged underestimation of traffic volumes on E Lake Sammamish Parkway under existing conditions led to a concern that the model was could be underestimating traffic volumes along that roadway segment for future conditions as well. Consequently, the decision was made, and the committee concurred, that a reasonable adjustment would be to increase the future estimated AWDT volumes by the same magnitudes that had been applied for existing conditions analysis. Hence, all calculated future AWDT volumes on E Lake Sammamish Parkway were also increased by 2,200 between the north City Limits and 196<sup>th</sup> Ave NE, and by 2,100 between 196<sup>th</sup> Ave NE and Inglewood Hill Road.

Project: E Lk Sammamish Pkwy Widening Date: 1/31/2003  
 Location: NE187th Ave to 196th Ave NE Length: 4,900 feet  
 Scope: Widen roadway with 5 foot shoulders, curb, gutter, and sidewalk.  
Flexible design standards.  
Current roadway width is 32 feet.

|                |                    |          |                   |              |                               |
|----------------|--------------------|----------|-------------------|--------------|-------------------------------|
| Roadway Width  | <u>50</u>          | Sidewalk | <u>6</u>          | Right-of-Way | <u>Required</u>               |
| Environmental: | <u>DNS</u>         |          | <u>EA</u>         | <u>x</u>     | <u>EIS</u>                    |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial<br/>Corners</u> |

Planning estimate of probable cost:

|                                     | Units      | Unit Price   | Extension           |
|-------------------------------------|------------|--------------|---------------------|
| Pavement Removal                    | 156,800 sf | \$1.00       | \$156,800           |
| 4" Asph/8" CR                       | 245,000 sf | \$2.48       | \$607,600           |
| Curb and gutter                     | 9,800 lf   | \$15.00      | \$147,000           |
| Sidewalks                           | 44,100 sf  | \$3.60       | \$158,760           |
| Lighting                            | 4,900 lf   | \$50.00      | \$245,000           |
| Sodding                             | 53,900 sf  | \$2.00       | \$107,800           |
| Trees                               | 98 ea      | \$200.00     | \$19,600            |
| Drainage and erosion control        | 4,900 lf   | \$87.00      | \$426,300           |
| Excavation                          | 4,900 lf   | \$5.00       | \$24,500            |
| Traffic paint, buttons and control  | 4,900 lf   | \$20.00      | \$98,000            |
| Retaining Wall                      | 49,000 sf  | \$60.00      | \$2,940,000         |
| New Signal                          | 0 ea       | \$200,000.00 | \$0                 |
| Mobilization                        |            | 8%           | \$394,509           |
| <b>Construction Subtotal</b>        |            |              | <b>\$5,325,869</b>  |
| Permitting                          | 10%        |              | \$532,587           |
| Contingency                         | 40%        |              | \$2,130,348         |
| Design                              | 20%        |              | \$1,065,174         |
| Construction Eng                    | 15%        |              | \$798,880           |
| Right-of-Way                        |            |              | \$833,000           |
| Turn Pockets                        | 3          | \$368,000.00 | \$1,104,000         |
| <b>Project Development Subtotal</b> |            |              | <b>\$6,463,988</b>  |
| <b>Total</b>                        |            |              | <b>\$11,789,857</b> |

Inflation 0.0% per year 0 years **\$0**

**GRAND TOTAL** **\$11,789,857**

- \* Sidewalks entire length on the east side and half length on the west side
- \* Retaining walls are 15' high on west side for entire length and 10' high on east side for half length
- \* Contingency is 40%
- \* Assume turn pocket cost is \$368,000 a piece.
- \* Sidewalks were placed adjacent to the curb eliminating planter strips.



Project: E Lk Sammamish Pkwy Widening Date: 1/31/2003  
Location: 196th Ave NE to NE 26th Pl Length: 4,000 feet  
Scope: Widen roadway with 5 foot shoulders, curb, gutter, and sidewalk.  
Flexible design standards.

Current roadway width is 32 feet.

|                |             |          |            |              |                       |
|----------------|-------------|----------|------------|--------------|-----------------------|
| Roadway Width  | 50          | Sidewalk | 6          | Right-of-Way | Required              |
| Environmental: | DNS         |          | EA         | x            | EIS                   |
| Land Use:      | Residential | x        | Commercial |              | Commercial<br>Corners |

Planning estimate of probable cost:

|                                    | Units      | Unit Price   | Extension          |
|------------------------------------|------------|--------------|--------------------|
| Pavement Removal                   | 128,000 sf | \$1.00       | \$128,000          |
| 4" Asph/8" CR                      | 200,000 sf | \$2.48       | \$496,000          |
| Curb and gutter                    | 8,000 lf   | \$15.00      | \$120,000          |
| Sidewalks                          | 36,000 sf  | \$3.60       | \$129,600          |
| Lighting                           | 4,000 lf   | \$50.00      | \$200,000          |
| Sodding                            | 44,000 sf  | \$2.00       | \$88,000           |
| Trees                              | 80 ea      | \$200.00     | \$16,000           |
| Drainage and erosion control       | 4,000 lf   | \$87.00      | \$348,000          |
| Excavation                         | 4,000 lf   | \$5.00       | \$20,000           |
| Traffic paint, buttons and control | 4,000 lf   | \$20.00      | \$80,000           |
| Retaining Wall                     | 40,000 sf  | \$60.00      | \$2,400,000        |
| New Signal                         | 0 ea       | \$200,000.00 | \$0                |
| Mobilization                       |            | 8%           | \$322,048          |
| <b>Construction Subtotal</b>       |            |              | <b>\$4,347,648</b> |

|                                     |     |              |                    |
|-------------------------------------|-----|--------------|--------------------|
| Permitting                          | 10% |              | \$434,765          |
| Contingency                         | 40% |              | \$1,739,059        |
| Design                              | 20% |              | \$869,530          |
| Construction Eng                    | 15% |              | \$652,147          |
| Right-of-Way                        |     |              | \$680,000          |
| Turn Pockets                        | 2   | \$368,000.00 | \$736,000          |
| <b>Project Development Subtotal</b> |     |              | <b>\$5,111,501</b> |

**Total** **\$9,459,149**

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL** **\$9,459,149**

- \* Sidewalks entire length on the east side and half length on the west side
- \* Retaining walls are 15' high on west side for entire length and 10' high on east side for half length
- \* Contingency is 40%
- \* Assume turn pocket cost is \$368,000 a piece.
- \* Sidewalks were placed adjacent to the curb eliminating planter strips.

Project: E Lk Sammamish Pkwy Widening Date: 1/31/2003  
 Location: NE 26th Pl to Inglewood Hill Rd Length: 4,300 feet  
 Scope: Widen roadway with 5 foot shoulders, curb, gutter, and sidewalk.  
Flexible design standards.

Current roadway width is 32 feet.

|                |                    |          |                   |              |                               |
|----------------|--------------------|----------|-------------------|--------------|-------------------------------|
| Roadway Width  | <u>50</u>          | Sidewalk | <u>4</u>          | Right-of-Way | <u>Required</u>               |
| Environmental: | <u>DNS</u>         |          | <u>EA</u>         | <u>x</u>     | <u>EIS</u>                    |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial<br/>Corners</u> |

Planning estimate of probable cost:

|                                    | Units      | Unit Price   | Extension          |
|------------------------------------|------------|--------------|--------------------|
| Pavement Removal                   | 137,600 sf | \$1.00       | \$137,600          |
| 4" Asph/8" CR                      | 215,000 sf | \$2.48       | \$533,200          |
| Curb and gutter                    | 8,600 lf   | \$15.00      | \$129,000          |
| Sidewalks                          | 25,800 sf  | \$3.60       | \$92,880           |
| Lighting                           | 4,300 lf   | \$50.00      | \$215,000          |
| Sodding                            | 47,300 sf  | \$2.00       | \$94,600           |
| Trees                              | 86 ea      | \$200.00     | \$17,200           |
| Drainage and erosion control       | 4,300 lf   | \$87.00      | \$374,100          |
| Excavation                         | 4,300 lf   | \$5.00       | \$21,500           |
| Traffic paint, buttons and control | 4,300 lf   | \$20.00      | \$86,000           |
| Retaining Wall                     | 43,000 sf  | \$60.00      | \$2,580,000        |
| New Signal                         | 0 ea       | \$200,000.00 | \$0                |
| Mobilization                       |            | 8%           | \$342,486          |
| <b>Construction Subtotal</b>       |            |              | <b>\$4,623,566</b> |

|                                     |          |              |                    |
|-------------------------------------|----------|--------------|--------------------|
| Permitting                          | 10%      |              | \$462,357          |
| Contingency                         | 40%      |              | \$1,849,427        |
| Design                              | 20%      |              | \$924,713          |
| Construction Eng                    | 15%      |              | \$693,535          |
| Right-of-Way                        |          |              | \$731,000          |
| Turn Pockets                        | <u>2</u> | \$368,000.00 | \$736,000          |
| <b>Project Development Subtotal</b> |          |              | <b>\$5,397,031</b> |

**Total** **\$10,020,598**

Inflation 0.0% per year 0 years **\$0**

**GRAND TOTAL** **\$10,020,598**

- \* Sidewalks entire length on the east side and half length on the west side
- \* Retaining walls are 15' high on west side for entire length and 10' high on east side for half length
- \* Contingency is 40%
- \* Assume turn pocket cost is \$368,000 a piece.
- \* Sidewalks were placed adjacent to the curb eliminating planter strips.



Project: E Lk Sammamish Pkwy Widening Date: 12/5/2002  
 Location: 212th Way SE to SE 43rd Way Length: 2,640 feet  
 Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, and sidewalk.

Current roadway width is 32 feet.

|                |                    |          |                   |              |                           |
|----------------|--------------------|----------|-------------------|--------------|---------------------------|
| Roadway Width  | <u>46</u>          | Sidewalk | <u>6</u>          | Right-of-Way | <u>Required</u>           |
| Environmental: | <u>DNS</u>         |          | <u>EA</u>         | <u>x</u>     | <u>EIS</u>                |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial Corners</u> |

Planning estimate of probable cost:

|                                     | Units                | Unit Price     | Extension          |
|-------------------------------------|----------------------|----------------|--------------------|
| Pavement Removal                    | 84,480 sf            | \$1.00         | \$84,480           |
| 4" Asph/8" CR                       | 121,440 sf           | \$2.48         | \$301,171          |
| Curb and gutter                     | 5,280 lf             | \$15.00        | \$79,200           |
| Sidewalks                           | 31,680 sf            | \$3.60         | \$114,048          |
| Lighting                            | 2,640 lf             | \$50.00        | \$132,000          |
| Sodding                             | 29,040 sf            | \$2.00         | \$58,080           |
| Trees                               | 52 ea                | \$200.00       | \$10,400           |
| Drainage and erosion control        | 2,640 lf             | \$87.00        | \$229,680          |
| Excavation                          | 2,640 lf             | \$5.00         | \$13,200           |
| Traffic paint, buttons and control  | 2,640 lf             | \$20.00        | \$52,800           |
| Retaining Wall                      | 0 sf                 | \$60.00        | \$0                |
| New Signal                          | 0 ea                 | \$200,000.00   | \$0                |
| Mobilization                        |                      | 8%             | \$86,005           |
| <b>Construction Subtotal</b>        |                      |                | <b>\$1,161,064</b> |
| Permitting                          | 10%                  |                | \$116,106          |
| Contingency                         | 30%                  |                | \$348,319          |
| Design                              | 20%                  |                | \$232,213          |
| Construction Eng                    | 15%                  |                | \$174,160          |
| Right-of-Way                        |                      |                | \$343,200          |
|                                     | 0%                   |                | \$0                |
| <b>Project Development Subtotal</b> |                      |                | <b>\$1,213,998</b> |
| <b>Total</b>                        |                      |                | <b>\$2,375,062</b> |
| Inflation                           | <u>0.0%</u> per year | <u>0</u> years | <u>\$0</u>         |
| <b>GRAND TOTAL</b>                  |                      |                | <b>\$2,375,062</b> |

# City of Sammamish Transportation Plan Capital Estimate

Project: Issaquah Pine Lk Rd Widening Date: 11/8/2002  
 Location: SE Klahanie Blvd to City Limit Length: 3,400 feet  
 Scope: Widen to 5 lanes with 5 foot shoulders, curb, gutter, and sidewalk.

Current roadway width is 30 feet.

|                |             |          |            |              |                       |
|----------------|-------------|----------|------------|--------------|-----------------------|
| Roadway Width  | 68          | Sidewalk | 6          | Right-of-Way | Required              |
| Environmental: | DNS         | x        | EA         |              | EIS                   |
| Land Use:      | Residential | x        | Commercial |              | Commercial<br>Corners |

Planning estimate of probable cost:

|                                     | Units      | Unit Price   | Extension          |
|-------------------------------------|------------|--------------|--------------------|
| Pavement Removal                    | 102,000 sf | \$1.00       | \$102,000          |
| 4" Asph/8" CR                       | 231,200 sf | \$2.48       | \$573,376          |
| Curb and gutter                     | 6,800 lf   | \$15.00      | \$102,000          |
| Sidewalks                           | 40,800 sf  | \$3.60       | \$146,880          |
| Lighting                            | 3,400 lf   | \$50.00      | \$170,000          |
| Sodding                             | 37,400 sf  | \$2.00       | \$74,800           |
| Trees                               | 68 ea      | \$200.00     | \$13,600           |
| Drainage and erosion control        | 3,400 lf   | \$87.00      | \$295,800          |
| Excavation                          | 6,800 lf   | \$5.00       | \$34,000           |
| Traffic paint, buttons and control  | 3,400 lf   | \$20.00      | \$68,000           |
| Retaining Wall                      | 6,800 sf   | \$60.00      | \$408,000          |
| New Signal                          | 0 ea       | \$200,000.00 | \$0                |
| Mobilization                        |            | 8%           | \$159,076          |
| <b>Construction Subtotal</b>        |            |              | <b>\$2,147,532</b> |
| Permitting                          | 5%         |              | \$107,377          |
| Contingency                         | 30%        |              | \$644,260          |
| Design                              | 20%        |              | \$429,506          |
| Construction Eng                    | 15%        |              | \$322,130          |
| Right-of-Way                        |            |              | \$1,190,000        |
|                                     | 0%         |              | \$0                |
| <b>Project Development Subtotal</b> |            |              | <b>\$2,693,273</b> |
| <b>Total</b>                        |            |              | <b>\$4,840,805</b> |

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL \$4,840,805**

\* Excavation is double for length

\* Retaining walls are 5' high on both sides for 20% length



City of Sammamish  
Transportation Plan Capital Estimate

Project: Issaquah Pine Lk Rd Widening Date: 11/8/2002  
 Location: SE 32nd Way to SE Klahanie Blvd Length: 4,900 feet  
 Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, and sidewalk.

Current roadway width is 30 feet.

|                |             |          |            |              |                       |
|----------------|-------------|----------|------------|--------------|-----------------------|
| Roadway Width  | 54          | Sidewalk | 6          | Right-of-Way | Required              |
| Environmental: | DNS         | x        | EA         |              | EIS                   |
| Land Use:      | Residential | x        | Commercial |              | Commercial<br>Corners |

Planning estimate of probable cost:

|                                     | Units         | Unit Price   | Extension          |
|-------------------------------------|---------------|--------------|--------------------|
| Pavement Removal                    | 147,000 sf    | \$1.00       | \$147,000          |
| 4" Asph/8" CR                       | 264,600 sf    | \$2.48       | \$656,208          |
| Curb and gutter                     | 9,800 lf      | \$15.00      | \$147,000          |
| Sidewalks                           | 58,800 sf     | \$3.60       | \$211,680          |
| Lighting                            | 4,900 lf      | \$50.00      | \$245,000          |
| Sodding                             | 53,900 sf     | \$2.00       | \$107,800          |
| Trees                               | 98 ea         | \$200.00     | \$19,600           |
| Drainage and erosion control        | 4,900 lf      | \$87.00      | \$426,300          |
| Excavation                          | 4,900 lf      | \$5.00       | \$24,500           |
| Traffic paint, buttons and control  | 4,900 lf      | \$20.00      | \$98,000           |
| Retaining Wall                      | 0 sf          | \$60.00      | \$0                |
| New Signal                          | 0 ea          | \$200,000.00 | \$0                |
| Mobilization                        |               | 8%           | \$166,647          |
| <b>Construction Subtotal</b>        |               |              | <b>\$2,249,735</b> |
| Permitting                          | 5%            |              | \$112,487          |
| Contingency                         | 30%           |              | \$674,921          |
| Design                              | 20%           |              | \$449,947          |
| Construction Eng                    | 15%           |              | \$337,460          |
| Right-of-Way                        |               |              | \$1,029,000        |
|                                     | 0%            |              | \$0                |
| <b>Project Development Subtotal</b> |               |              | <b>\$2,603,815</b> |
| <b>Total</b>                        |               |              | <b>\$4,853,550</b> |
| Inflation                           | 0.0% per year | 0 years      | \$0                |
| <b>GRAND TOTAL</b>                  |               |              | <b>\$4,853,550</b> |



**Jones & Stokes**

**City of Sammamish  
Transportation Plan Capital Estimate**

Project: 244th Ave NE Widening Date: 11/8/2002  
 Location: City Limit to NE 8th St Length: 8,000 feet  
 Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, sidewalk, medians, and  
left turn pockets where required.

Current roadway width is 24 feet.

|                |                    |          |                   |              |                   |
|----------------|--------------------|----------|-------------------|--------------|-------------------|
| Roadway Width  | <u>46</u>          | Sidewalk | <u>6</u>          | Right-of-Way | <u>Required</u>   |
| Environmental: | <u>DNS</u>         |          | <u>EA</u>         | <u>x</u>     | <u>EIS</u>        |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial</u> |
|                |                    |          |                   |              | <u>Corners</u>    |

Planning estimate of probable cost:

|                                     | <b>Units</b>         | <b>Unit Price</b> | <b>Extension</b>   |
|-------------------------------------|----------------------|-------------------|--------------------|
| Pavement Removal                    | 192,000 sf           | \$1.00            | \$192,000          |
| 4" Asph/8" CR                       | 368,000 sf           | \$2.48            | \$912,640          |
| Curb and gutter                     | 16,000 lf            | \$15.00           | \$240,000          |
| Sidewalks                           | 96,000 sf            | \$3.60            | \$345,600          |
| Lighting                            | 8,000 lf             | \$50.00           | \$400,000          |
| Sodding                             | 88,000 sf            | \$2.00            | \$176,000          |
| Trees                               | 160 ea               | \$200.00          | \$32,000           |
| Drainage and erosion control        | 8,000 lf             | \$87.00           | \$696,000          |
| Excavation                          | 8,000 lf             | \$5.00            | \$40,000           |
| Traffic paint, buttons and control  | 8,000 lf             | \$20.00           | \$160,000          |
| Retaining Wall                      | 0 sf                 | \$60.00           | \$0                |
| New Signal                          | 0 ea                 | \$200,000.00      | \$0                |
| Mobilization                        |                      | 8%                | \$255,539          |
| <b>Construction Subtotal</b>        |                      |                   | <b>\$3,449,779</b> |
| Permitting                          | 10%                  |                   | \$344,978          |
| Contingency                         | 30%                  |                   | \$1,034,934        |
| Design                              | 20%                  |                   | \$689,956          |
| Construction Eng                    | 15%                  |                   | \$517,467          |
| Right-of-Way                        |                      |                   | \$1,040,000        |
|                                     | 0%                   |                   | \$0                |
| <b>Project Development Subtotal</b> |                      |                   | <b>\$3,627,334</b> |
| <b>Total</b>                        |                      |                   | <b>\$7,077,114</b> |
| Inflation                           | <u>0.0%</u> per year | <u>0</u> years    | <u>\$0</u>         |
| <b>GRAND TOTAL</b>                  |                      |                   | <b>\$7,077,114</b> |





# City of Sammamish Transportation Plan Capital Estimate

Project: Sahalee Way Widening Date: 11/8/2002  
 Location: City Limit to 220th Ave NE Length: 5,500 feet  
 Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, and sidewalk.

Current roadway width is 30 feet.

|                |             |          |            |              |                       |
|----------------|-------------|----------|------------|--------------|-----------------------|
| Roadway Width  | 46          | Sidewalk | 6          | Right-of-Way | Required              |
| Environmental: | DNS         | x        | EA         |              | EIS                   |
| Land Use:      | Residential | x        | Commercial |              | Commercial<br>Corners |

Planning estimate of probable cost:

|                                     | Units      | Unit Price   | Extension          |
|-------------------------------------|------------|--------------|--------------------|
| Pavement Removal                    | 165,000 sf | \$1.00       | \$165,000          |
| 4" Asph/8" CR                       | 253,000 sf | \$2.48       | \$627,440          |
| Curb and gutter                     | 11,000 lf  | \$15.00      | \$165,000          |
| Sidewalks                           | 66,000 sf  | \$3.60       | \$237,600          |
| Lighting                            | 5,500 lf   | \$50.00      | \$275,000          |
| Sodding                             | 60,500 sf  | \$2.00       | \$121,000          |
| Trees                               | 110 ea     | \$200.00     | \$22,000           |
| Drainage and erosion control        | 5,500 lf   | \$87.00      | \$478,500          |
| Excavation                          | 5,500 lf   | \$5.00       | \$27,500           |
| Traffic paint, buttons and control  | 5,500 lf   | \$20.00      | \$110,000          |
| Retaining Wall                      | 27,500 sf  | \$60.00      | \$1,650,000        |
| New Signal                          | 0 ea       | \$200,000.00 | \$0                |
| Mobilization                        |            | 8%           | \$310,323          |
| <b>Construction Subtotal</b>        |            |              | <b>\$4,189,363</b> |
| Permitting                          | 5%         |              | \$209,468          |
| Contingency                         | 30%        |              | \$1,256,809        |
| Design                              | 20%        |              | \$837,873          |
| Construction Eng                    | 15%        |              | \$628,404          |
| Right-of-Way                        | 0%         |              | \$715,000          |
| <b>Project Development Subtotal</b> |            |              | <b>\$3,647,554</b> |
| <b>Total</b>                        |            |              | <b>\$7,836,917</b> |

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL** \$7,836,917

\* Retaining walls are 10' high atleast side for 50% length

Project: Sahalee Way Widening Date: 11/8/2002  
Location: 220th Ave NE to NE 25th Way Length: 4,000 feet  
Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, and sidewalk.

Current roadway width is 30 feet.

|                |             |          |            |              |                       |
|----------------|-------------|----------|------------|--------------|-----------------------|
| Roadway Width  | 46          | Sidewalk | 6          | Right-of-Way | Required              |
| Environmental: | DNS         | x        | EA         |              | EIS                   |
| Land Use:      | Residential | x        | Commercial |              | Commercial<br>Corners |

Planning estimate of probable cost:

|                                     | Units         | Unit Price   | Extension          |
|-------------------------------------|---------------|--------------|--------------------|
| Pavement Removal                    | 120,000 sf    | \$1.00       | \$120,000          |
| 4" Asph/8" CR                       | 184,000 sf    | \$2.48       | \$456,320          |
| Curb and gutter                     | 8,000 lf      | \$15.00      | \$120,000          |
| Sidewalks                           | 48,000 sf     | \$3.60       | \$172,800          |
| Lighting                            | 4,000 lf      | \$50.00      | \$200,000          |
| Sodding                             | 44,000 sf     | \$2.00       | \$88,000           |
| Trees                               | 80 ea         | \$200.00     | \$16,000           |
| Drainage and erosion control        | 4,000 lf      | \$87.00      | \$348,000          |
| Excavation                          | 4,000 lf      | \$5.00       | \$20,000           |
| Traffic paint, buttons and control  | 4,000 lf      | \$20.00      | \$80,000           |
| Retaining Wall                      | 0 sf          | \$60.00      | \$0                |
| New Signal                          | 0 ea          | \$200,000.00 | \$0                |
| Mobilization                        |               | 8%           | \$129,690          |
| <b>Construction Subtotal</b>        |               |              | <b>\$1,750,810</b> |
| Permitting                          | 5%            |              | \$87,540           |
| Contingency                         | 30%           |              | \$525,243          |
| Design                              | 20%           |              | \$350,162          |
| Construction Eng                    | 15%           |              | \$262,621          |
| Right-of-Way                        |               |              | \$520,000          |
|                                     | 0%            |              | \$0                |
| <b>Project Development Subtotal</b> |               |              | <b>\$1,745,567</b> |
| <b>Total</b>                        |               |              | <b>\$3,496,376</b> |
| Inflation                           | 0.0% per year | 0 years      | \$0                |
| <b>GRAND TOTAL</b>                  |               |              | <b>\$3,496,376</b> |



Project: 228th Ave NE Widening Date: 11/8/2002  
 Location: NE 25th Way to NE 12th St Length: 4,000 feet  
 Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, and sidewalk.

Current roadway width is 30 feet.

|                |                    |          |                   |              |                               |
|----------------|--------------------|----------|-------------------|--------------|-------------------------------|
| Roadway Width  | <u>46</u>          | Sidewalk | <u>6</u>          | Right-of-Way | Required                      |
| Environmental: | <u>DNS</u>         | <u>x</u> | <u>EA</u>         |              | <u>EIS</u>                    |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial<br/>Corners</u> |

Planning estimate of probable cost:

|                                    | <b>Units</b> | <b>Unit Price</b> | <b>Extension</b>   |
|------------------------------------|--------------|-------------------|--------------------|
| Pavement Removal                   | 120,000 sf   | \$1.00            | \$120,000          |
| 4" Asph/8" CR                      | 184,000 sf   | \$2.48            | \$456,320          |
| Curb and gutter                    | 8,000 lf     | \$15.00           | \$120,000          |
| Sidewalks                          | 48,000 sf    | \$3.60            | \$172,800          |
| Lighting                           | 4,000 lf     | \$50.00           | \$200,000          |
| Sodding                            | 44,000 sf    | \$2.00            | \$88,000           |
| Trees                              | 80 ea        | \$200.00          | \$16,000           |
| Drainage and erosion control       | 4,000 lf     | \$87.00           | \$348,000          |
| Excavation                         | 4,000 lf     | \$5.00            | \$20,000           |
| Traffic paint, buttons and control | 4,000 lf     | \$20.00           | \$80,000           |
| Retaining Wall                     | 0 sf         | \$60.00           | \$0                |
| New Signal                         | 0 ea         | \$200,000.00      | \$0                |
| Mobilization                       |              | 8%                | \$129,690          |
| <b>Construction Subtotal</b>       |              |                   | <b>\$1,750,810</b> |

|                                     |     |                    |
|-------------------------------------|-----|--------------------|
| Permitting                          | 5%  | \$87,540           |
| Contingency                         | 30% | \$525,243          |
| Design                              | 20% | \$350,162          |
| Construction Eng                    | 15% | \$262,621          |
| Right-of-Way                        |     | \$520,000          |
|                                     | 0%  | \$0                |
| <b>Project Development Subtotal</b> |     | <b>\$1,745,567</b> |

|              |  |                    |
|--------------|--|--------------------|
| <b>Total</b> |  | <b>\$3,496,376</b> |
|--------------|--|--------------------|

|           |             |          |          |       |            |
|-----------|-------------|----------|----------|-------|------------|
| Inflation | <u>0.0%</u> | per year | <u>0</u> | years | <u>\$0</u> |
|-----------|-------------|----------|----------|-------|------------|

|                    |                    |
|--------------------|--------------------|
| <b>GRAND TOTAL</b> | <b>\$3,496,376</b> |
|--------------------|--------------------|

Project: 228th Ave NE Widening Date: 11/8/2002  
 Location: Issaquah Pine Lk Rd to City Limit Length: 2,000 feet  
 Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, and sidewalk.

Current roadway width is 30 feet.

|                |                    |          |                   |              |                               |
|----------------|--------------------|----------|-------------------|--------------|-------------------------------|
| Roadway Width  | <u>46</u>          | Sidewalk | <u>6</u>          | Right-of-Way | <u>Required</u>               |
| Environmental: | <u>DNS</u>         | <u>x</u> | <u>EA</u>         |              | <u>EIS</u>                    |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial<br/>Corners</u> |

Planning estimate of probable cost:

|                                     | Units     | Unit Price   | Extension          |
|-------------------------------------|-----------|--------------|--------------------|
| Pavement Removal                    | 60,000 sf | \$1.00       | \$60,000           |
| 4" Asph/8" CR                       | 92,000 sf | \$2.48       | \$228,160          |
| Curb and gutter                     | 4,000 lf  | \$15.00      | \$60,000           |
| Sidewalks                           | 24,000 sf | \$3.60       | \$86,400           |
| Lighting                            | 2,000 lf  | \$50.00      | \$100,000          |
| Sodding                             | 22,000 sf | \$2.00       | \$44,000           |
| Trees                               | 40 ea     | \$200.00     | \$8,000            |
| Drainage and erosion control        | 2,000 lf  | \$87.00      | \$174,000          |
| Excavation                          | 2,000 lf  | \$5.00       | \$10,000           |
| Traffic paint, buttons and control  | 2,000 lf  | \$20.00      | \$40,000           |
| Retaining Wall                      | 0 sf      | \$60.00      | \$0                |
| New Signal                          | 0 ea      | \$200,000.00 | \$0                |
| Mobilization                        |           | 8%           | \$64,845           |
| <b>Construction Subtotal</b>        |           |              | <b>\$875,405</b>   |
| Permitting                          | 5%        |              | \$43,770           |
| Contingency                         | 30%       |              | \$262,621          |
| Design                              | 20%       |              | \$175,081          |
| Construction Eng                    | 15%       |              | \$131,311          |
| Right-of-Way                        |           |              | \$260,000          |
|                                     | 0%        |              | \$0                |
| <b>Project Development Subtotal</b> |           |              | <b>\$872,783</b>   |
| <b>Total</b>                        |           |              | <b>\$1,748,188</b> |

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL** \$1,748,188



Project: E Lk Sammamish Pkwy Intersection Improve Date: 1/31/2003  
 Location: Inglewood Hill Rd Length: 1,000 feet  
 Scope: At the intersection add a right turn signal head and modify the signal controller to allow a protected right turn on red during the south bound to east bound left turn phase.

Current roadway width is 36 feet.

|                |                    |          |                   |              |                           |
|----------------|--------------------|----------|-------------------|--------------|---------------------------|
| Roadway Width  | <u>36</u>          | Sidewalk | <u>6</u>          | Right-of-Way | Required                  |
| Environmental: | <u>DNS</u>         | <u>x</u> | <u>EA</u>         |              | <u>EIS</u>                |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial Corners</u> |

Planning estimate of probable cost:

|                                    | Units       | Unit Price         | Extension       |
|------------------------------------|-------------|--------------------|-----------------|
| Pavement Removal                   | <u>0 sf</u> | <u>\$1.00</u>      | <u>\$0</u>      |
| 4" Asph/8" CR                      | <u>0 sf</u> | <u>\$2.48</u>      | <u>\$0</u>      |
| Curb and gutter                    | <u>0 lf</u> | <u>\$15.00</u>     | <u>\$0</u>      |
| Sidewalks                          | <u>0 sf</u> | <u>\$3.60</u>      | <u>\$0</u>      |
| Lighting                           | <u>0 lf</u> | <u>\$50.00</u>     | <u>\$0</u>      |
| Sodding                            | <u>0 sf</u> | <u>\$2.00</u>      | <u>\$0</u>      |
| Trees                              | <u>0 ea</u> | <u>\$200.00</u>    | <u>\$0</u>      |
| Drainage and erosion control       | <u>0 lf</u> | <u>\$87.00</u>     | <u>\$0</u>      |
| Excavation                         | <u>0 lf</u> | <u>\$5.00</u>      | <u>\$0</u>      |
| Traffic paint, buttons and control | <u>0 lf</u> | <u>\$20.00</u>     | <u>\$0</u>      |
| Retaining Wall                     | <u>0 sf</u> | <u>\$60.00</u>     | <u>\$0</u>      |
| New Signal                         | <u>1 ea</u> | <u>\$10,000.00</u> | <u>\$10,000</u> |
| Mobilization                       |             | <u>8%</u>          | <u>\$800</u>    |
| <b>Construction Subtotal</b>       |             |                    | <b>\$10,800</b> |

|                                     |            |                 |
|-------------------------------------|------------|-----------------|
| Permitting                          | <u>5%</u>  | <u>\$540</u>    |
| Contingency                         | <u>30%</u> | <u>\$3,240</u>  |
| Design                              | <u>20%</u> | <u>\$2,160</u>  |
| Construction Eng                    | <u>15%</u> | <u>\$1,620</u>  |
| Right-of-Way                        |            | <u>\$30,000</u> |
|                                     | <u>0%</u>  | <u>\$0</u>      |
| <b>Project Development Subtotal</b> |            | <b>\$37,560</b> |

|              |  |                 |
|--------------|--|-----------------|
| <b>Total</b> |  | <b>\$48,360</b> |
|--------------|--|-----------------|

|           |                      |                |            |
|-----------|----------------------|----------------|------------|
| Inflation | <u>0.0%</u> per year | <u>0</u> years | <u>\$0</u> |
|-----------|----------------------|----------------|------------|

|                    |  |                 |
|--------------------|--|-----------------|
| <b>GRAND TOTAL</b> |  | <b>\$48,360</b> |
|--------------------|--|-----------------|

- \* Pavement length based on 100' pocket and one 250' taper.
- \* Retaining walls assumes additional height over proposal of 2' on both sides.
- \* Right of Way assume 12 feet entire length.

Project: E Lk Sammamish Pkwy Signal Date: 11/8/2002  
 Location: Louis Thompson Road Length: 0 feet  
 Scope: Install a traffic signal

Current roadway width is 36 feet.

|                |                    |          |                   |              |                               |
|----------------|--------------------|----------|-------------------|--------------|-------------------------------|
| Roadway Width  | <u>36</u>          | Sidewalk | <u>6</u>          | Right-of-Way | <u>Required</u>               |
| Environmental: | <u>DNS</u>         | <u>x</u> | <u>EA</u>         |              | <u>EIS</u>                    |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial<br/>Corners</u> |

Planning estimate of probable cost:

|                                     | Units       | Unit Price          | Extension        |
|-------------------------------------|-------------|---------------------|------------------|
| Pavement Removal                    | <u>0 sf</u> | <u>\$1.00</u>       | <u>\$0</u>       |
| 4" Asph/8" CR                       | <u>0 sf</u> | <u>\$2.48</u>       | <u>\$0</u>       |
| Curb and gutter                     | <u>0 lf</u> | <u>\$15.00</u>      | <u>\$0</u>       |
| Sidewalks                           | <u>0 sf</u> | <u>\$3.60</u>       | <u>\$0</u>       |
| Lighting                            | <u>0 lf</u> | <u>\$50.00</u>      | <u>\$0</u>       |
| Sodding                             | <u>0 sf</u> | <u>\$2.00</u>       | <u>\$0</u>       |
| Trees                               | <u>0 ea</u> | <u>\$200.00</u>     | <u>\$0</u>       |
| Drainage and erosion control        | <u>0 lf</u> | <u>\$87.00</u>      | <u>\$0</u>       |
| Excavation                          | <u>0 lf</u> | <u>\$5.00</u>       | <u>\$0</u>       |
| Traffic paint, buttons and control  | <u>0 lf</u> | <u>\$20.00</u>      | <u>\$0</u>       |
| Retaining Wall                      | <u>0 sf</u> | <u>\$60.00</u>      | <u>\$0</u>       |
| New Signal                          | <u>1 ea</u> | <u>\$200,000.00</u> | <u>\$200,000</u> |
| Mobilization                        |             | <u>8%</u>           | <u>\$16,000</u>  |
| <b>Construction Subtotal</b>        |             |                     | <b>\$216,000</b> |
| Permitting                          | <u>5%</u>   |                     | <u>\$10,800</u>  |
| Contingency                         | <u>30%</u>  |                     | <u>\$64,800</u>  |
| Design                              | <u>20%</u>  |                     | <u>\$43,200</u>  |
| Construction Eng                    | <u>15%</u>  |                     | <u>\$32,400</u>  |
| Right-of-Way                        |             |                     | <u>\$0</u>       |
|                                     | <u>0%</u>   |                     | <u>\$0</u>       |
| <b>Project Development Subtotal</b> |             |                     | <b>\$151,200</b> |
| <b>Total</b>                        |             |                     | <b>\$367,200</b> |

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL** \$367,200

\* Pavement removal cost includes clearing, grubbing, and grading.



City of Sammamish  
Transportation Plan Capital Estimate

Project: E Lk Sammamish Pkwy Signal Date: 11/8/2002  
 Location: SE 24th Way Length: 0 feet  
 Scope: Install a traffic signal

Current roadway width is 36 feet.

Roadway Width 36 Sidewalk 6 Right-of-Way Required  
 Environmental: DNS x EA EIS  
 Land Use: Residential x Commercial Commercial  
Corners

Planning estimate of probable cost:

|                                     | Units | Unit Price   | Extension        |
|-------------------------------------|-------|--------------|------------------|
| Pavement Removal                    | 0 sf  | \$1.00       | \$0              |
| 4" Asph/8" CR                       | 0 sf  | \$2.48       | \$0              |
| Curb and gutter                     | 0 lf  | \$15.00      | \$0              |
| Sidewalks                           | 0 sf  | \$3.60       | \$0              |
| Lighting                            | 0 lf  | \$50.00      | \$0              |
| Sodding                             | 0 sf  | \$2.00       | \$0              |
| Trees                               | 0 ea  | \$200.00     | \$0              |
| Drainage and erosion control        | 0 lf  | \$87.00      | \$0              |
| Excavation                          | 0 lf  | \$5.00       | \$0              |
| Traffic paint, buttons and control  | 0 lf  | \$20.00      | \$0              |
| Retaining Wall                      | 0 sf  | \$60.00      | \$0              |
| New Signal                          | 1 ea  | \$200,000.00 | \$200,000        |
| Mobilization                        |       | 8%           | \$16,000         |
| <b>Construction Subtotal</b>        |       |              | <b>\$216,000</b> |
| Permitting                          | 5%    |              | \$10,800         |
| Contingency                         | 30%   |              | \$64,800         |
| Design                              | 20%   |              | \$43,200         |
| Construction Eng                    | 15%   |              | \$32,400         |
| Right-of-Way                        |       |              | \$0              |
|                                     | 0%    |              | \$0              |
| <b>Project Development Subtotal</b> |       |              | <b>\$151,200</b> |
| <b>Total</b>                        |       |              | <b>\$367,200</b> |

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL** **\$367,200**

\* Pavement removal cost includes clearing, grubbing, and grading.



Jones & Stokes

City of Sammamish  
Transportation Plan Capital Estimate

Project: Duthie Hill Road Date: 11/8/2002  
Location: Issaquah-Beaver Lake Road Length: 0 feet  
Scope: Install a traffic signal

Current roadway width is 36 feet.

|                |             |          |            |              |                       |
|----------------|-------------|----------|------------|--------------|-----------------------|
| Roadway Width  | 36          | Sidewalk | 6          | Right-of-Way | Required              |
| Environmental: | DNS         | x        | EA         |              | EIS                   |
| Land Use:      | Residential | x        | Commercial |              | Commercial<br>Corners |

Planning estimate of probable cost:

|                                     | Units | Unit Price   | Extension        |
|-------------------------------------|-------|--------------|------------------|
| Pavement Removal                    | 0 sf  | \$1.00       | \$0              |
| 4" Asph/8" CR                       | 0 sf  | \$2.48       | \$0              |
| Curb and gutter                     | 0 lf  | \$15.00      | \$0              |
| Sidewalks                           | 0 sf  | \$3.60       | \$0              |
| Lighting                            | 0 lf  | \$50.00      | \$0              |
| Sodding                             | 0 sf  | \$2.00       | \$0              |
| Trees                               | 0 ea  | \$200.00     | \$0              |
| Drainage and erosion control        | 0 lf  | \$87.00      | \$0              |
| Excavation                          | 0 lf  | \$5.00       | \$0              |
| Traffic paint, buttons and control  | 0 lf  | \$20.00      | \$0              |
| Retaining Wall                      | 0 sf  | \$60.00      | \$0              |
| New Signal                          | 1 ea  | \$200,000.00 | \$200,000        |
| Mobilization                        |       | 8%           | \$16,000         |
| <b>Construction Subtotal</b>        |       |              | <b>\$216,000</b> |
| Permitting                          | 5%    |              | \$10,800         |
| Contingency                         | 30%   |              | \$64,800         |
| Design                              | 20%   |              | \$43,200         |
| Construction Eng                    | 15%   |              | \$32,400         |
| Right-of-Way                        |       |              | \$0              |
|                                     | 0%    |              | \$0              |
| <b>Project Development Subtotal</b> |       |              | <b>\$151,200</b> |
| <b>Total</b>                        |       |              | <b>\$367,200</b> |

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL** \$367,200

\* Pavement removal cost includes clearing, grubbing, and grading.



Project: E Lk Sammamish Pkwy Widening Date: 1/20/2003  
 Location: Inglewood Hill Rd to Louis Thompson Rd Length: 2,500 feet  
 Scope: Widen to 3 lanes (10'-12'-10') with 5' bikelanes on both sides,  
curb and gutter both sides and retaining walls where required.  
Flexible design standards.  
Current roadway width is 32 feet.

Roadway Width 42 Sidewalk 6 Right-of-Way Required  
 Environmental: DNS EA x EIS  
 Land Use: Residential x Commercial Commercial  
Corners

Planning estimate of probable cost:

|                                     | Units      | Unit Price   | Extension          |
|-------------------------------------|------------|--------------|--------------------|
| Pavement Removal                    | 80,000 sf  | \$1.00       | \$80,000           |
| 4" Asph/8" CR                       | 105,000 sf | \$2.48       | \$260,400          |
| Curb and gutter                     | 5,000 lf   | \$15.00      | \$75,000           |
| Sidewalks                           | 22,500 sf  | \$3.60       | \$81,000           |
| Lighting                            | 2,500 lf   | \$50.00      | \$125,000          |
| Sodding                             | 27,500 sf  | \$2.00       | \$55,000           |
| Trees                               | 50 ea      | \$200.00     | \$10,000           |
| Drainage and erosion control        | 2,500 lf   | \$87.00      | \$217,500          |
| Excavation                          | 2,500 lf   | \$5.00       | \$12,500           |
| Traffic paint, buttons and control  | 2,500 lf   | \$20.00      | \$50,000           |
| Retaining Wall                      | 22,000 sf  | \$60.00      | \$1,320,000        |
| New Signal                          | 0 ea       | \$200,000.00 | \$0                |
| Mobilization                        |            | 8%           | \$182,912          |
| <b>Construction Subtotal</b>        |            |              | <b>\$2,469,312</b> |
| Permitting                          | 10%        |              | \$246,931          |
| Contingency                         | 40%        |              | \$987,725          |
| Design                              | 20%        |              | \$493,862          |
| Construction Eng                    | 15%        |              | \$370,397          |
| Right-of-Way                        |            |              | \$225,000          |
|                                     | 0%         |              | \$0                |
| <b>Project Development Subtotal</b> |            |              | <b>\$2,323,915</b> |
| <b>Total</b>                        |            |              | <b>\$4,793,227</b> |

Inflation 0.0% per year 0 years **\$0**

**GRAND TOTAL** **\$4,793,227**

- \* Sidewalks entire length on the east side and half length on the west side
- \* Retaining wall is 1000' on the west side 20' high and 400' on the east 5' high.
- \* Contingency is 40%



Project: E Lk Sammamish Pkwy Widening Date: 12/5/2002  
 Location: SE 24th Way to 212th Length: 6,336 feet  
 Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, and sidewalk.

Current roadway width is 32 feet.

|                |                    |          |                   |              |                           |
|----------------|--------------------|----------|-------------------|--------------|---------------------------|
| Roadway Width  | <u>46</u>          | Sidewalk | <u>6</u>          | Right-of-Way | <u>Required</u>           |
| Environmental: | <u>DNS</u>         |          | <u>EA</u>         | <u>x</u>     | <u>EIS</u>                |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial Corners</u> |

Planning estimate of probable cost:

|                                     | Units                | Unit Price     | Extension          |
|-------------------------------------|----------------------|----------------|--------------------|
| Pavement Removal                    | 202,752 sf           | \$1.00         | \$202,752          |
| 4" Asph/8" CR                       | 291,456 sf           | \$2.48         | \$722,811          |
| Curb and gutter                     | 12,672 lf            | \$15.00        | \$190,080          |
| Sidewalks                           | 76,032 sf            | \$3.60         | \$273,715          |
| Lighting                            | 6,336 lf             | \$50.00        | \$316,800          |
| Sodding                             | 69,696 sf            | \$2.00         | \$139,392          |
| Trees                               | 126 ea               | \$200.00       | \$25,200           |
| Drainage and erosion control        | 6,336 lf             | \$87.00        | \$551,232          |
| Excavation                          | 6,336 lf             | \$5.00         | \$31,680           |
| Traffic paint, buttons and control  | 6,336 lf             | \$20.00        | \$126,720          |
| Retaining Wall                      | 0 sf                 | \$60.00        | \$0                |
| New Signal                          | 0 ea                 | \$200,000.00   | \$0                |
| Mobilization                        |                      | 8%             | \$206,431          |
| <b>Construction Subtotal</b>        |                      |                | <b>\$2,786,813</b> |
| Permitting                          | 10%                  |                | \$278,681          |
| Contingency                         | 30%                  |                | \$836,044          |
| Design                              | 20%                  |                | \$557,363          |
| Construction Eng                    | 15%                  |                | \$418,022          |
| Right-of-Way                        |                      |                | \$823,680          |
|                                     | 0%                   |                | \$0                |
| <b>Project Development Subtotal</b> |                      |                | <b>\$2,913,789</b> |
| <b>Total</b>                        |                      |                | <b>\$5,700,602</b> |
| Inflation                           | <u>0.0%</u> per year | <u>0</u> years | <u>\$0</u>         |
| <b>GRAND TOTAL</b>                  |                      |                | <b>\$5,700,602</b> |



Project: Duthie Hill Rd Widening Date: 11/8/2002  
 Location: Issaquah Beaver Lk Rd to Trossachs Blvd Length: 5,500 feet  
 Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, and sidewalk.

Current roadway width is 30 feet.

|                |             |          |            |              |                       |
|----------------|-------------|----------|------------|--------------|-----------------------|
| Roadway Width  | <u>46</u>   | Sidewalk | <u>6</u>   | Right-of-Way | Required              |
| Environmental: | DNS         | x        | EA         |              | EIS                   |
| Land Use:      | Residential | x        | Commercial |              | Commercial<br>Corners |

Planning estimate of probable cost:

|                                     | <b>Units</b> | <b>Unit Price</b> | <b>Extension</b>   |
|-------------------------------------|--------------|-------------------|--------------------|
| Pavement Removal                    | 165,000 sf   | \$1.00            | \$165,000          |
| 4" Asph/8" CR                       | 253,000 sf   | \$2.48            | \$627,440          |
| Curb and gutter                     | 11,000 lf    | \$15.00           | \$165,000          |
| Sidewalks                           | 66,000 sf    | \$3.60            | \$237,600          |
| Lighting                            | 5,500 lf     | \$50.00           | \$275,000          |
| Sodding                             | 60,500 sf    | \$2.00            | \$121,000          |
| Trees                               | 110 ea       | \$200.00          | \$22,000           |
| Drainage and erosion control        | 5,500 lf     | \$87.00           | \$478,500          |
| Excavation                          | 5,500 lf     | \$5.00            | \$27,500           |
| Traffic paint, buttons and control  | 5,500 lf     | \$20.00           | \$110,000          |
| Retaining Wall                      | 0 sf         | \$60.00           | \$0                |
| New Signal                          | 0 ea         | \$200,000.00      | \$0                |
| Mobilization                        |              | 8%                | \$178,323          |
| <b>Construction Subtotal</b>        |              |                   | <b>\$2,407,363</b> |
| Permitting                          | 5%           |                   | \$120,368          |
| Contingency                         | 30%          |                   | \$722,209          |
| Design                              | 20%          |                   | \$481,473          |
| Construction Eng                    | 15%          |                   | \$361,104          |
| Right-of-Way                        |              |                   | \$715,000          |
|                                     | 0%           |                   | \$0                |
| <b>Project Development Subtotal</b> |              |                   | <b>\$2,400,154</b> |
| <b>Total</b>                        |              |                   | <b>\$4,807,517</b> |
| Inflation                           | <u>0.0%</u>  | per year          | <u>0</u> years     |
| <b>GRAND TOTAL</b>                  |              |                   | <b>\$4,807,517</b> |

Project: NE 8th St Widening Date: 11/8/2002  
 Location: 228th Ave NE to 244th Ave NE Length: 5,300 feet  
 Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, and sidewalk.

Current roadway width is 30 feet.

|                |                    |          |                   |              |                               |
|----------------|--------------------|----------|-------------------|--------------|-------------------------------|
| Roadway Width  | <u>46</u>          | Sidewalk | <u>6</u>          | Right-of-Way | Required                      |
| Environmental: | <u>DNS</u>         | <u>x</u> | <u>EA</u>         |              | <u>EIS</u>                    |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial<br/>Corners</u> |

Planning estimate of probable cost:

|                                     | Units      | Unit Price   | Extension          |
|-------------------------------------|------------|--------------|--------------------|
| Pavement Removal                    | 159,000 sf | \$1.00       | \$159,000          |
| 4" Asph/8" CR                       | 243,800 sf | \$2.48       | \$604,624          |
| Curb and gutter                     | 10,600 lf  | \$15.00      | \$159,000          |
| Sidewalks                           | 63,600 sf  | \$3.60       | \$228,960          |
| Lighting                            | 5,300 lf   | \$50.00      | \$265,000          |
| Sodding                             | 58,300 sf  | \$2.00       | \$116,600          |
| Trees                               | 106 ea     | \$200.00     | \$21,200           |
| Drainage and erosion control        | 5,300 lf   | \$87.00      | \$461,100          |
| Excavation                          | 5,300 lf   | \$5.00       | \$26,500           |
| Traffic paint, buttons and control  | 5,300 lf   | \$20.00      | \$106,000          |
| Retaining Wall                      | 0 sf       | \$60.00      | \$0                |
| New Signal                          | 0 ea       | \$200,000.00 | \$0                |
| Mobilization                        |            | 8%           | \$171,839          |
| <b>Construction Subtotal</b>        |            |              | <b>\$2,319,823</b> |
| Permitting                          | 5%         |              | \$115,991          |
| Contingency                         | 30%        |              | \$695,947          |
| Design                              | 20%        |              | \$463,965          |
| Construction Eng                    | 15%        |              | \$347,973          |
| Right-of-Way                        |            |              | \$689,000          |
|                                     | 0%         |              | \$0                |
| <b>Project Development Subtotal</b> |            |              | <b>\$2,312,876</b> |
| <b>Total</b>                        |            |              | <b>\$4,632,699</b> |

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL** \$4,632,699



Project: E. Sammamish/244th Ave Corridor Date: 12/5/2002  
 Location: NE 8th St to SE 8th St Length: 5,600 feet  
 Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, sidewalk, medians, and  
left turn pockets where required.  
Current roadway width is 22 feet.

|                |                    |          |                   |              |                   |
|----------------|--------------------|----------|-------------------|--------------|-------------------|
| Roadway Width  | <u>46</u>          | Sidewalk | <u>6</u>          | Right-of-Way | <u>Required</u>   |
| Environmental: | <u>DNS</u>         |          | <u>EA</u>         | <u>x</u>     | <u>EIS</u>        |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial</u> |
|                |                    |          |                   |              | <u>Corners</u>    |

Planning estimate of probable cost:

|                                     | Units      | Unit Price   | Extension          |
|-------------------------------------|------------|--------------|--------------------|
| Pavement Removal                    | 123,200 sf | \$1.00       | \$123,200          |
| 4" Asph/8" CR                       | 257,600 sf | \$2.48       | \$638,848          |
| Curb and gutter                     | 11,200 lf  | \$15.00      | \$168,000          |
| Sidewalks                           | 67,200 sf  | \$3.60       | \$241,920          |
| Lighting                            | 5,600 lf   | \$50.00      | \$280,000          |
| Sodding                             | 61,600 sf  | \$2.00       | \$123,200          |
| Trees                               | 112 ea     | \$200.00     | \$22,400           |
| Drainage and erosion control        | 5,600 lf   | \$87.00      | \$487,200          |
| Excavation                          | 11,200 lf  | \$5.00       | \$56,000           |
| Traffic paint, buttons and control  | 5,600 lf   | \$20.00      | \$112,000          |
| Retaining Wall                      | 4,000 sf   | \$60.00      | \$240,000          |
| New Signal                          | 0 ea       | \$200,000.00 | \$0                |
| Mobilization                        |            | 8%           | \$199,421          |
| <b>Construction Subtotal</b>        |            |              | <b>\$2,692,189</b> |
| Permitting                          | 10%        |              | \$269,219          |
| Contingency                         | 30%        |              | \$807,657          |
| Design                              | 20%        |              | \$538,438          |
| Construction Eng                    | 15%        |              | \$403,828          |
| Right-of-Way                        |            |              | \$728,000          |
|                                     | 0%         |              | \$0                |
| <b>Project Development Subtotal</b> |            |              | <b>\$2,747,142</b> |
| <b>Total</b>                        |            |              | <b>\$5,439,332</b> |

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL** \$5,439,332

- \* Pavement removal cost includes clearing, grubbing, and grading.
- \* Excavation is double the length for the ravine
- \* Estimate may be higher if bridge required over wetland.
- \* Retaining wall assumed for 200 ft @ average height of 10 ft

Project: Issaquah Pine Lk Rd Extension Date: 11/8/2002  
 Location: 228th Ave SE to 224th Pl SE Length: 750 feet  
 Scope: 3 lane road section with curb, gutter, and sidewalk.

Current roadway width is 22 feet.

|                |                    |          |                   |              |                               |
|----------------|--------------------|----------|-------------------|--------------|-------------------------------|
| Roadway Width  | <u>36</u>          | Sidewalk | <u>6</u>          | Right-of-Way | <u>Required</u>               |
| Environmental: | <u>DNS</u>         |          | <u>EA</u>         | <u>x</u>     | <u>EIS</u>                    |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial<br/>Corners</u> |

Planning estimate of probable cost:

|                                     | Units     | Unit Price   | Extension          |
|-------------------------------------|-----------|--------------|--------------------|
| Pavement Removal                    | 16,500 sf | \$1.00       | \$16,500           |
| 4" Asph/8" CR                       | 27,000 sf | \$2.48       | \$66,960           |
| Curb and gutter                     | 1,500 lf  | \$15.00      | \$22,500           |
| Sidewalks                           | 9,000 sf  | \$3.60       | \$32,400           |
| Lighting                            | 750 lf    | \$50.00      | \$37,500           |
| Sodding                             | 8,250 sf  | \$2.00       | \$16,500           |
| Trees                               | 16 ea     | \$200.00     | \$3,200            |
| Drainage and erosion control        | 750 lf    | \$87.00      | \$65,250           |
| Excavation                          | 750 lf    | \$5.00       | \$3,750            |
| Traffic paint, buttons and control  | 750 lf    | \$20.00      | \$15,000           |
| Retaining Wall                      | 1,000 sf  | \$60.00      | \$60,000           |
| New Signal                          | 1 ea      | \$200,000.00 | \$100,000          |
| Work on 228th Ave                   |           |              | \$65,000           |
| Mobilization                        |           | 8%           | \$40,365           |
| <b>Construction Subtotal</b>        |           |              | <b>\$544,925</b>   |
| Permitting                          | 10%       |              | \$54,492           |
| Contingency                         | 30%       |              | \$163,477          |
| Design                              | 20%       |              | \$108,985          |
| Construction Eng                    | 15%       |              | \$81,739           |
| Right-of-Way                        |           |              | \$450,000          |
| Drainage Detention/Filtration       | 0%        |              | \$0                |
| <b>Project Development Subtotal</b> |           |              | <b>\$858,694</b>   |
| <b>Total</b>                        |           |              | <b>\$1,403,618</b> |

Inflation 0.0% per year 0 years **\$0**

**GRAND TOTAL** **\$1,403,618**

\* Pavement removal cost includes clearing, grubbing, and grading.





Project: Inglewood Hill Rd Widening Date: 11/8/2002  
 Location: E Lk Sammamish Pkwy to 216th Ave NE Length: 5,200 feet  
 Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, sidewalk, medians, and left turn pockets where required.

Current roadway width is 30 feet.

|                |             |          |            |              |                    |
|----------------|-------------|----------|------------|--------------|--------------------|
| Roadway Width  | 46          | Sidewalk | 6          | Right-of-Way | Required           |
| Environmental: | DNS         | x        | EA         |              | EIS                |
| Land Use:      | Residential | x        | Commercial |              | Commercial Corners |

Planning estimate of probable cost:

|                                     | Units      | Unit Price   | Extension          |
|-------------------------------------|------------|--------------|--------------------|
| Pavement Removal                    | 156,000 sf | \$1.00       | \$156,000          |
| 4" Asph/8" CR                       | 239,200 sf | \$2.48       | \$593,216          |
| Curb and gutter                     | 10,400 lf  | \$15.00      | \$156,000          |
| Sidewalks                           | 62,400 sf  | \$3.60       | \$224,640          |
| Lighting                            | 5,200 lf   | \$50.00      | \$260,000          |
| Sodding                             | 57,200 sf  | \$2.00       | \$114,400          |
| Trees                               | 104 ea     | \$200.00     | \$20,800           |
| Drainage and erosion control        | 5,200 lf   | \$87.00      | \$452,400          |
| Excavation                          | 10,400 lf  | \$5.00       | \$52,000           |
| Traffic paint, buttons and control  | 5,200 lf   | \$20.00      | \$104,000          |
| Retaining Wall                      | 15,600 sf  | \$60.00      | \$936,000          |
| New Signal                          | 0 ea       | \$200,000.00 | \$0                |
| Mobilization                        |            | 8%           | \$245,556          |
| <b>Construction Subtotal</b>        |            |              | <b>\$3,315,012</b> |
| Permitting                          | 5%         |              | \$165,751          |
| Contingency                         | 30%        |              | \$994,504          |
| Design                              | 20%        |              | \$663,002          |
| Construction Eng                    | 15%        |              | \$497,252          |
| Right-of-Way                        |            |              | \$676,000          |
|                                     | 0%         |              | \$0                |
| <b>Project Development Subtotal</b> |            |              | <b>\$2,996,509</b> |
| <b>Total</b>                        |            |              | <b>\$6,311,521</b> |

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL \$6,311,521**

\* Excavation is double of length

\* Retaining walls are 5' high at both side for 30% length

Project: Inglewood Hill Rd Widening Date: 11/8/2002  
 Location: 216th Ave NE to 228th Ave NE Length: 4,400 feet  
 Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, sidewalk, medians, and  
left turn pockets where required.  
Current roadway width is 30 feet.

|                |                    |          |                   |              |                                     |
|----------------|--------------------|----------|-------------------|--------------|-------------------------------------|
| Roadway Width  | <u>46</u>          | Sidewalk | <u>6</u>          | Right-of-Way | Required                            |
| Environmental: | <u>DNS</u>         | <u>x</u> | <u>EA</u>         |              | <u>EIS</u>                          |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial</u><br><u>Corners</u> |

Planning estimate of probable cost:

|                                     | <b>Units</b> | <b>Unit Price</b> | <b>Extension</b>   |
|-------------------------------------|--------------|-------------------|--------------------|
| Pavement Removal                    | 132,000 sf   | \$1.00            | \$132,000          |
| 4" Asph/8" CR                       | 202,400 sf   | \$2.48            | \$501,952          |
| Curb and gutter                     | 8,800 lf     | \$15.00           | \$132,000          |
| Sidewalks                           | 52,800 sf    | \$3.60            | \$190,080          |
| Lighting                            | 4,400 lf     | \$50.00           | \$220,000          |
| Sodding                             | 48,400 sf    | \$2.00            | \$96,800           |
| Trees                               | 88 ea        | \$200.00          | \$17,600           |
| Drainage and erosion control        | 4,400 lf     | \$87.00           | \$382,800          |
| Excavation                          | 4,400 lf     | \$5.00            | \$22,000           |
| Traffic paint, buttons and control  | 4,400 lf     | \$20.00           | \$88,000           |
| Retaining Wall                      | 0 sf         | \$60.00           | \$0                |
| New Signal                          | 0 ea         | \$200,000.00      | \$0                |
| Mobilization                        |              | 8%                | \$142,659          |
| <b>Construction Subtotal</b>        |              |                   | <b>\$1,925,891</b> |
| Permitting                          | 5%           |                   | \$96,295           |
| Contingency                         | 30%          |                   | \$577,767          |
| Design                              | 20%          |                   | \$385,178          |
| Construction Eng                    | 15%          |                   | \$288,884          |
| Right-of-Way                        | 0%           |                   | \$0                |
| <b>Project Development Subtotal</b> |              |                   | <b>\$1,920,123</b> |
| <b>Total</b>                        |              |                   | <b>\$3,846,014</b> |

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL** \$3,846,014





Project: SE 32nd St Widening Date: 11/8/2002  
 Location: Issaquah Pine Lk Rd to Duthie Hill Rd Length: 10,700 feet  
 Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, and sidewalk.

Current roadway width is 30 feet.

|                |             |          |            |              |                       |
|----------------|-------------|----------|------------|--------------|-----------------------|
| Roadway Width  | 46          | Sidewalk | 6          | Right-of-Way | Required              |
| Environmental: | DNS         | x        | EA         |              | EIS                   |
| Land Use:      | Residential | x        | Commercial |              | Commercial<br>Corners |

Planning estimate of probable cost:

|                                     | Units         | Unit Price   | Extension          |
|-------------------------------------|---------------|--------------|--------------------|
| Pavement Removal                    | 321,000 sf    | \$1.00       | \$321,000          |
| 4" Asph/8" CR                       | 492,200 sf    | \$2.48       | \$1,220,656        |
| Curb and gutter                     | 21,400 lf     | \$15.00      | \$321,000          |
| Sidewalks                           | 128,400 sf    | \$3.60       | \$462,240          |
| Lighting                            | 10,700 lf     | \$50.00      | \$535,000          |
| Sodding                             | 117,700 sf    | \$2.00       | \$235,400          |
| Trees                               | 214 ea        | \$200.00     | \$42,800           |
| Drainage and erosion control        | 10,700 lf     | \$87.00      | \$930,900          |
| Excavation                          | 10,700 lf     | \$5.00       | \$53,500           |
| Traffic paint, buttons and control  | 10,700 lf     | \$20.00      | \$214,000          |
| Retaining Wall                      | 0 sf          | \$60.00      | \$0                |
| New Signal                          | 0 ea          | \$200,000.00 | \$0                |
| Mobilization                        |               | 8%           | \$346,920          |
| <b>Construction Subtotal</b>        |               |              | <b>\$4,683,416</b> |
| Permitting                          | 5%            |              | \$234,171          |
| Contingency                         | 30%           |              | \$1,405,025        |
| Design                              | 20%           |              | \$936,683          |
| Construction Eng                    | 15%           |              | \$702,512          |
| Right-of-Way                        |               |              | \$1,391,000        |
|                                     | 0%            |              | \$0                |
| <b>Project Development Subtotal</b> |               |              | <b>\$4,669,391</b> |
| <b>Total</b>                        |               |              | <b>\$9,352,807</b> |
| Inflation                           | 0.0% per year | 0 years      | \$0                |
| <b>GRAND TOTAL</b>                  |               |              | <b>\$9,352,807</b> |

Project: Louis Thompson Rd Improvement Date: 12/10/2002  
 Location: E Lake Sammamish Parkway and SE 8th St Length: 4,752 feet  
 Scope: Improve road with curb, gutter, sidewalk, and left turn pockets where required.

Current roadway width is 24 feet.

|                |                    |          |                   |              |                           |
|----------------|--------------------|----------|-------------------|--------------|---------------------------|
| Roadway Width  | <u>34</u>          | Sidewalk | <u>6</u>          | Right-of-Way | Required                  |
| Environmental: | <u>DNS</u>         | <u>x</u> | <u>EA</u>         |              | <u>EIS</u>                |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial Corners</u> |

Planning estimate of probable cost:

|                                    | <b>Units</b>      | <b>Unit Price</b>   | <b>Extension</b> |
|------------------------------------|-------------------|---------------------|------------------|
| Pavement Removal                   | <u>114,048 sf</u> | <u>\$1.00</u>       | <u>\$114,048</u> |
| 4" Asph/8" CR                      | <u>161,568 sf</u> | <u>\$2.48</u>       | <u>\$400,689</u> |
| Curb and gutter                    | <u>9,504 lf</u>   | <u>\$15.00</u>      | <u>\$142,560</u> |
| Sidewalks                          | <u>57,024 sf</u>  | <u>\$3.60</u>       | <u>\$205,286</u> |
| Lighting                           | <u>4,752 lf</u>   | <u>\$50.00</u>      | <u>\$237,600</u> |
| Sodding                            | <u>52,272 sf</u>  | <u>\$2.00</u>       | <u>\$104,544</u> |
| Trees                              | <u>96 ea</u>      | <u>\$200.00</u>     | <u>\$19,200</u>  |
| Drainage and erosion control       | <u>4,752 lf</u>   | <u>\$87.00</u>      | <u>\$413,424</u> |
| Excavation                         | <u>9,504 lf</u>   | <u>\$5.00</u>       | <u>\$47,520</u>  |
| Traffic paint, buttons and control | <u>4,752 lf</u>   | <u>\$20.00</u>      | <u>\$95,040</u>  |
| Retaining Wall                     | <u>11,880 sf</u>  | <u>\$60.00</u>      | <u>\$712,800</u> |
| New Signal                         | <u>0 ea</u>       | <u>\$200,000.00</u> | <u>\$0</u>       |
| Mobilization                       |                   | <u>8%</u>           | <u>\$199,417</u> |
| Left turn pocket                   | <u>3</u>          | <u>\$324,501.55</u> | <u>\$973,505</u> |

**Construction Subtotal**

**\$3,665,633**

|                  |            |                    |
|------------------|------------|--------------------|
| Permitting       | <u>5%</u>  | <u>\$183,282</u>   |
| Contingency      | <u>30%</u> | <u>\$1,099,690</u> |
| Design           | <u>20%</u> | <u>\$733,127</u>   |
| Construction Eng | <u>15%</u> | <u>\$549,845</u>   |
| Right-of-Way     |            | <u>\$47,520</u>    |
|                  | <u>0%</u>  | <u>\$0</u>         |

**Project Development Subtotal**

**\$2,613,463**

**Total**

**\$6,279,095**

Inflation 0.0% per year 0 years **\$0**

**GRAND TOTAL**

**\$6,279,095**

\* Excavation is double because of cut and fill slopes.

\* Retaining walls are 5' high on one side of the roadway for 50% of the length.



Project: 212th Ave SE Date: 12/10/2002  
 Location: SE 4th Street to SE 32nd Street Length: 7,392 feet  
 Scope: Improve road with curb, gutter, sidewalk, and left turn pockets where required.  
Current roadway width is 24 feet.

|                |                    |          |                   |                   |                 |
|----------------|--------------------|----------|-------------------|-------------------|-----------------|
| Roadway Width  | <u>34</u>          | Sidewalk | <u>6</u>          | Right-of-Way      | <u>Required</u> |
| Environmental: | <u>DNS</u>         | <u>x</u> | <u>EA</u>         | <u>EIS</u>        |                 |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> | <u>Commercial</u> | <u>Corners</u>  |

**Planning estimate of probable cost:**

|                                    | <b>Units</b>      | <b>Unit Price</b>   | <b>Extension</b> |
|------------------------------------|-------------------|---------------------|------------------|
| Pavement Removal                   | <u>177,408 sf</u> | <u>\$1.00</u>       | <u>\$177,408</u> |
| 4" Asph/8" CR                      | <u>251,328 sf</u> | <u>\$2.48</u>       | <u>\$623,293</u> |
| Curb and gutter                    | <u>14,784 lf</u>  | <u>\$15.00</u>      | <u>\$221,760</u> |
| Sidewalks                          | <u>88,704 sf</u>  | <u>\$3.60</u>       | <u>\$319,334</u> |
| Lighting                           | <u>7,392 lf</u>   | <u>\$50.00</u>      | <u>\$369,600</u> |
| Sodding                            | <u>81,312 sf</u>  | <u>\$2.00</u>       | <u>\$162,624</u> |
| Trees                              | <u>148 ea</u>     | <u>\$200.00</u>     | <u>\$29,600</u>  |
| Drainage and erosion control       | <u>7,392 lf</u>   | <u>\$87.00</u>      | <u>\$643,104</u> |
| Excavation                         | <u>7,392 lf</u>   | <u>\$5.00</u>       | <u>\$36,960</u>  |
| Traffic paint, buttons and control | <u>7,392 lf</u>   | <u>\$20.00</u>      | <u>\$147,840</u> |
| Retaining Wall                     | <u>0 sf</u>       | <u>\$60.00</u>      | <u>\$0</u>       |
| New Signal                         | <u>0 ea</u>       | <u>\$200,000.00</u> | <u>\$0</u>       |
| Mobilization                       |                   | <u>8%</u>           | <u>\$218,522</u> |
| Left turn pocket                   | <u>3</u>          | <u>\$324,501.55</u> | <u>\$973,505</u> |

**Construction Subtotal**
**\$3,923,550**

|                  |            |                    |
|------------------|------------|--------------------|
| Permitting       | <u>5%</u>  | <u>\$196,178</u>   |
| Contingency      | <u>30%</u> | <u>\$1,177,065</u> |
| Design           | <u>20%</u> | <u>\$784,710</u>   |
| Construction Eng | <u>15%</u> | <u>\$588,533</u>   |
| Right-of-Way     |            | <u>\$73,920</u>    |
|                  | <u>0%</u>  | <u>\$0</u>         |

**Project Development Subtotal**
**\$2,820,405**
**Total**
**\$6,743,956**

Inflation 0.0% per year 0 years **\$0**

**GRAND TOTAL**
**\$6,743,956**

Project: 212th Way SE Improvement Date: 12/10/2002  
Location: SE 32nd Street to E Lake Sammamish Pkwy Length: 5,280 feet  
Scope: Improve road with curb, gutter, sidewalk, and left turn pockets where required.

Current roadway width is 24 feet.

|                |             |          |            |              |                    |
|----------------|-------------|----------|------------|--------------|--------------------|
| Roadway Width  | 34          | Sidewalk | 6          | Right-of-Way | Required           |
| Environmental: | DNS         | x        | EA         |              | EIS                |
| Land Use:      | Residential | x        | Commercial |              | Commercial Corners |

Planning estimate of probable cost:

|                                     | Units      | Unit Price   | Extension          |
|-------------------------------------|------------|--------------|--------------------|
| Pavement Removal                    | 126,720 sf | \$1.00       | \$126,720          |
| 4" Asph/8" CR                       | 179,520 sf | \$2.48       | \$445,210          |
| Curb and gutter                     | 10,560 lf  | \$15.00      | \$158,400          |
| Sidewalks                           | 63,360 sf  | \$3.60       | \$228,096          |
| Lighting                            | 5,280 lf   | \$50.00      | \$264,000          |
| Sodding                             | 58,080 sf  | \$2.00       | \$116,160          |
| Trees                               | 106 ea     | \$200.00     | \$21,200           |
| Drainage and erosion control        | 5,280 lf   | \$87.00      | \$459,360          |
| Excavation                          | 10,560 lf  | \$5.00       | \$52,800           |
| Traffic paint, buttons and control  | 5,280 lf   | \$20.00      | \$105,600          |
| Retaining Wall                      | 10,500 sf  | \$60.00      | \$630,000          |
| New Signal                          | 0 ea       | \$200,000.00 | \$0                |
| Mobilization                        |            | 8%           | \$208,604          |
| Left turn pocket                    | 3          | \$324,501.55 | \$973,505          |
| <b>Construction Subtotal</b>        |            |              | <b>\$3,789,654</b> |
| Permitting                          | 5%         |              | \$189,483          |
| Contingency                         | 30%        |              | \$1,136,896        |
| Design                              | 20%        |              | \$757,931          |
| Construction Eng                    | 15%        |              | \$568,448          |
| Right-of-Way                        |            |              | \$52,800           |
|                                     | 0%         |              | \$0                |
| <b>Project Development Subtotal</b> |            |              | <b>\$2,705,558</b> |
| <b>Total</b>                        |            |              | <b>\$6,495,212</b> |

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL \$6,495,212**

\* Excavation is double for cuts and fills.

\* Retaining walls are 5' high on one side of the roadway for 50% of the length. and 212th Ave NE (4200 ft)





Jones & Stokes

City of Sammamish  
Transportation Plan Capital Estimate

Project: SE 8th St/218th Ave SE/SE 4th St Widening Date: 11/8/2002  
Location: SE 8th St to 218th Ave SE to SE 4th St Length: 6,700 feet  
Scope: Widen to 3 lanes with curb, gutter, sidewalk, and left turn lanes where warranted.

Current roadway width is 22 feet.

|                |             |          |            |              |                       |
|----------------|-------------|----------|------------|--------------|-----------------------|
| Roadway Width  | 36          | Sidewalk | 6          | Right-of-Way | Required              |
| Environmental: | DNS         | x        | EA         |              | EIS                   |
| Land Use:      | Residential | x        | Commercial |              | Commercial<br>Corners |

Planning estimate of probable cost:

|                                     | Units      | Unit Price   | Extension          |
|-------------------------------------|------------|--------------|--------------------|
| Pavement Removal                    | 147,400 sf | \$1.00       | \$147,400          |
| 4" Asph/8" CR                       | 241,200 sf | \$2.48       | \$598,176          |
| Curb and gutter                     | 13,400 lf  | \$15.00      | \$201,000          |
| Sidewalks                           | 80,400 sf  | \$3.60       | \$289,440          |
| Lighting                            | 6,700 lf   | \$50.00      | \$335,000          |
| Sodding                             | 73,700 sf  | \$2.00       | \$147,400          |
| Trees                               | 134 ea     | \$200.00     | \$26,800           |
| Drainage and erosion control        | 6,700 lf   | \$87.00      | \$582,900          |
| Excavation                          | 6,700 lf   | \$5.00       | \$33,500           |
| Traffic paint, buttons and control  | 6,700 lf   | \$20.00      | \$134,000          |
| Retaining Wall                      | 0 sf       | \$60.00      | \$0                |
| New Signal                          | 0 ea       | \$200,000.00 | \$0                |
| Mobilization                        |            | 8%           | \$199,649          |
| <b>Construction Subtotal</b>        |            |              | <b>\$2,695,265</b> |
| Permitting                          | 5%         |              | \$134,763          |
| Contingency                         | 30%        |              | \$808,580          |
| Design                              | 20%        |              | \$539,053          |
| Construction Eng                    | 15%        |              | \$404,290          |
| Right-of-Way                        |            |              | \$201,000          |
|                                     | 0%         |              | \$0                |
| <b>Project Development Subtotal</b> |            |              | <b>\$2,087,686</b> |
| <b>Total</b>                        |            |              | <b>\$4,782,951</b> |

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL \$4,782,951**

Project: SE 20th St Widening Date: 11/8/2002  
 Location: 212th Ave SE to 228th Ave SE Length: 5,300 feet  
 Scope: Widen to 3 lanes with curb, gutter, sidewalk, and left turn lanes where warranted.  
Install a traffic signal at SE 20th St and 212th Ave SE.  


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Current roadway width is 26 feet.

|                |                    |          |                   |                   |                 |
|----------------|--------------------|----------|-------------------|-------------------|-----------------|
| Roadway Width  | <u>36</u>          | Sidewalk | <u>6</u>          | Right-of-Way      | <u>Required</u> |
| Environmental: | <u>DNS</u>         | <u>x</u> | <u>EA</u>         | <u>EIS</u>        |                 |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> | <u>Commercial</u> | <u>Corners</u>  |

Planning estimate of probable cost:

|                                     | Units                | Unit Price     | Extension          |
|-------------------------------------|----------------------|----------------|--------------------|
| Pavement Removal                    | 137,800 sf           | \$1.00         | \$137,800          |
| 4" Asph/8" CR                       | 190,800 sf           | \$2.48         | \$473,184          |
| Curb and gutter                     | 10,600 lf            | \$15.00        | \$159,000          |
| Sidewalks                           | 63,600 sf            | \$3.60         | \$228,960          |
| Lighting                            | 5,300 lf             | \$50.00        | \$265,000          |
| Sodding                             | 58,300 sf            | \$2.00         | \$116,600          |
| Trees                               | 106 ea               | \$200.00       | \$21,200           |
| Drainage and erosion control        | 5,300 lf             | \$87.00        | \$461,100          |
| Excavation                          | 5,300 lf             | \$5.00         | \$26,500           |
| Traffic paint, buttons and control  | 5,300 lf             | \$20.00        | \$106,000          |
| Retaining Wall                      | 0 sf                 | \$60.00        | \$0                |
| New Signal                          | 1 ea                 | \$200,000.00   | \$200,000          |
| Mobilization                        |                      | 8%             | \$175,628          |
| <b>Construction Subtotal</b>        |                      |                | <b>\$2,370,972</b> |
| Permitting                          | 5%                   |                | \$118,549          |
| Contingency                         | 30%                  |                | \$711,291          |
| Design                              | 20%                  |                | \$474,194          |
| Construction Eng                    | 15%                  |                | \$355,646          |
| Right-of-Way                        |                      |                | \$159,000          |
|                                     | 0%                   |                | \$0                |
| <b>Project Development Subtotal</b> |                      |                | <b>\$1,818,680</b> |
| <b>Total</b>                        |                      |                | <b>\$4,189,652</b> |
| Inflation                           | <u>0.0%</u> per year | <u>0</u> years | <u>\$0</u>         |
| <b>GRAND TOTAL</b>                  |                      |                | <b>\$4,189,652</b> |



Project: Trossachs Blvd Extension Date: 12/5/2002  
 Location: to E Main Dr Length: 6,500 feet  
 Scope: 2 lane road section with curb, gutter, and sidewalk.  
New roadway through Section 36.  
Current roadway width is 22 feet.

Roadway Width 24 Sidewalk 6 Right-of-Way No  
 Environmental: DNS EA x EIS  
 Land Use: Residential x Commercial Commercial Corners Commercial

Planning estimate of probable cost:

|                                     | Units      | Unit Price   | Extension          |
|-------------------------------------|------------|--------------|--------------------|
| Pavement Removal                    | 71,500 sf  | \$1.00       | \$71,500           |
| 4" Asph/8" CR                       | 156,000 sf | \$2.48       | \$386,880          |
| Curb and gutter                     | 13,000 lf  | \$15.00      | \$195,000          |
| Sidewalks                           | 78,000 sf  | \$3.60       | \$280,800          |
| Lighting                            | 6,500 lf   | \$50.00      | \$325,000          |
| Sodding                             | 71,500 sf  | \$2.00       | \$143,000          |
| Trees                               | 130 ea     | \$200.00     | \$26,000           |
| Drainage and erosion control        | 6,500 lf   | \$87.00      | \$565,500          |
| Excavation                          | 6,500 lf   | \$5.00       | \$32,500           |
| Traffic paint, buttons and control  | 6,500 lf   | \$20.00      | \$130,000          |
| Retaining Wall                      | 0 sf       | \$60.00      | \$0                |
| New Signal                          | 0 ea       | \$200,000.00 | \$0                |
| Mobilization                        |            | 8%           | \$172,494          |
| <b>Construction Subtotal</b>        |            |              | <b>\$2,328,674</b> |
| Permitting                          | 10%        |              | \$232,867          |
| Contingency                         | 30%        |              | \$698,602          |
| Design                              | 20%        |              | \$465,735          |
| Construction Eng                    | 15%        |              | \$349,301          |
| Right-of-Way                        |            |              | \$0                |
|                                     | 0%         |              | \$0                |
| <b>Project Development Subtotal</b> |            |              | <b>\$1,746,506</b> |
| <b>Total</b>                        |            |              | <b>\$4,075,180</b> |

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL** \$4,075,180

\* Pavement removal reduced by 50% for clearing, grubbing, and grading only.

City of Sammamish  
Transportation Plan Capital Estimate

Project: E Lk Sammamish Pkwy Widening Date: 11/8/2002  
 Location: Louis Thompson Rd to SE 8th St Length: 4,900 feet  
 Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, and sidewalk.

Current roadway width is 32 feet.

|                |                    |          |                   |              |                           |
|----------------|--------------------|----------|-------------------|--------------|---------------------------|
| Roadway Width  | <u>46</u>          | Sidewalk | <u>6</u>          | Right-of-Way | <u>Required</u>           |
| Environmental: | <u>DNS</u>         |          | <u>EA</u>         | <u>x</u>     | <u>EIS</u>                |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial Corners</u> |

Planning estimate of probable cost:

|                                     | Units                | Unit Price     | Extension          |
|-------------------------------------|----------------------|----------------|--------------------|
| Pavement Removal                    | 156,800 sf           | \$1.00         | \$156,800          |
| 4" Asph/8" CR                       | 225,400 sf           | \$2.48         | \$558,992          |
| Curb and gutter                     | 9,800 lf             | \$15.00        | \$147,000          |
| Sidewalks                           | 58,800 sf            | \$3.60         | \$211,680          |
| Lighting                            | 4,900 lf             | \$50.00        | \$245,000          |
| Sodding                             | 53,900 sf            | \$2.00         | \$107,800          |
| Trees                               | 98 ea                | \$200.00       | \$19,600           |
| Drainage and erosion control        | 4,900 lf             | \$87.00        | \$426,300          |
| Excavation                          | 4,900 lf             | \$5.00         | \$24,500           |
| Traffic paint, buttons and control  | 4,900 lf             | \$20.00        | \$98,000           |
| Retaining Wall                      | 0 sf                 | \$60.00        | \$0                |
| New Signal                          | 0 ea                 | \$200,000.00   | \$0                |
| Mobilization                        |                      | 8%             | \$159,654          |
| <b>Construction Subtotal</b>        |                      |                | <b>\$2,155,326</b> |
| Permitting                          | 10%                  |                | \$215,533          |
| Contingency                         | 30%                  |                | \$646,598          |
| Design                              | 20%                  |                | \$431,065          |
| Construction Eng                    | 15%                  |                | \$323,299          |
| Right-of-Way                        |                      |                | \$637,000          |
|                                     | 0%                   |                | \$0                |
| <b>Project Development Subtotal</b> |                      |                | <b>\$2,253,494</b> |
| <b>Total</b>                        |                      |                | <b>\$4,408,820</b> |
| Inflation                           | <u>0.0%</u> per year | <u>0</u> years | <u>\$0</u>         |
| <b>GRAND TOTAL</b>                  |                      |                | <b>\$4,408,820</b> |



Project: Trossachs Blvd Connection Date: 12/5/2002  
 Location: Trossachs Blvd SE to Beaver Lk Dr SE Length: 600 feet  
 Scope: 2 lane road section with curb, gutter, and sidewalk.

Developer will make improvement.  
Current roadway width is 22 feet.

Roadway Width 24 Sidewalk 6 Right-of-Way No  
 Environmental: DNS x EA EIS  
 Land Use: Residential x Commercial Commercial  
Corners

Planning estimate of probable cost:

|                                     | Units     | Unit Price   | Extension        |
|-------------------------------------|-----------|--------------|------------------|
| Pavement Removal                    | 6,600 sf  | \$1.00       | \$6,600          |
| 4" Asph/8" CR                       | 14,400 sf | \$2.48       | \$35,712         |
| Curb and gutter                     | 1,200 lf  | \$15.00      | \$18,000         |
| Sidewalks                           | 7,200 sf  | \$3.60       | \$25,920         |
| Lighting                            | 600 lf    | \$50.00      | \$30,000         |
| Sodding                             | 6,600 sf  | \$2.00       | \$13,200         |
| Trees                               | 12 ea     | \$200.00     | \$2,400          |
| Drainage and erosion control        | 600 lf    | \$87.00      | \$52,200         |
| Excavation                          | 600 lf    | \$5.00       | \$3,000          |
| Traffic paint, buttons and control  | 600 lf    | \$20.00      | \$12,000         |
| Retaining Wall                      | 0 sf      | \$60.00      | \$0              |
| New Signal                          | 0 ea      | \$200,000.00 | \$0              |
| Mobilization                        |           | 8%           | \$15,923         |
| <b>Construction Subtotal</b>        |           |              | <b>\$214,955</b> |
| Permitting                          | 5%        |              | \$10,748         |
| Contingency                         | 30%       |              | \$64,486         |
| Design                              | 20%       |              | \$42,991         |
| Construction Eng                    | 15%       |              | \$32,243         |
| Right-of-Way                        |           |              | \$0              |
|                                     | 0%        |              | \$0              |
| <b>Project Development Subtotal</b> |           |              | <b>\$150,468</b> |
| <b>Total</b>                        |           |              | <b>\$365,423</b> |

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL** **\$365,423**

\* Pavement removal reduced by 50% for clearing, grubbing, and grading only.



# City of Sammamish Transportation Plan Capital Estimate

|           |                                                      |         |            |
|-----------|------------------------------------------------------|---------|------------|
| Project:  | NE 20th St Connection                                | Date:   | 11/8/2002  |
| Location: | 236th Ave NE to 244th Ave NE                         | Length: | 2,600 feet |
| Scope:    | 2 lane road section with curb, gutter, and sidewalk. |         |            |

Current roadway width is 22 feet.

|                |             |          |            |              |                    |
|----------------|-------------|----------|------------|--------------|--------------------|
| Roadway Width  | 24          | Sidewalk | 6          | Right-of-Way | No                 |
| Environmental: | DNS         | x        | EA         |              | EIS                |
| Land Use:      | Residential | x        | Commercial |              | Commercial Corners |

Planning estimate of probable cost:

|                                    | Units     | Unit Price   | Extension        |
|------------------------------------|-----------|--------------|------------------|
| Pavement Removal                   | 57,200 sf | \$1.00       | \$57,200         |
| 4" Asph/8" CR                      | 62,400 sf | \$2.48       | \$154,752        |
| Curb and gutter                    | 5,200 lf  | \$15.00      | \$78,000         |
| Sidewalks                          | 31,200 sf | \$3.60       | \$112,320        |
| Lighting                           | 2,600 lf  | \$50.00      | \$130,000        |
| Sodding                            | 28,600 sf | \$2.00       | \$57,200         |
| Trees                              | 52 ea     | \$200.00     | \$10,400         |
| Drainage and erosion control       | 2,600 lf  | \$87.00      | \$226,200        |
| Excavation                         | 2,600 lf  | \$5.00       | \$13,000         |
| Traffic paint, buttons and control | 2,600 lf  | \$20.00      | \$52,000         |
| Retaining Wall                     | 0 sf      | \$60.00      | \$0              |
| New Signal                         | 0 ea      | \$200,000.00 | \$0              |
| Mobilization                       |           | 8%           | \$71,286         |
| <b>Construction Subtotal</b>       |           |              | <b>\$962,358</b> |

**Construction Subtotal**

|                                     |     |                  |
|-------------------------------------|-----|------------------|
| Permitting                          | 5%  | \$48,118         |
| Contingency                         | 30% | \$288,707        |
| Design                              | 20% | \$192,472        |
| Construction Eng                    | 15% | \$144,354        |
| Right-of-Way                        |     | \$0              |
|                                     | 0%  | \$0              |
| <b>Project Development Subtotal</b> |     | <b>\$673,650</b> |

**Project Development Subtotal**

|              |                           |
|--------------|---------------------------|
| <b>Total</b> | <b><u>\$1,636,008</u></b> |
|--------------|---------------------------|

Inflation                      0.0%        per year        0 years                      \$0

|                    |                    |
|--------------------|--------------------|
| <b>GRAND TOTAL</b> | <b>\$1,636,008</b> |
|--------------------|--------------------|

\* Pavement removal cost includes clearing, grubbing, and grading.



Project: 244th Ave NE Widening Date: 12/5/2002  
 Location: SE 8th St to SE 32nd St Length: 7,500 feet  
 Scope: Widen to 3 lanes with 5 foot shoulders, curb, gutter, sidewalk, medians, and left turn pockets where required.  
Current roadway width is 22 feet.

|                |                    |          |                   |              |                           |
|----------------|--------------------|----------|-------------------|--------------|---------------------------|
| Roadway Width  | <u>46</u>          | Sidewalk | <u>6</u>          | Right-of-Way | <u>Required</u>           |
| Environmental: | <u>DNS</u>         |          | <u>EA</u>         | <u>x</u>     | <u>EIS</u>                |
| Land Use:      | <u>Residential</u> | <u>x</u> | <u>Commercial</u> |              | <u>Commercial Corners</u> |

Planning estimate of probable cost:

|                                     | Units      | Unit Price   | Extension          |
|-------------------------------------|------------|--------------|--------------------|
| Pavement Removal                    | 165,000 sf | \$1.00       | \$165,000          |
| 4" Asph/8" CR                       | 345,000 sf | \$2.48       | \$855,600          |
| Curb and gutter                     | 15,000 lf  | \$15.00      | \$225,000          |
| Sidewalks                           | 90,000 sf  | \$3.60       | \$324,000          |
| Lighting                            | 7,500 lf   | \$50.00      | \$375,000          |
| Sodding                             | 82,500 sf  | \$2.00       | \$165,000          |
| Trees                               | 150 ea     | \$200.00     | \$30,000           |
| Drainage and erosion control        | 7,500 lf   | \$87.00      | \$652,500          |
| Excavation                          | 7,500 lf   | \$5.00       | \$37,500           |
| Traffic paint, buttons and control  | 7,500 lf   | \$20.00      | \$150,000          |
| Retaining Wall                      | 0 sf       | \$60.00      | \$0                |
| New Signal                          | 0 ea       | \$200,000.00 | \$0                |
| Mobilization                        |            | 8%           | \$238,368          |
| <b>Construction Subtotal</b>        |            |              | <b>\$3,217,968</b> |
| Permitting                          | 10%        |              | \$321,797          |
| Contingency                         | 30%        |              | \$965,390          |
| Design                              | 20%        |              | \$643,594          |
| Construction Eng                    | 15%        |              | \$482,695          |
| Right-of-Way                        |            |              | \$975,000          |
|                                     | 0%         |              | \$0                |
| <b>Project Development Subtotal</b> |            |              | <b>\$3,388,476</b> |
| <b>Total</b>                        |            |              | <b>\$6,606,444</b> |

Inflation 0.0% per year 0 years **\$0**

**GRAND TOTAL** **\$6,606,444**

\* Pavement removal cost measured through entire length to cover added clearing and grubbing costs through SE 8th to SE 24th.



Project: E Lk Sammamish Pkwy Left Turn Pockets Date: 12/5/2002  
 Location: Single Pocket Length: 350 feet  
 Scope: Widen parkway from 4 to 5 lanes for 100' for left turn/pedestrian safety island  
Would occur every 1500 feet along the 4 lane sections  
Left turn pocket width is 12 feet

Roadway Width 12 Sidewalk 6 Right-of-Way No  
 Environmental: DNS x EA EIS  
 Land Use: Residential x Commercial Commercial  
Corners

## Planning estimate of probable cost:

|                                     | Units     | Unit Price   | Extension        |
|-------------------------------------|-----------|--------------|------------------|
| Pavement Removal                    | 12,600 sf | \$1.00       | \$12,600         |
| 4" Asph/8" CR                       | 4,200 sf  | \$2.48       | \$10,416         |
| Curb and gutter                     | 700 lf    | \$15.00      | \$10,500         |
| Sidewalks                           | 4,200 sf  | \$3.60       | \$15,120         |
| Lighting                            | 350 lf    | \$50.00      | \$17,500         |
| Sodding                             | 3,850 sf  | \$2.00       | \$7,700          |
| Trees                               | 8 ea      | \$200.00     | \$1,600          |
| Drainage and erosion control        | 350 lf    | \$87.00      | \$30,450         |
| Excavation                          | 350 lf    | \$5.00       | \$1,750          |
| Traffic paint, buttons and control  | 350 lf    | \$20.00      | \$7,000          |
| Retaining Wall                      | 1,050 sf  | \$60.00      | \$63,000         |
| New Signal                          | 0 ea      | \$200,000.00 | \$0              |
| Mobilization                        |           | 8%           | \$14,211         |
| <b>Construction Subtotal</b>        |           |              | <b>\$191,847</b> |
| Permitting                          | 5%        |              | \$9,592          |
| Contingency                         | 30%       |              | \$57,554         |
| Design                              | 20%       |              | \$38,369         |
| Construction Eng                    | 15%       |              | \$28,777         |
| Right-of-Way                        |           |              | \$42,000         |
| <b>Project Development Subtotal</b> |           |              | <b>\$176,293</b> |
| <b>Total</b>                        |           |              | <b>\$368,140</b> |

Inflation 0.0% per year 0 years \$0

**GRAND TOTAL** **\$368,140**

\* Pavement length based on 100' pocket and one 250' taper.

\* Retaining walls assumes additional height over proposal of 2' on both sides.

\* Right of Way assume 12 feet entire length.



## Assumptions:

Prices are 2002 bid estimates.

All projects include curb, gutter, sidewalk, storm water drainage, bike lanes, and landscaping unless noted otherwise.

Existing asphalt will be removed and replaced.

Sidewalks are assumed at 6 feet with additional shy distance outside the sidewalk of 2 feet.

Bike lanes are 5 feet wide.

Medians are 12 feet wide.

Roadway section is assumed 4" AC/8" CSBC.

|                          |          |
|--------------------------|----------|
| Existing lane width      | 11 feet  |
| Existing Right-of-Way    | 60 feet  |
| Sidewalk                 | 6 feet   |
| Sodding (including curb) | 5.5 feet |
| Street trees every       | 100 feet |

|                                    | Unit | Unit Price   |                                                                                              |
|------------------------------------|------|--------------|----------------------------------------------------------------------------------------------|
| Pavement Removal                   | sf   | \$1.00       | includes clearing and grubbing                                                               |
| 4" Asph/8" CR                      | sf   | \$2.48       |                                                                                              |
| Curb and gutter                    | lf   | \$15.00      |                                                                                              |
| Sidewalks                          | sf   | \$3.60       |                                                                                              |
| Lighting                           | lf   | \$50.00      |                                                                                              |
| Sodding                            | sf   | \$2.00       |                                                                                              |
| Trees                              | ea   | \$200.00     |                                                                                              |
| Drainage and erosion control       | lf   | \$87.00      | Drainage (including inlets, pipes, catch basins, vaults) is \$71 and erosion control is \$16 |
| Excavation                         | lf   | \$5.00       |                                                                                              |
| Traffic paint, buttons and control | lf   | \$20.00      | (including fencing at \$7)                                                                   |
| Retaining Wall                     | sf   | \$60         |                                                                                              |
| New Signal                         | ea   | \$200,000.00 | where curb and gutter exist                                                                  |
|                                    |      |              | \$ 300,000.00 where some road improvements required                                          |
| Mobilization                       |      | 8%           |                                                                                              |

|                                |      |                               |
|--------------------------------|------|-------------------------------|
| Permitting                     | 5%   | assuming a DNS                |
|                                | 10%  | assuming a EA                 |
| Contingency                    | 30%  |                               |
| Design                         | 20%  |                               |
| Construction Management        | 15%  |                               |
| Right of Way strip land takes: | \$10 | per sf for residential        |
|                                | \$12 | per sf for commercial         |
|                                | \$15 | per sf for commercial corners |

## Appendix H

### CITY OF SAMMAMISH COMPREHENSIVE PLAN

#### City of Sammamish Comprehensive Plan – Transportation Element 20-Year Revenue Projection

| Year         | Transportation<br>Capital Fund | Grants              | Mitigation Fees*    | General Obligation<br>Bonds or Other Source | Total                |
|--------------|--------------------------------|---------------------|---------------------|---------------------------------------------|----------------------|
| 2003         | \$2,541,000                    | \$1,000,000         | \$650,000           | \$3,093,600                                 | \$7,284,600          |
| 2004         | \$6,486,000                    | \$1,000,000         | \$650,000           | \$3,093,600                                 | \$11,229,600         |
| 2005         | \$5,218,088                    | \$1,000,000         | \$650,000           | \$3,093,600                                 | \$9,961,688          |
| 2006         | \$5,016,142                    | \$1,000,000         | \$650,000           | \$3,093,600                                 | \$9,759,742          |
| 2007         | \$4,813,560                    | \$1,000,000         | \$650,000           | \$3,093,600                                 | \$9,557,160          |
| 2008         | \$4,615,829                    | \$1,000,000         | \$650,000           | \$3,093,600                                 | \$9,359,429          |
| 2009         | \$4,417,432                    | \$1,000,000         | \$650,000           | \$3,093,600                                 | \$9,161,032          |
| 2010         | \$4,221,363                    | \$1,000,000         | \$650,000           | \$3,093,600                                 | \$8,964,963          |
| 2011         | \$4,026,965                    | \$1,000,000         | \$650,000           | \$3,093,600                                 | \$8,770,565          |
| 2012         | \$3,834,159                    | \$1,000,000         | \$650,000           | \$3,093,600                                 | \$8,577,759          |
| 2013-2017    | \$16,340,927                   | \$5,000,000         | \$3,250,000         | \$15,455,500                                | \$40,058,927         |
| 2018-2022    | \$14,555,535                   | \$5,000,000         | \$3,250,000         | \$15,455,500                                | \$38,273,535         |
| <b>Total</b> | <b>\$76,087,000</b>            | <b>\$20,000,000</b> | <b>\$13,000,000</b> | <b>\$61,872,000</b>                         | <b>\$170,959,000</b> |

\*Allocation of mitigation fees, grants, and general obligation bonds are based on the assumption of an annual even distribution of the bottom line amount.

Notes: All values presented in this table reflect preliminary analysis, as of July 10, 2003. All monetary values are shown in current dollars.



## APPENDIX I

### TRANSPORTATION FORECAST OF FUTURE LAND USES

#### CITY OF SAMMAMISH COMPREHENSIVE PLAN

The following descriptions, text and tables detail future land use alternative no longer being considered as part of the Comprehensive Plan. However, these land use alternatives were part of the development of the comprehensive plan. Below is a summary of these future land use alternatives:

- The **No Action Alternative** assumes no changes from the current zoned land. This alternative is primarily single-family residential, with a small amount of multi-family and commercial development occurring in designated areas.
- The **Preferred Alternative** (Summer 2002) concentrates more intensive land uses around three community centers along 228th Avenue. More intensive residential and commercial development would be permitted in two existing community centers, located at the Pine Lake Village and Inglewood commercial districts. A third community center would feature civic development, as well as possible commercial and residential development. Emphasis on the outlying areas would be on lower density single-family development, though less than that of the No Action Alternative. The Preferred Alternative emerged as a combination of some features of two land use alternatives that were presented to the citizens of Sammamish in May 2002:
  - The **Dispersed Alternative** (Multiple Nodes) provided for more intensive development, including commercial, civic, and residential, to occur around several centers located throughout the City. Lower density single-family residential development would surround the activity centers.
  - The **Gateway Corridor Alternative** (Concentrated Single Corridor) for more intensive development, including commercial, civic, residential, and possibly educational, to occur primarily along the 228th Avenue corridor. Single family residential would be the primary land use outside the 228th Avenue corridor.
- The **Preferred plus Special Study Area Alternative** is a variation of the Preferred Alternative described above. This alternative adds over 200 acres of civic, educational, religious, commercial and multi-family residences to the 228th Ave corridor.

The land use alternatives were prepared for each Traffic Analysis Zone (TAZ), which was input into the model to obtain an assessment of the impact of the possible land use alternatives on the transportation system. A more detailed description of these alternatives is included in **Appendix E** of this Comprehensive Plan.

#### Level-of-Service Analysis for Future Conditions

**Table V-N** lists the future improvements that were assumed to be in place for analysis of future conditions. This list presents those projects for which funding is secure, so they are assumed to be completed. In addition to financially committed projects from the City TIP (**Table V-L**), this table also presents County and State projects with committed funding.

**Table I-V-A** summarizes the intersection LOS expected under each of the No Action, Preferred and Preferred with Special Study Area land use alternatives, if no additional transportation improvements are made beyond the committed CIP. The LOS for the alternatives is additionally illustrated in **Figure I-V-1** through **I-V-3**.

**Table I-V-B** summarizes the concurrency status for each of the 45 roadway segments, under each of the future land use alternatives with only committed improvements, based upon the policy-defined AWDT thresholds previously described. The table shows that there are no significant differences between the three build out land use alternatives. Measuring the forecasted volumes against the policy-defined segment concurrency thresholds, six segments will fail under the future land use alternatives, if no additional improvements are made. These are defined as future deficiencies. Three have been previously identified as existing deficiencies, and the remaining three are due to new development.



TABLE I-V-A  
ESTIMATED INTERSECTION LOS FOR FUTURE LAND USE ALTERNATIVES - PM PEAK HOUR -  
COMMITTED IMPROVEMENTS ONLY

|    | INTERSECTION                                             | LOS<br>STANDARD <sup>1</sup> | TRAFFIC<br>CONTROL <sup>2</sup> | NO ACTION                   |                  | PREFERRED                   |                  | PREFERRED<br>+ SPECIAL      |                  |
|----|----------------------------------------------------------|------------------------------|---------------------------------|-----------------------------|------------------|-----------------------------|------------------|-----------------------------|------------------|
|    |                                                          |                              |                                 | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> |
| 1  | 228th Ave NE and NE 12th St                              | D                            | S                               | 10                          | A                | 10                          | A                | 10                          | A                |
| 2  | Sahalee Way NE and NE 37th St                            | D                            | S                               | 18                          | B                | 19                          | B                | 20                          | C                |
| 3  | Sahalee Way NE and NE Redmond-Fall City Rd<br>(SR 202)   | D                            | S                               | 29                          | C                | 25                          | C                | 22                          | C                |
| 4  | 228th Ave NE and SE 4th St                               | D                            | S                               | 9                           | A                | 9                           | A                | 11                          | B                |
| 5  | 228th Ave NE and SE 8th St                               | D                            | S                               | 18                          | B                | 17                          | B                | 17                          | B                |
| 6  | 228th Ave NE and SE 20th St                              | D                            | S                               | 10                          | A                | 11                          | B                | 13                          | B                |
| 7  | 228th Ave NE and SE 24th St                              | D                            | S                               | 15                          | B                | 15                          | B                | 15                          | B                |
| 8  | 228th Ave SE and Issaquah Pine-Lake Rd SE                | D                            | S                               | 14                          | B                | 14                          | B                | 15                          | B                |
| 9  | Issaquah-Pine Lake Rd SE and SE Klahanie Blvd            | D                            | S                               | 22                          | C                | 19                          | B                | 18                          | B                |
| 10 | E Lk Sammamish Pkwy NE and NE Inglewood<br>Hill Rd       | C                            | S                               | 74                          | E*               | 77                          | E*               | 57                          | E*               |
| 11 | E Lk Sammamish Pkwy SE and 212th Way SE                  | C                            | S                               | 9                           | A                | 8                           | A                | 7                           | A                |
| 12 | Issaquah-Pine Lake Rd SE and SE Issaquah-Fall<br>City Rd | D                            | S                               | 51                          | D                | 51                          | D                | 46                          | D                |
| 13 | 228th Ave NE and NE 8th St (NE Inglewood Hill<br>Rd)     | D                            | S                               | 27                          | C                | 28                          | C                | 29                          | C                |
| 14 | 192nd Dr NE and NE Redmond-Fall City Rd (SR<br>202)      | D                            | S                               | 8                           | A                | 8                           | A                | 8                           | A                |
| 15 | 244th Ave NE and NE Redmond-Fall City Rd (SR<br>202)     | D                            | S                               | 27                          | C                | 28                          | C                | 26                          | C                |

TABLE I-V-A  
ESTIMATED INTERSECTION LOS FOR FUTURE LAND USE ALTERNATIVES - PM PEAK HOUR -  
COMMITTED IMPROVEMENTS ONLY

|    | INTERSECTION                                                             | LOS<br>STANDARD <sup>1</sup> | TRAFFIC<br>CONTROL <sup>2</sup> | NO ACTION                   |                  | PREFERRED                   |                  | PREFERRED<br>+ SPECIAL      |                  |
|----|--------------------------------------------------------------------------|------------------------------|---------------------------------|-----------------------------|------------------|-----------------------------|------------------|-----------------------------|------------------|
|    |                                                                          |                              |                                 | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> |
| 16 | Issaquah-Pine Lake Rd SE and SE 32nd Way                                 | D                            | RAB                             | 66% <sup>5</sup>            | B                | 66% <sup>5</sup>            | B                | 66% <sup>5</sup>            | B                |
| 17 | E Lk Sammamish Pkwy NE and Louis Thompson Rd NE                          | C                            | TWSC                            | 48                          | E*               | 48                          | E*               | 42                          | E*               |
| 18 | 212th Ave SE and SE 20th St                                              | C                            | TWSC                            | 13                          | B                | 13                          | B                | 13                          | B                |
| 19 | SE Duthie Hill Rd and SE Issaquah-Beaver Lake Rd                         | D                            | TWSC                            | 717                         | F*               | 679                         | F*               | 417                         | F*               |
| 20 | Trossachs Blvd SE and SE Duthie Hill Rd                                  | D                            | S                               | 25                          | C                | 17                          | B                | 7                           | A                |
| 21 | E Lk Sammamish Pkwy SE and SE 24th Way                                   | C                            | TWSC                            | 52                          | F*               | 48                          | E*               | 41                          | E*               |
| 22 | 244th Ave NE and NE 8th St                                               | C                            | AWSC                            | 8                           | A                | 8                           | A                | 8                           | A                |
| 23 | E Lk Sammamish Pkwy NE and NE Redmond-Fall City Rd (SR 202) <sup>6</sup> | D                            | S                               | 154                         | F*               | 145                         | F*               | 162                         | F*               |
| 24 | E Lk Sammamish Pkwy SE and SE 56th St <sup>6</sup>                       | D                            | S                               | 105                         | F*               | 101                         | F*               | 100                         | F*               |
| 25 | E Lk Sammamish Pkwy SE and SE Issaquah-Fall City Rd <sup>6</sup>         | D                            | S                               | 32                          | C                | 32                          | C                | 32                          | C                |

1. LOS standards are based upon the functional classifications of the intersecting roadways. Intersections that include Principal Arterials have a standard of LOS D. Intersections that include Minor Arterials or Collectors have a standard of LOS C.

2. Intersections: S=signalized; TWSC=two-way stop-controlled; AWSC=all-way stop-controlled.

3. Delay is measured in seconds per vehicle. At S and AWSC intersections, it represents average delay for all movements in the intersection. For TWSC intersections, it represents average delay for the minor leg movements. Analysis is based on 2002 traffic counts.

4. LOS is the level-of-service based on the methodology outlined in the Highway Capacity Manual (HCM 2000). (\*) Denotes an LOS below the defined standard, indicating that the intersection is considered deficient.

5. Roundabout LOS is calculated using the Intersection Capacity Utilization (ICU) method.

6. These intersections are outside the City of Sammamish.



**FIGURE I-V-1 2022 LOS -COMMITTED TRANSPORTATION IMPROVEMENTS, NO ACTION LAND USE**

**FIGURE I-V-2 2002 LOS – COMMITTED TRANSPORTATION IMPROVEMENTS, PREFERRED LAND USE**



**FIGURE I-V-3 2022 LOS -COMMITTED TRANSPORTATION IMPROVEMENTS, PREFERRED + SPECIAL STUDY AREA**

**TABLE I-V-B  
SEGMENT CONCURRENCY STATUS - FUTURE LAND USE - COMMITTED IMPROVEMENTS ONLY**

| SEGMENT | ROADWAY CHARACTERISTICS WITH COMMITTED IMPROVEMENTS | Concurrence Threshold | FUTURE LAND USE ALTERNATIVES |                       |            |                 |
|---------|-----------------------------------------------------|-----------------------|------------------------------|-----------------------|------------|-----------------|
|         |                                                     |                       | NO ACTION                    | PREFERRED             | PREF+SSA   |                 |
|         |                                                     |                       | AWDT Fails                   | AWDT Fails            | AWDT Fails |                 |
|         | Functional Class                                    | # of Lanes            | Lane Width (feet)            | Shoulder Width (feet) | Median     | Walkway Bikeway |
| 1       | Minor Arterial                                      | 2                     | 11                           | 5                     | None       | None            |
| 2       | Minor Arterial                                      | 2                     | 11                           | 5                     | None       | None            |
| 3       | Minor Arterial                                      | 2                     | 11                           | 5                     | None       | None            |
| 4       | Minor Arterial                                      | 2                     | 11                           | 5                     | None       | None            |
| 5       | Minor Arterial                                      | 2                     | 11                           | 5                     | None       | None            |
| 6       | Minor Arterial                                      | 2                     | 11                           | 5                     | None       | None            |
| 7       | Minor Arterial                                      | 2                     | 11                           | 5                     | None       | None            |
| 8       | Minor Arterial                                      | 2                     | 11                           | 5                     | None       | None            |
| 9       | Collector                                           | 2                     | 10                           | 1                     | None       | None            |
| 10      | Collector                                           | 2                     | 10                           | 1                     | None       | None            |
| 11      | Collector                                           | 2                     | 10                           | 2                     | None       | None            |
| 12      | Collector                                           | 2                     | 10                           | 2                     | None       | None            |
| 13      | Collector                                           | 2                     | 11                           | 3                     | None       | None            |
| 14      | Collector                                           | 2                     | 11                           | 1                     | None       | None            |
| 15      | Minor Arterial                                      | 2                     | 11                           | 4                     | None       | None            |
| 16      | Minor Arterial                                      | 2                     | 11                           | 5                     | None       | None            |
| 17      | Collector                                           | 2                     | 10                           | 1                     | None       | None            |



**TABLE I-V-B  
SEGMENT CONCURRENCY STATUS - FUTURE LAND USE - COMMITTED IMPROVEMENTS ONLY**

| SEGMENT | ROADWAY CHARACTERISTICS WITH COMMITTED IMPROVEMENTS    | Concurrence Threshold | FUTURE LAND USE ALTERNATIVES |                       |                          |                 |
|---------|--------------------------------------------------------|-----------------------|------------------------------|-----------------------|--------------------------|-----------------|
|         |                                                        |                       | NO ACTION                    | PREFERRED             | PREF+SSA                 |                 |
|         |                                                        |                       | AWDT Fails                   | AWDT Fails            | AWDT Fails               |                 |
|         | Functional Class                                       | # of Lanes            | Lane Width (feet)            | Shoulder Width (feet) | Median                   | Walkway/Bikeway |
| 18      | SE 4th St, 218th Ave SE - 228th Ave SE                 | 2                     | 10                           | 1                     | None                     | None            |
| 19      | SE 20th St, 212th Ave SE - 219th Pl SE                 | 2                     | 11                           | 2                     | None                     | None            |
| 20      | SE 20th St, 219th Pl SE - 228th Ave SE                 | 2                     | 11                           | 3                     | None                     | None            |
| 21      | Sahalee Wy/228th Ave NE, City Limit - 220th Ave NE     | 2                     | 11                           | 4                     | None                     | None            |
| 22      | Sahalee Wy/228th Ave NE, 220th Ave NE - NE 25th Way    | 2                     | 11                           | 4                     | None                     | None            |
| 23      | 228th Ave, NE 25th Way - NE 12th St                    | 2                     | 11                           | 5                     | None                     | None            |
| 24      | 228th Ave, NE 12th St - SE 4th St <sup>1</sup>         | 4                     | 11                           | None                  | Median                   | Walkway         |
| 25      | 228th Ave, SE 4th St - SE 20th St <sup>2</sup>         | 4                     | 11                           | None                  | Median                   | Walkway         |
| 26      | 228th Ave, SE 20th St - Issaquah Pine Lake Rd SE Ave,  | 4                     | 11                           | None                  | Median                   | Walkway         |
| 27      | 228th Ave, Issaquah Pine Lake Rd SE - SE 43rd Way Ave, | 2                     | 11                           | 4                     | Left-Turn Lane           | None            |
| 28      | NE 8th St, 228th Ave NE - 244th Ave NE                 | 2                     | 11                           | 4                     | Left-Turn Lane           | Walkway         |
| 29      | SE 8th St, 228th Ave SE - 244th Ave SE                 | 2                     | 11                           | None                  | Left-Turn Lane / Bikeway | None            |
| 30      | SE 24th St, 228th Ave SE - 244th Ave SE                | 2                     | 11                           | 1                     | None                     | None            |
| 31      | SE 24th St, 244th Ave SE - W Beaver Lk Dr SE           | 2                     | 11                           | 1                     | None                     | None            |
| 32      | Issaquah-Pine Lk Rd, 228th Ave SE - SE 32nd Way        | 4                     | 11                           | 4                     | None                     | None            |
| 33      | Issaquah-Pine Lk Rd, SE 32nd Way - SE Klahanie Blvd    | 2                     | 11                           | 4                     | None                     | None            |
| 34      | Issaquah-Pine Lk Rd, SE Klahanie Blvd - SE 48th St     | 2                     | 11                           | 4                     | None                     | None            |
| 35      | 244th Ave NE, NE 30th Pl - NE 20th St                  | 2                     | 11                           | 1                     | None                     | None            |



TABLE I-V-B  
SEGMENT CONCURRENCY STATUS - FUTURE LAND USE - COMMITTED IMPROVEMENTS ONLY

| SEGMENT | ROADWAY CHARACTERISTICS WITH COMMITTED IMPROVEMENTS |            |                   |                       |        | Concurrency Threshold | FUTURE LAND USE ALTERNATIVES |           |          |
|---------|-----------------------------------------------------|------------|-------------------|-----------------------|--------|-----------------------|------------------------------|-----------|----------|
|         | Functional Class                                    | # of Lanes | Lane Width (feet) | Shoulder Width (feet) | Median | Walkway Bikeway       | NO ACTION                    | PREFERRED | PREF+SSA |
|         | Arterial                                            |            |                   |                       |        |                       |                              |           |          |
| 36      | Minor Arterial                                      | 2          | 11                | 1                     | None   | None                  | 5,400                        | 5,400     | 5,600    |
| 37      | Minor Arterial                                      | n/a        | n/a               | n/a                   | n/a    | n/a                   | n/a                          | n/a       | n/a      |
| 38      | Minor Arterial                                      | n/a        | n/a               | n/a                   | n/a    | n/a                   | n/a                          | n/a       | n/a      |
| 39      | Minor Arterial                                      | 2          | 11                | 2                     | None   | None                  | 5,000                        | 4,800     | 4,700    |
| 40      | Minor Arterial                                      | 2          | 11                | 4                     | None   | None                  | 8,500                        | 8,800     | 8,900    |
| 41      | Minor Arterial                                      | 2          | 11                | 4                     | None   | None                  | 6,800                        | 7,200     | 7,300    |
| 42      | Minor Arterial                                      | 2          | 11                | 6                     | None   | None                  | 4,800                        | 4,800     | 4,900    |
| 43      | Principal Arterial                                  | 2          | 11                | 4                     | None   | None                  | 16,100                       | 16,000    | 16,000   |
| 44      | Principal Arterial                                  | 2          | 11                | 4                     | None   | None                  | 16,100                       | 16,000    | 16,000   |
| 45      | Collector                                           | 2          | 12                | None                  | None   | Walkway               | 7,000                        | 6,800     | 6,800    |



### **Build Out Alternatives**

**Table I-V-C** summarizes the expected levels-of-service at the 25 designated major intersections with the recommended transportation improvements in place for the future build-out land use alternatives. Once again, the results of analysis do not vary significantly between the different land use alternatives. Analysis shows that 23 of the 25 intersections are expected to operate at an LOS at or better than the intersection concurrency thresholds. The two congested intersections are located at access points outside the city limits, E Lake Sammamish Parkway and SR 202 to the north, and E Lake Sammamish Parkway and SE 56th Street to the south. Addressing the deficiencies at these locations will require collaboration with the Cities of Redmond and Issaquah, within whose jurisdictions these two intersections are respectively located. The intersection LOS for the three future land use alternatives is illustrated in **Figure I-V-4** through **Figure I-V-6**.

**Table I-V-D** summarizes the roadway segment concurrency status for the three future alternatives, with the recommended transportation improvements in place. The table shows that the improvements address all identified future deficiencies.

### **Proposed Final Comprehensive Plan Land Use**

A final recommended land use plan was developed after public comment and deliberation by the City Council. The Plan (July 2003) targets future commercial growth and mixed-use development in three designated community centers, the Inglewood and Pine Lake Centers and Sammamish Commons. It includes the development of a City Hall and City Park project as a key gathering place, in accordance with an approved master plan, in the Sammamish Commons. The Plan focuses on the protection of the character and development patterns in existing single-family neighborhoods in outlying areas, and the protection of particularly environmentally sensitive areas. In capacity, the plan would support approximately 5,383 dwellings, which is less than the No Action Alternative and in between the Preferred and Preferred with Special Study Area Alternatives previously reviewed.

TABLE I-V-C  
ESTIMATED INTERSECTION LOS FOR BUILD OUT LAND USE ALTERNATIVES  
- PM PEAK HOUR - WITH RECOMMENDED IMPROVEMENTS

|    | INTERSECTION                                          | LOS STANDARD <sup>1</sup> | TRAFFIC CONTROL <sup>2</sup> | NO ACTION                   |                  | PREFERRED                   |                  | PREFERRED + SPECIAL         |                  |
|----|-------------------------------------------------------|---------------------------|------------------------------|-----------------------------|------------------|-----------------------------|------------------|-----------------------------|------------------|
|    |                                                       |                           |                              | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> |
| 1  | 228th Ave NE and NE 12th St                           | D                         | S                            | 9                           | A                | 9                           | A                | 10                          | A                |
| 2  | Sahalee Way NE and NE 37th St                         | D                         | S                            | 19                          | B                | 18                          | B                | 18                          | B                |
| 3  | Sahalee Way NE and NE Redmond-Fall City Rd (SR 202)   | D                         | S                            | 12                          | B                | 12                          | B                | 12                          | B                |
| 4  | 228th Ave NE and SE 4th St                            | D                         | S                            | 8                           | A                | 8                           | A                | 9                           | A                |
| 5  | 228th Ave NE and SE 8th St                            | D                         | S                            | 9                           | A                | 9                           | A                | 10                          | A                |
| 6  | 228th Ave NE and SE 20th St                           | D                         | S                            | 7                           | A                | 7                           | A                | 7                           | A                |
| 7  | 228th Ave NE and SE 24th St                           | D                         | S                            | 11                          | B                | 11                          | B                | 11                          | B                |
| 8  | 228th Ave SE and Issaquah Pine-Lake Rd SE             | D                         | S                            | 23                          | C                | 25                          | C                | 26                          | C                |
| 9  | Issaquah-Pine Lake Rd SE and SE Klahanie Blvd         | D                         | S                            | 10                          | A                | 10                          | A                | 10                          | A                |
| 10 | E Lk Sammamish Pkwy NE and NE Inglewood Hill Rd       | C                         | S                            | 15                          | B                | 14                          | B                | 15                          | B                |
| 11 | E Lk Sammamish Pkwy SE and 212th Way SE               | C                         | S                            | 8                           | A                | 8                           | A                | 8                           | A                |
| 12 | Issaquah-Pine Lake Rd SE and SE Issaquah-Fall City Rd | D                         | S                            | 38                          | D                | 36                          | D                | 36                          | D                |
| 13 | 228th Ave NE and NE 8th St (NE Inglewood Hill Rd)     | D                         | S                            | 25                          | C                | 25                          | C                | 26                          | C                |
| 14 | 192nd Dr NE and NE Redmond-Fall City Rd (SR 202)      | D                         | S                            | 9                           | A                | 9                           | A                | 9                           | A                |
| 15 | 244th Ave NE and NE Redmond-Fall City Rd (SR 202)     | D                         | S                            | 30                          | C                | 31                          | C                | 32                          | C                |



**TABLE I-V-C**  
**ESTIMATED INTERSECTION LOS FOR BUILD OUT LAND USE ALTERNATIVES**  
**- PM PEAK HOUR - WITH RECOMMENDED IMPROVEMENTS**

|    | INTERSECTION                                                | LOS STANDARD <sup>1</sup> | TRAFFIC CONTROL <sup>2</sup> | NO ACTION                   |                  | PREFERRED                   |                  | PREFERRED + SPECIAL         |                  |
|----|-------------------------------------------------------------|---------------------------|------------------------------|-----------------------------|------------------|-----------------------------|------------------|-----------------------------|------------------|
|    |                                                             |                           |                              | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> | Delay <sup>3</sup><br>(sec) | LOS <sup>4</sup> |
| 16 | Issaquah-Pine Lake Rd SE and SE 32nd Way                    | D                         | RAB                          | 77% <sup>4</sup>            | C                | 76% <sup>4</sup>            | C                | 76% <sup>4</sup>            | C                |
| 17 | E Lk Sammamish Pkwy NE and Louis Thompson Rd NE             | C                         | TWSC                         | 11                          | B                | 11                          | B                | 11                          | B                |
| 18 | 212th Ave SE and SE 20 <sup>th</sup> St                     | C                         | TWSC                         | 7                           | A                | 7                           | A                | 7                           | A                |
| 19 | SE Duthie Hill Rd and SE Issaquah-Beaver Lake Rd            | D                         | TWSC                         | 9                           | A                | 11                          | B                | 10                          | B                |
| 20 | Trossachs Blvd SE and SE Duthie Hill Rd                     | D                         | S                            | 11                          | B                | 10                          | B                | 10                          | B                |
| 21 | E Lk Sammamish Pkwy SE and SE 24th Way                      | C                         | TWSC                         | 9                           | A                | 9                           | A                | 9                           | A                |
| 22 | 244th Ave NE and NE 8th St                                  | C                         | AWSC                         | 8                           | A                | 9                           | A                | 9                           | A                |
| 23 | E Lk Sammamish Pkwy NE and NE Redmond-Fall City Rd (SR 202) | D                         | S                            | 116                         | F                | 115                         | F                | 116                         | F                |
| 24 | E Lk Sammamish Pkwy SE and SE 56th St                       | D                         | S                            | 90                          | F                | 88                          | F                | 91                          | F                |
| 25 | E Lk Sammamish Pkwy SE and SE Issaquah-Fall City Rd         | D                         | S                            | 32                          | C                | 32                          | C                | 32                          | C                |

1. LOS standards are based upon the functional classifications of the intersecting roadways. Intersections that include Principal Arterials have a standard of LOS D. Intersections that include Minor Arterials or Collectors have a standard of LOS C.

2. Intersections: S=signalized; TWSC=two-way stop-controlled; AWSC=all-way stop-controlled.

3. Delay is measured in seconds per vehicle. At S and AWSC intersections, it represents average delay for all movements in the intersection. For TWSC intersections, it represents average delay for the minor leg movements. Analysis is based on 2002 traffic counts.

4. LOS is the level-of-service based on the methodology outlined in the Highway Capacity Manual (HCM 2000). (\*) Denotes an LOS below the defined standard, indicating that the intersection is considered deficient.

5. Roundabout LOS is calculated using the Intersection Capacity Utilization (ICU) method.

FIGURE I-V-4 2022 LOS- RECOMMENDED TRANSPORTATION IMPROVEMENTS, NO ACTION LAND USE



FIGURE I-V-5 2022 LOS- RECOMMENDED TRANSPORTATION IMPROVEMENTS, PREFERRED LAND USE

FIGURE I-V-6 2022 LOS- RECOMMENDED TRANSPORTATION IMPROVEMENTS, PREFERRED + SPECIAL  
STUDY AREA LAND USE



**TABLE I-V-D  
SEGMENT CONCURRENCY STATUS FOR BUILD OUT ALTERNATIVES WITH RECOMMENDED IMPROVEMENTS**

| SEGMENT | PROPOSED ROADWAY CHARACTERISTICS                              |                |                   |                       |        |                 | Concurrency Threshold | LAND USE  |           |            |            |
|---------|---------------------------------------------------------------|----------------|-------------------|-----------------------|--------|-----------------|-----------------------|-----------|-----------|------------|------------|
|         | Functional Class                                              | # of Lanes     | Lane Width (feet) | Shoulder Width (feet) | Median | Walkway Bikeway |                       | NO ACTION | PREFERRED | AWDT Fails | PREF + SSA |
|         |                                                               |                |                   |                       |        |                 |                       |           |           |            |            |
| 1       | E Lk Sammamish Pkwy, City limits – 196th Ave NE (Weber Point) | Minor Arterial | 2                 | 11                    | 5      | Left-Turn Lane  | Walkway               | 22,010    | 22,000    | 21,200     | 21,200     |
| 2       | E Lk Sammamish Pkwy, 196th Ave NE – NE 26th Pl                | Minor Arterial | 2                 | 11                    | 5      | Left-Turn Lane  | Walkway               | 22,010    | 20,200    | 19,800     | 19,800     |
| 3       | E Lk Sammamish Pkwy, NE 26th Pl – NE Inglewood Hill Rd        | Minor Arterial | 2                 | 11                    | 5      | Left-Turn Lane  | Walkway               | 22,010    | 20,200    | 19,800     | 19,800     |
| 4       | E Lk Sammamish Pkwy, Inglewood Hill Rd – Louis Thompson Rd    | Minor Arterial | 2                 | 11                    | 5      | Left-Turn Lane  | Walkway               | 22,010    | 11,700    | 11,400     | 11,400     |
| 5       | E Lk Sammamish Pkwy, Louis Thompson Rd NE – SE 8th St         | Minor Arterial | 2                 | 11                    | 5      | Left-Turn Lane  | Walkway               | 22,010    | 9,200     | 8,900      | 8,900      |
| 6       | E Lk Sammamish Pkwy, SE 8th St – SE 24th Way                  | Minor Arterial | 2                 | 11                    | 5      | None            | None                  | 17,370    | 8,900     | 8,500      | 8,500      |
| 7       | E Lk Sammamish Pkwy, SE 24th Way – 212th Ave SE               | Minor Arterial | 2                 | 11                    | 5      | Left-Turn Lane  | Walkway               | 22,010    | 12,200    | 11,700     | 11,600     |
| 8       | E Lk Sammamish Pkwy, 212th Ave SE – City Limit                | Minor Arterial | 2                 | 11                    | 5      | Left-Turn Lane  | Walkway               | 22,010    | 16,900    | 16,300     | 16,100     |
| 9       | SE 24th St, E Lk Sammamish Pkwy – 200th Ave SE                | Collector      | 2                 | 10                    | 1      | None            | None                  | 9,420     | -         | -          | -          |
| 10      | SE 24th St, 200th Ave SE – 212th Ave SE                       | Collector      | 2                 | 10                    | 1      | None            | None                  | 9,420     | -         | -          | -          |
| 11      | Louis Thompson Rd, E Lk Sammamish Pkwy – SE 8th St            | Collector      | 2                 | 11                    | 5      | None            | Walkway               | 12,150    | 3,200     | 3,200      | 3,200      |
| 12      | 212th Ave SE, SE 8th St – SE 20th St                          | Collector      | 2                 | 11                    | 5      | None            | Walkway               | 12,150    | 3,800     | 3,800      | 3,800      |
| 13      | 212th Ave SE, SE 20th St – SE 32nd St                         | Collector      | 2                 | 11                    | 5      | None            | Walkway               | 12,150    | 3,800     | 3,800      | 3,800      |
| 14      | 212th Ave SE, SE 32nd St – E Lk Sammamish Pkwy                | Collector      | 2                 | 11                    | 5      | None            | Walkway               | 12,150    | 4,700     | 4,600      | 4,500      |
| 15      | NE Inglewood Rd, E Lk Sammamish Pkwy – 216th Ave NE           | Minor Arterial | 2                 | 11                    | 5      | Left-Turn Lane  | Walkway               | 22,010    | 11,500    | 11,300     | 11,400     |
| 16      | NE Inglewood Rd, 216th Ave NE – 228th Ave NE                  | Minor Arterial | 2                 | 11                    | 5      | Left-Turn Lane  | Walkway               | 22,010    | 13,100    | 13,500     | 13,900     |
| 17      | SE 8th St/218th Ave SE, 212th Ave SE – SE 4th St              | Collector      | 2                 | 11                    | None   | Left-Turn Lane  | Walkway               | 15,390    | -         | -          | -          |



TABLE I-V-D  
SEGMENT CONCURRENCY STATUS FOR BUILD OUT ALTERNATIVES WITH RECOMMENDED IMPROVEMENTS

| SEGMENT                                                | PROPOSED ROADWAY CHARACTERISTICS |            |                   |                       |                |                   |           | Concurrency Threshold | LAND USE  |            |            |            |
|--------------------------------------------------------|----------------------------------|------------|-------------------|-----------------------|----------------|-------------------|-----------|-----------------------|-----------|------------|------------|------------|
|                                                        | Functional Class                 | # of Lanes | Lane Width (feet) | Shoulder Width (feet) | Median         | Walkway Bikeway   | NO ACTION |                       | PREFERRED | PREF + SSA |            |            |
|                                                        |                                  |            |                   |                       |                |                   |           |                       |           | AWDT Fails | AWDT Fails | AWDT Fails |
| 18 SE 4th St, 218th Ave SE – 228th Ave SE              | Collector                        | 2          | 11                | None                  | Left-Turn Lane | Walkway           | 15,390    | 4,000                 | 4,100     | 4,500      |            |            |
| 19 SE 20th St, 212th Ave SE – 219th Pl SE              | Collector                        | 2          | 11                | 5                     | Left-Turn Lane | Walkway           | 15,390    | 4,900                 | 5,000     | 5,100      |            |            |
| 20 SE 20th St, 219th Pl SE – 228th Ave SE              | Collector                        | 2          | 11                | 5                     | Left-Turn Lane | Walkway           | 15,390    | 4,900                 | 5,000     | 5,100      |            |            |
| 21 Sahalee Wy/228th Ave NE, City Limit – 220th Ave NE  | Principal Arterial               | 2          | 11                | 5                     | Left-Turn Lane | Walkway           | 22,010    | 16,600                | 16,400    | 16,700     |            |            |
| 22 Sahalee Wy/228th Ave NE, 220th Ave NE – NE 25th Way | Principal Arterial               | 2          | 11                | 5                     | Left-Turn Lane | Walkway           | 22,010    | 13,600                | 13,500    | 13,900     |            |            |
| 23 228th Ave, NE 25th Way – NE 12th St,                | Principal Arterial               | 2          | 11                | 5                     | Left-Turn Lane | Walkway           | 22,010    | 13,600                | 13,500    | 13,900     |            |            |
| 24 228th Ave, NE 12th St – SE 4th St <sup>1</sup>      | Principal Arterial               | 4          | 11                | None                  | Median         | Walkway           | 34,950    | 21,200                | 22,000    | 25,200     |            |            |
| 25 228th Ave, SE 4th St – SE 20th St <sup>2</sup>      | Principal Arterial               | 4          | 11                | None                  | Median         | Walkway           | 34,950    | 22,900                | 22,800    | 23,700     |            |            |
| 26 228th Ave, SE 20th St – Issaquah Pine Lake Rd SE    | Principal Arterial               | 4          | 11                | None                  | Median         | Walkway           | 34,950    | 27,800                | 28,400    | 28,900     |            |            |
| 27 228th Ave, Issaquah Pine Lake Rd SE – SE 43rd Way   | Principal Arterial               | 2          | 11                | 5                     | Left-Turn Lane | Walkway           | 22,010    | 16,700                | 16,700    | 16,900     |            |            |
| 28 NE 8th St, 228th Ave NE – 244th Ave NE              | Minor Arterial                   | 2          | 11                | 5                     | Left-Turn Lane | Walkway           | 22,010    | 12,300                | 12,600    | 12,800     |            |            |
| 29 SE 8th St, 228th Ave SE – 244th Ave SE              | Collector                        | 2          | 11                | 5                     | Left-Turn Lane | Walkway / Bikeway | 15,390    | 4,700                 | 4,700     | 5,100      |            |            |
| 30 SE 24th St, 228th Ave SE – 244th Ave SE             | Collector                        | 2          | 11                | 1                     | None           | None              | 10,550    | 4,600                 | 5,000     | 5,200      |            |            |
| 31 SE 24th St, 244th Ave SE – W Beaver Lk Dr SE        | Collector                        | 2          | 11                | 1                     | None           | None              | 10,550    | -                     | -         | -          |            |            |
| 32 Issaquah-Pine Lk Rd, 228th Ave SE – SE 32nd Way     | Principal Arterial               | 4          | 11                | 4                     | None           | None              | 31,480    | 16,600                | 17,100    | 17,400     |            |            |



TABLE I-V-D  
SEGMENT CONCURRENCY STATUS FOR BUILD OUT ALTERNATIVES WITH RECOMMENDED IMPROVEMENTS

| SEGMENT | PROPOSED ROADWAY CHARACTERISTICS                                          |                    |                   |                       |        |                 |           | Concurrency Threshold | LAND USE  |            |            |            |
|---------|---------------------------------------------------------------------------|--------------------|-------------------|-----------------------|--------|-----------------|-----------|-----------------------|-----------|------------|------------|------------|
|         | Functional Class                                                          | # of Lanes         | Lane Width (feet) | Shoulder Width (feet) | Median | Walkway Bikeway | NO ACTION |                       | PREFERRED | AWDT Fails | AWDT Fails | AWDT Fails |
|         |                                                                           |                    |                   |                       |        |                 |           |                       |           |            |            |            |
| 33      | Issaquah-Pine Lk Rd, SE 32nd Way – SE Klahanie Blvd                       | Principal Arterial | 2                 | 11                    | 5      | Left-Turn Lane  | None      | 22,010                | 20,000    | 19,600     |            | 19,800     |
| 34      | Issaquah-Pine Lk Rd, SE Klahanie Blvd – SE 48th St                        | Principal Arterial | 4                 | 11                    | 5      | Left-Turn Lane  | Walkway   | 36,690                | 31,700    | 31,100     |            | 31,100     |
| 35      | 244th Ave NE, NE 30th Pl – NE 20th St                                     | Minor Arterial     | 2                 | 11                    | 5      | Left-Turn Lane  | Walkway   | 22,010                | 14,200    | 14,400     |            | 14,500     |
| 36      | 244th Ave NE, NE 20th St – NE 8th St                                      | Minor Arterial     | 2                 | 11                    | 5      | Left-Turn Lane  | Walkway   | 22,010                | 13,600    | 13,800     |            | 14,000     |
| 37      | East Sammamish/244th Ave NE Corridor, NE 8th St – SE 8th St <sup>3</sup>  | Minor Arterial     | 2                 | 11                    | 5      | Left-Turn Lane  | Walkway   | 22,010                | 15,100    | 15,300     |            | 15,100     |
| 38      | East Sammamish/244th Ave NE Corridor, SE 8th St – SE 24th St <sup>3</sup> | Minor Arterial     | None              | None                  | None   | None            | None      | -                     | 0         | 0          |            | 0          |
| 39      | 244th Ave NE, SE 24th St – SE 32nd Way                                    | Minor Arterial     | 2                 | 11                    | 2      | None            | None      | 15,630                | 15,000    | 15,000     |            | 14,900     |
| 40      | SE 32nd Way, Issaquah-Pine Lk Rd – 244th Ave SE                           | Minor Arterial     | 2                 | 11                    | 4      | None            | None      | 16,790                | 14,500    | 14,500     |            | 14,500     |
| 41      | SE 32nd St, 244th Ave SE – W Beaver Lk Dr SE                              | Minor Arterial     | 2                 | 11                    | 4      | None            | None      | 16,790                | 6,500     | 6,900      |            | 7,000      |
| 42      | Issaquah-Beaver Lk Rd, W Beaver Lk Dr SE – SE Duthie Hill Rd              | Minor Arterial     | 2                 | 11                    | 6      | None            | None      | 17,950                | 4,100     | 4,000      |            | 4,100      |
| 43      | SE Duthie Hill Rd, SE Issaquah-Beaver Lk Rd – 266th Ave SE                | Principal Arterial | 2                 | 11                    | 5      | Left-Turn Lane  | Walkway   | 22,010                | 12,500    | 12,500     |            | 12,600     |
| 44      | SE Duthie Hill Rd, 266th Ave SE – Trossachs Blvd SE                       | Principal Arterial | 2                 | 11                    | 5      |                 | Walkway   | 22,010                | 12,500    | 12,500     |            | 12,600     |
| 45      | Trossachs Blvd SE, SE 9th St – SE Duthie Hill Rd                          | Collector          | 2                 | 12                    | 6      | None            | Walkway   | 13,680                | 5,100     | 5,000      |            | 5,000      |

1. The four-lane width represents the predominant width of this segment. The width of 228th Avenue is four lanes from SE 4th Street to 400-feet north of NE 8th Street. Between NE 8th Street and NE 12th Street, the roadway tapers back to two lanes.
2. The widening of 228<sup>th</sup> Avenue between SE 8th Street and SE 12th Street is currently under construction, and expected to be completed in 2003.
3. These will be future segments if the East Sammamish/244<sup>th</sup> Avenue Corridor connections are constructed, but currently do not exist as continuous roadway segments.