# VOLUME 2

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# 10.000 SUMMARY OF FINDINGS, POLICIES AND IMPLEMENTATION STRATEGIES, PREFACE, FORMAT AND INTRODUCTION; AND GOAL 2 – LAND USE PLANNING

## 10.010 INTRODUCTION ORGANIZATION OF THE COMPREHENSIVE PLAN

The "Policies and Summary" Document is the second volume in a five-volume series of documents which comprise the Gresham Comprehensive Plan. Volumes I and II comprise the Community Development Plan. Volume I, the "Findings" Document, consists of inventory data dealing with the natural, physical, social, and political environment of Gresham. Some of these inventory data are contained in appendices to Volume I. Volume II consists of information that includes brief summaries of the findings found in Volume l; policy statements concerning each plan topic; and goals, policies and actions measures and implementation strategies designed to carry out the policies. Volume III, the Community Development Code, specifies the procedures and development standards to be followed in the development process. Volume III contains information concerning public hearings and notice requirements, dates for submission of final plats, definitions, and other material dealing with procedural issues. It also lists uses permitted in the various land use districts, specifies residential densities, establishes special purpose districts, and contains standards applying to all types of development. Volume IV is the City's Transportation System Plan. Volume V, the Capital Improvements Program, sets forth the community's short-range and mid-range capital facilities needs. This document includes descriptions of needed capital improvements and specifies their timing, funding sources, and relative importance over a five-year period. Projections, findings, and policies contained in the Community Development Plan, as well as special-purpose master plans, form the basis for identifying capital improvement needs and timing for the provision of these facilities.

Taken together, these volumes make up Gresham's comprehensive plan. The overall purpose of the plan is to establish a land-use planning process and policy framework as a basis for all decisions and actions related to the use of land and to assure an adequate factual base for such decisions and actions. All of the applicable Statewide Land Use Goals promulgated by the Land Conservation Development Commission are addressed in these volumes. There are no applicable Statewide Land Use Goals from which the City of Gresham is taking an exception. (Amended by Ordinance No. 1592 passed 9/7/04; effective 10/7/04)

## 10.011 PURPOSE AND ORGANIZATION OF VOLUME II

### SUMMARY OF FINDINGS

Volume II is arranged by four broad areas: the Natural Environment (Sections 10.200-10.235); the Physical Environment (Sections 10.300-10.335); the Social Environment (10.400-10.415.5); and the Political Environment (10.500-10.510). Brief summaries of the inventories contained in Volume I are stated for each subject covered followed by a policy statements. Policy statements were developed by Citizen Task Forces and the Comprehensive Planning Commission during a

two-year process. Then in 1987/88 the periodic review process involved the update of many of the policies contained in the original 1980 comprehensive plan. Policy statements have undergone lengthy review and revision, culminating in the proposed final drafts of policies and implementation strategies contained in this document. Policy statements are based upon inventories of local features as well as community attitudes concerning the direction of Gresham's future. Implementation Strategies, which are designed to carry out the policies, are stated for each plan element.

## 10.012 GENERAL PLAN REQUIREMENTS AND FEATURES

### SUMMARY OF FINDINGS

1. Oregon Revised Statutes, Chapter 197, and the Statewide Planning Goals and Guidelines of the Oregon Land Conservation and Development Commission require that all cities and counties prepare, adopt and implement a comprehensive plan consistent with the statewide goals and guidelines. Each Plan must:

    a. Develop a citizen involvement program that ensures the opportunity for citizens to be involved in all phases of the planning process.

    b. Establish a land use planning process and policy framework as a basis for all decisions and actions related to the use of land and to assure an adequate factual base for such decisions and actions.

    c. Preserve and maintain agricultural lands.

    d. Conserve forest lands for forest uses.

    e. Conserve open space and protect natural and scenic resources.

    f. Maintain and improve the quality of air, water and land resources of the state.

    g. Protect life and property from natural disasters and hazards.

    h. Satisfy the recreational needs of the citizens of the state and visitors.

    i. Diversify and improve the economy of the state.

    j . Provide for the housing needs of the citizens of the state.

    k. Plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

    l. Provide and encourage a safe, convenient and economic transportation system.

    m. Conserve energy.

    n. Provide for an orderly and efficient transition from rural to urban land use.

2. Metro established a Regional Urban Growth Boundary which includes enough land necessary to accommodate urban land needs for twenty years. This includes all of Gresham. Metro adopted Regional Urban Growth Goals and Objectives (RUGGOs)

including the Metro 2040 Growth Concept Plan on December 14, 1995. The 2040 Growth Concept Map identifies areas and patterns of development including target densities.

3. The Gresham Comprehensive Plan includes Volume I, Findings; Volume II, Policies and Implementation Strategies; Volume III, Community Development Code; Volume IV, Community Development Standards; Volume V, Community Development Functional Master Plans. The Gresham Comprehensive Plan is designed to meet the definition of "Comprehensive Plan," as stated in the Oregon Revised Statutes, and applies to all legislative, quasi-judicial and administrative land use actions in the City of Gresham.

The Community Development Plan includes the necessary inventory and base data, outlines the city's policies, locational criteria and strategies and depicts in a generalized manner the future land use pattern. Designations have been made for residential, commercial, and industrial development. Areas for open space are also identified.

The Community Development Code establishes the need for a development permit and outlines the procedures for securing such. The Community Development Standards Document establishes standards necessary to obtain a development permit. Standards such as building height, residential densities, and functional street classification standards are also included.

The Capital Improvements Program will outline all major capital investment needs to realize the full development of the planning area, funding sources and a five year budget.

Future amendments to the Comprehensive Plan will include detailed Master Plans for the Transit Corridor, Sewer Service, Water Service, Drainage, and Streets. Additionally, the plan is scheduled for minor revisions every two years and major revisions every seven years to keep the plan current and responsive to the needs of the community.

(Amended by Ord. 1303 passed 2/15/94; effective 3/17/94)
(Amended by Ord. 1348 passed 2/16/95; effective 2/16/95)
(Amended by Ord. 1407 passed 11/19/96; effective 12/19/96)
(Amended by Ord. 1420 passed 5/6/97; effective 5/6/97)
(Amended by Ord. 1443 passed 5/5/98; effective 6/4/98)
(Amended by Ord. 1453 passed 8/4/98; effective 9/3/98)
(Amended by Ord. 1467 passed 12/29/98; effective 2/4/99)
(Amended by Ord. 1484 passed 11/2/99; effective 11/2/99)
(Amended by Ord. 1592 passed 9/7/04; effective 10/7/04)

## 10.013 PREFACE, COMPREHENSIVE PLAN FORMAT, AND INTRODUCTION

### PREFACE

This is the second full update of the original Gresham Comprehensive Plan. The City's first Comprehensive Plan was completed in 1979 and updated through the state Periodic Review process in 1987-89.

As with the original development of the Comprehensive Plan this update has involved substantial involvement and commitment by citizens. Also, it has required extensive research review and public meetings and hearings by the City's appointed and elected officials.

Since the Comprehensive Plan was last fully updated many changes have occurred. These include:

- Economic development and population growth in Gresham, the Portland metropolitan region and the state,
- Substantive changes in Oregon's statewide land use and environmental protection programs,
- Expansion of Metro's land use planning authority, and
- Actions by the federal government, including many new environmental laws and programs that have been created at the national level.

The updated Comprehensive Plan is a result of citizen efforts led by the Gresham City Council and Planning Commission. Council Advisory Committees played key roles in areas of their expertise by reviewing findings, background information, goals, policies and action measures. In particular the City's Citizen Involvement Committee led the effort to ensure that citizen involvement and comment was broad-based, balanced and inclusive of community's viewpoints.

Besides making the Plan current with existing conditions and circumstances, the Council and Planning Commission desired the Comprehensive Plan be more clear and "user-friendly" for all those who refer to it - citizens, city staff and officials, developers and other agencies and jurisdictions.

The Gresham Comprehensive Plan text consists of goals, policies and action measures and summary findings. The plan text is supported by more detailed findings consisting of numerous appendices such as the City's Public Facility Plan (PFP), public facility master plans and the Park, Recreation, Trails and Open-Space Master Plan. The appendices provide a factual basis for adoption and implementation of the Plan's goals and policies. Future amendments to the goals, policies and action measures of the Comprehensive Plan will require review, research and adoption of commensurate findings.

Update of the transportation element of the Plan was completed in 2002 through a separate effort led by the City's Council Transportation Advisory Committee (CTAC). At that time the CTAC and City transportation planning staff completed the Gresham Transportation System Plan

(TSP). Revised transportation policies, street classifications, modal share targets, a transportation capital improvement program, etc., was approved by the City Council and acknowledged by the state.

The Pleasant Valley Plan also involved a separate planning effort. This was a three-year (1998 – 2002) partnership between the Cities of Gresham, Portland, Multnomah and Clackamas Counties, Metro and Pleasant Valley citizens. The regulatory maps, goals, policies and implementing regulations that will guide urbanization of Pleasant Valley are a direct result of this effort.

The Planning Commission and Council Advisory Committees reviewed all existing policy statements and carefully considered all citizen input as they deliberated on new goals, policies and action measures. A conscious decision was made for existing policy related statements as to whether they should be amended, deleted or retained. Also, new goals, policies and action measures were individually considered to ensure Gresham's unique character and needs are addressed. A careful record has been kept of this process and is available upon request from the Gresham Community & Economic Development Department.

## COMPREHENSIVE PLAN FORMAT

### DEFINITIONS AND OBLIGATIONS OF GOALS, POLICIES AND ACTION MEASURES

Goals, policies and action measures identify the intent of the City to accomplish certain results. The different types of plan statements vary in specificity. Usually, goals are the most general, while policies and action measures are the most specific. The City's obligations under these statements vary according to the type of statement.

The goals and policies are intended to relate to one another. Each goal is followed by supportive policies. The goals and policies in turn are supported by action measures. However, each plan statement can stand alone, either as a goal or policy, which are obligations the City wishes to assume; or as an action measure which is a guide to achieve a desired end.
The Comprehensive Plan is the focus for the City in matters relating to land use. However, a number of other factors should be recognized:

1. The Plan is not the only document which establishes City policies and planning activities. For example, the City must conform to the Municipal Code, state and federal regulations, and intergovernmental agreements. To the extent possible, these requirements are referenced in the Plan.

2. If a policy initiative or process is not addressed by the Plan, the City may still take appropriate action to address it. However, if necessary, the Plan should be amended in this circumstance.

3. Although the goals and policies do not specifically address disaster situations (washed out roads, fire, broken utility lines, etc.), the City's responsibility in areas of safety and public

health may occasionally require emergency actions which would otherwise require adherence to specific permit requirements and findings of plan compliance.

## I. GOAL

Definition - A general statement indicating a desired end, or the direction the City will follow to achieve that end.

Obligation - The City cannot take actions which violate a goal statement unless:

1. Action is being taken which clearly supports another goal, and

2. There are findings indicating the goal being supported takes precedence (in the particular case) over another.

## II. POLICY

Definition - A statement identifying Gresham's position and a definitive course of action. Policies are more specific than goals. They often identify the City's position in regard to implementing goals. However, they are not the only actions the City can take to accomplish goals.

Obligation - The City must follow relevant policy statements when amending the Comprehensive Plan, or developing other plans or ordinances which affect land use such as public facility plans, and land use district and development standards, or show cause why the Comprehensive Plan should be amended consistent with the Statewide Land Use Planning Goals, the Metro Functional Plan or the State Administrative Rules. Such an amendment must take place following prescribed procedures prior to taking an action that would otherwise violate a Plan policy. However, in the instance where specific plan policies appear to be conflicting, the City shall seek solutions which maximize each applicable policy objective within the overall context of the Comprehensive Plan, Metro Functional Plan, Statewide Goals and implementing administrative rules. As part of this balancing and weighing process, the City shall consider whether the policy contains mandatory language (e.g. shall, require) or more discretionary language (e.g. may, encourage).

## III. ACTION MEASURES

Definition – An action measure is a statement that outlines a specific City project or standard, which if executed, would implement goals and policies. Action measures also refer to specific projects, standards, or courses of action the City desires other jurisdictions to take in regard to specific issues. These statements can also define the relationship the City desires to have with other jurisdictions and agencies in implementing Comprehensive Plan goals and policies.

Obligation – Implementation of action measures will depend on a number of factors such as citizen priorities, finances, staff availability, etc. Action measures are guidelines, which the city can encourage applicants to observe. Furthermore, when conditions are appropriate, the city

should seek to be consistent with the intent of action measures when undertaking actions on its own accord.

The City should periodically review action measures to determine which are a priority to be accomplished in view of current circumstances, community needs and the City's goal and policy obligations.

These statements are guidelines for City decision-makers as ways to implement the goals and policies. The list of action measures is not exclusive. It may be added to or amended as conditions warrant.

## INTRODUCTION

### About the Comprehensive Plan

Land use planning involves the consideration and balancing of many different factors and issues to make the best decisions for the community, both for the short and the long-term. The goals and policies of Gresham's Comprehensive Plan are intended to guide the community in making these decisions. The plan is intended for use by all those who have concerns with the City's land use planning process. This includes local elected and appointed officials, City staff, persons with development interests, state, regional and federal agencies, neighborhood and community groups, and citizens of all interests.

This Comprehensive Plan is required by the state to conform with applicable Oregon statewide planning goals and Metro rules. Once acknowledged by the State's Land Conservation and Development Commission as meeting these tests, the Comprehensive Plan is the controlling document for land use and development within the City. All legislative, and many quasi-judicial actions and related activities, including the City's development ordinance and standards, must be consistent with the plan's goals and policies.

There are two main parts to the Comprehensive Plan - a text that includes goals, policies, action measures; and the comprehensive plan maps. The goals, policies and maps are regulatory and intended to guide land use decisions. The Community Development Plan Maps show the land use designations of lands within the City. Other maps include overlay district maps, public facility plan maps, and maps pertaining to the Transportation System Plan. In addition to regulatory Comprehensive Plan maps, other maps may be included in the plan for informational purposes only.

Change is a part of any community's growth and development. It is necessary for the Plan to be responsive to changing conditions. Thus, it needs to be updated periodically. In fact, state law requires jurisdictions to periodically review and update their comprehensive plans every five to seven years. It is expected that Gresham's plan will be periodically updated to meet its own needs for a sound policy base and to comply with state law.

Also, Gresham exists within the Portland metropolitan region. Metro controls the expansion of the Urban Growth Boundary and other important land use planning responsibilities, including

transportation and protection of natural resources. Therefore, Gresham's plan must be updated periodically to take into account and be consistent with Metro's regional planning responsibilities.

There are no parts of Gresham's Comprehensive Plan which can be considered separately from others. The Plan's goals and policies are intended to be supportive of one another. However, when using the comprehensive plan, conflicts between goals and policies may arise. The City has an obligation to make findings which indicate why the goal or policy being supported takes precedence over others. This involves a decision-making process on the part of the City's Planning Commission and City Council, who must balance and weigh the applicability and merits of the plan's many goals and policies.

The Comprehensive Plan, its maps and implementing regulations are the primary focus of Gresham's land use program. However, other planning activities, programs, and documents are also important. These include plans, such as park, recreation, open space and pathway plans; water quality management, and the City's Capital Improvement Plan and others. These are also important to consider when making land use decisions. However, any portion of these plans and any related action dealing with land use must be consistent with the policy direction of the Comprehensive Plan and consistent with the City's Community Development Code.

The Comprehensive Plan and the City's Community Development Code mutually support one another. Together they make up the "City's Community Development Plan." However, the Comprehensive Plan does not contain specific standards for development nor can it be directly applicable to most development actions. Instead it provides the policy foundation for specific standards and procedures within the City's Community Development Code. The Community Development Code is the primary planning tool used to review new development and modifications to existing development.

The Comprehensive Plan's goals, policies and action measures have been organized to reflect the organization of the statewide planning goals that apply to Gresham. The Plan consists of 12 chapters as follows:

| | |
|---|---|
| Chapter 1--Statewide Planning Goal 1 | Citizen Involvement |
| Chapter 2--Statewide Planning Goal 2 | Land Use Planning and Coordination |
| Chapter 3 | Sustainability |
| Chapter 4--Reserved | |
| Chapter 5--Statewide Planning Goal 5 | Open Spaces, Scenic and Historic Areas, and Natural Areas |
| Chapter 6--Statewide Planning Goal 6 | Air, Water, and Land Resources quality |
| Chapter 7--Statewide Planning Goal 7 | Areas Subject to Natural Disasters and Hazards |
| Chapter 8--Statewide Planning Goal 8 | Recreational Needs |
| Chapter 9--Statewide Planning Goal 9 | Economic Development |
| Chapter 10--Statewide Planning Goal 10 | Housing |
| Chapter 11--Statewide Planning Goal 11 | Public Facilities and Services |
| Chapter 12--Statewide Planning Goal 12 | Transportation |
| Chapter 13--Statewide planning Goal 13 | Energy Conservation |
| Chapter 14--Statewide Planning Goal 14 | Urbanization/Annexations and New Communities |

Note: The Gresham Comprehensive Plan is in the process of being updated. The Preface, Introduction and Format section applies specifically to the Goal Chapters that utilize this format. It will apply to all Comprehensive Plan elements when the whole Comprehensive Plan has been updated. The old format and the Definitions and Obligations of Policies and Implementation Strategies will continue to apply to those chapters that are not updated.

(Added by Ordinance No. 1592 passed 9/7/04; effective 10/7/04)

## 10.014 GOAL 2 – LAND USE PLANNING
## LAND USE POLICIES AND REGULATIONS, AND COMMUNITY DESIGN

### Section 1, Land Use Policies and Regulations

### BACKGROUND

#### *Statewide Planning Goal 2: Land Use Planning*

"To establish a land use planning process and policy framework as a basis for all decisions and actions related to the use of land and to assure an adequate factual basis for such decisions and actions."

Statewide Planning Goal 2 requires that:

- City, county, state and federal agency and special district plans and actions related to land use be consistent with the "comprehensive plans" of cities, counties and regional plans adopted under ORS Chapter 268 (Metro),
- Land use plans identify issues, problems, inventories and other factual information for each applicable statewide planning goal,
- Specific implementation measures be developed consistent with and adequate to carry out local jurisdictions' Comprehensive Plan,
- Adoption and subsequent amendment of comprehensive plans and their implementation measures be coordinated with the plans of other affected governmental units, and,
- All adopted land use plans and implementing measures be periodically reviewed and revised to address changed conditions and circumstances.

Gresham's economic future, ability to provide essential urban services and its overall quality of life depend on the types of future urban development that may locate in the City. Property values of existing and future development will determine, to a great extent the ability of the City to provide important urban services. The policy and regulatory structure provided by the Comprehensive Plan and its implementing regulations are important tools in this regard.

The following land use planning goal and implementing policies along with others in the Comprehensive Plan are intended to be the foundations for Gresham's land use regulations. In

general they embody the principle that land use planning is to contribute positively to the community's quality of life.

The context of land use planning in Gresham has changed considerably since the Comprehensive Plan was first updated in 1988 - 89. For example, many new state land use laws have been passed. Also Metro has assumed substantially more authority in managing the Portland Metropolitan Area Urban Growth Boundary (UGB). Metro has also taken lead in several other areas of urban growth and development pertaining to lands inside the UGB. Metro now has jurisdiction over several areas pertaining to regionally significant land use, transportation and natural resource protection matters.

The Metro Council in December 1998 brought the Pleasant Valley area into the Urban Growth Boundary (UGB). An extensive and collaborative planning process followed in 2000. The intent was to develop a "concept plan" necessary to meet the requirements of Title 11 of the Metro Urban Growth Management Functional Plan (UGMFP) for new UGB expansions. This process involved Pleasant Valley residents, Multnomah and Clackamas counties, Gresham and Portland. Many other stakeholders participated, including environmental and development interests.

The Concept Plan was completed in May 2002 and was endorsed by the Pleasant Valley Steering Committee. Acceptance of the Plan by participating governments, including Gresham, followed soon after.

Subsequently, Gresham led the development of the Pleasant Valley Implementation Plan that provides the land use regulatory and public facility framework necessary to implement the Concept Plan. Adoption of the Implementation Plan occurred in summer 2004.

In 2002 Metro added another 18, 250 acres to the UGB, most of it south of Gresham in the Damascus area. Gresham ultimately plans to annex several thousand of these acres into the City. It is expected that much of this area, called Springwater, will be developed for industrial uses. These new economic development opportunities are essential for the city's economic future and ability to fund needed public services. Like it did for Pleasant Valley, Gresham is required to develop both Concept and Implementation Plans for Springwater before annexation and development can occur.

The Pleasant Valley and Springwater Concept Plans will be the basis of "implementation plans" that will be adopted as special area plans. These will be incorporated into the City's Comprehensive Plan when complete. Regulations to implement the plans will also be adopted as part of the City's Community Development Code.

The Goal 2, Land Use Planning Chapter is related to all other parts of the City's Comprehensive Plan. In particular chapters pertaining to Natural Resources, Economic Development, Housing, Public Facilities and Urbanization should also be consulted when using these policies and action measures.

## LAND USE POLICIES AND REGULATIONS GOAL, POLICIES AND ACTION MEASURES

### GOAL

Maintain an up-to-date Comprehensive Plan and implementing regulations as the legislative foundation of Gresham's land use program.

### POLICIES

1. The City's land use program will be consistent with state and regional requirements but also shall serve the best interests of Gresham.

2. The City's land use regulations, actions and related plans shall be consistent with and implement the Comprehensive Plan.

3. Gresham's Community Development Plan Map shall implement the Comprehensive Plan by providing for a range of needed urban land uses including:

    a. Residential;
    b. Commercial and office uses including business parks;
    c. Mixed-Use;
    d. Industrial uses;
    e. Overlay Districts where conditions warrant the use of special regulatory tools, and
    f. Community services where compatible with existing land uses.

4. The City shall promote a development pattern of land uses in the amounts, types and of sufficient economic values to advance the community's quality of life and its social and fiscal stability.

5. The City shall adopt regulations and standards to protect life and property from hazardous/harmful conditions related to land use activities. These include, but are not limited to traffic conditions, inadequate public facilities, flooding, landslides and other natural hazards.

6. The City shall, consistent with applicable laws, ensure that all required public facilities and services are available or committed prior to development approval and are constructed or provided concurrently with development or prior to development occupancy.

7. The City shall institute fees, charges and other measures to ensure it is compensated for development impacts on public facilities and for providing development related services.

8. The City shall require all development to conform to its land use regulations and standards.

9. The City shall require new development to address the need for compatibility between itself and adjacent land uses to minimize conflicts between differing uses and building types.

10. Gresham shall require all development to conform to site design/development standards including those necessary to accomplish the objectives of specific sub-area plans.

11. The City's land use regulations shall identify and protect designated significant natural resources. These regulations shall have sufficient flexibility to allow development to adapt to unique and difficult conditions.

12. The City shall establish design standards to assure quality development and enhance the community's attractiveness and livability.

13. The City may allow single-family residential subdivisions and multi-structural commercial, institutional, industrial and multi-family projects to be submitted as planned developments to promote innovative design, protect natural resources and open space areas and to provide flexibility necessary for developers to adapt projects to site conditions.

14. The City's public facility plan and its other facility master plans shall be coordinated with the requirements of projected growth within its urban services boundary and those Urban Growth Boundary Areas that may be added to the City at a future date.

15. Applicants shall bear the burden of proof when proposing to amend the Community Development Plan Map or the Comprehensive Plan text to show compliance with approval criteria. This includes applicable Comprehensive Plan goals and policies.

16. In addition to applicable Comprehensive Plan goals and policies, amendments to Gresham's Comprehensive Plan Map shall be subject to the following other criteria:

    a. Public facilities and services shall be available and of sufficient capacity to serve land uses allowed by the proposed land use district designation;

    b. Land uses allowed in the proposed designation shall not negatively impact existing or planned public facilities and services;

    c. Land uses permitted in the proposed designation shall be compatible or capable of being compatible with environmental conditions and surrounding, existing land uses;

    d. Land uses allowed in the proposed designation shall be developed in compliance with all applicable regulations and standards and the purposes of any applicable overlay district shall be fulfilled;

    e. Demonstration that there is an inadequate amount of developable designated land for land uses that would be allowed by the new designation;

    f. The new land use designation shall fulfill a proven community need such as goods, services, employment, housing, public and community services, etc., in the particular location versus other appropriately designated and developable properties.

17. The City shall allow concurrent applications to amend the Comprehensive Plan and Community Development Plan Map and for development plan approval of a specific land use. The City may condition a Plan Map change based on the development of a specific land use.

18. When it is not definitively clear that a land use designation allows a specific use, the City may interpret that a "similar" use may locate in the district under a Type III process. The City's interpretation shall include specific findings that the "similar use" has characteristics comparable to land uses allowed in the district.

19. Applicants shall bear the burden of proof to demonstrate that proposed land use actions are consistent with applicable Community Development Code regulations and standards, Comprehensive Plan criteria, and when necessary, the requirements of the state and other agencies.

20. The City shall periodically review and update the Comprehensive Plan text and the Community Development Plan Map(s) to ensure they remain current and responsive to community needs; provide reliable information and dependable, factually based policy direction, and conform to applicable state law, administrative rules, and regional requirements.

21. Council may, upon finding it is in the overall public interest, initiate legislative processes to change the Comprehensive Plan text and Community Development Plan Map(s) and Development Code.

22. The Planning Commission may at any time recommend to Council that it consider initiating legislative code, plan text or map amendments.

23. Gresham shall coordinate the development, adoption and amendment of its land use related goals, policies and implementing measures with other affected jurisdictions, agencies and special districts.

24. The City shall protect the economic development value and jobs potential of its designated commercial and industrial lands by restricting land uses not supportive of local and regional economic development objectives.

25. Gresham shall adopt measures to ensure the geographic dispersal of special use housing, community services, and multi-family housing to avoid the concentration of these uses and their impacts in specific locales.

26. The City shall, where practical, protect views that contribute to Gresham's identity such as Mt. Hood, the Columbia River Gorge, streams and riparian corridors and the wooded character of buttes and hillsides.

27. The City shall require utility lines and associated equipment to be installed underground for all new development except for instances where it can be shown that this is not possible.

**ACTION MEASURES**

1. Improve the quality of Gresham's streetscapes through design review of development.

2. Preserve lands subject to natural hazard as open space.

3. Preserve a "green corridor" along U.S. Highway 26 between the Cities of Gresham and Sandy.

4. Develop and periodically update a citywide Public Facilities Plan (PFP) to guide the location, financing and timing of future public facilities. Coordinate the preparation and adoption of the PFP with other affected jurisdictions, agencies People's Utility Districts and other special utility districts / authorities.

5. Enter into Urban Growth Management Agreements (UGMA) with Multnomah and Clackamas Counties to ensure proper interim land use planning for lands within the Urban Growth Boundary (UGB) planned to become part of Gresham.

6. Coordinate review of development proposals with the school districts to provide information regarding impacts on the local school systems.

7. Prioritize public facility plan projects in the following order:

    a. Correction of system deficiencies required for public safety;
    b. Protection of Gresham's existing infrastructure investments;
    c. The need to provide services to allow development on high-value industrial lands per City policy;
    d. Provision of cost effective service to allow new development to occur within the City limits except when services are paid for by the developer/property owners; and
    e. Provision of service necessary for annexation of unincorporated areas, except when the cost of services is paid for by the property owners/developers.

8. Consider the following when planning for new public facilities and services:

    a. The costs and benefits of facility expansion beyond the City limits; and whether the costs of such expansion can be equitably allocated to those creating the demand for expansion;
    b. The need to accommodate future land uses, population and employment growth;
    c. The financial capacity of the City and its ability to recover both capital and maintenance costs of services;

d. The environmental impacts of facility construction on natural resources, including wetlands, stream corridors and water quality.

9. Coordinate the planning for new public facilities and services and major capacity upgrades with other potentially affected jurisdictions, agencies, people's utility districts and other public service districts.

10. Annually review the costs of providing land use planning services and financial impacts of development on public facilities and services. When necessary revise development related fees and system development charges to cover the City's costs.

11. Revise the Comprehensive Plan Text, Map and related findings as needed to maintain its reliability and timelines to ensure consistency among goals, policies, implementing measures; accuracy of findings and compliance with regional, state and federal laws and rules. This includes review by the Planning Commission every two years; a formal evaluation every five years and an overall update at least every ten years.

12. Monitor and evaluate whether City actions and resulting community conditions and circumstances are consistent with the goal and policy directions of the Comprehensive Plan and, when appropriate, take actions to either:

    a. Amend the Plan to ensure it corresponds with current community conditions and circumstances, and/or

    b. Change City actions, procedures, regulations or standards to be consistent with the Comprehensive Plan.

13. Monitor actions, programs and policies of federal, state and regional governments and when appropriate amend the Comprehensive Plan to be consistent with new laws and administrative rules.

14. Develop and adopt district plans when necessary to enhance opportunities for economic development, social vitality and other quality of life aspects of specific areas.

15. Allow mixed-use commercial, employment and residential development to support transit use, enhance neighborhood economic and social vitality and provide for a range of housing opportunities / options.

16. Require applicants, prior to application for land use approval, to discuss applicable development proposals with staff and neighborhood groups and City staff.

## Section 2, Community Design, Trees and Other Vegetation

## BACKGROUND

### *Statewide Planning Goal 2: Community Design – Trees and Other Vegetation*

### Vegetation and its Importance

Trees and other types of vegetation are integral to the quality of Gresham's urban and natural environments. Vegetation is valuable for its aesthetic qualities and contribution to air and water quality, stormwater retention and wildlife habitat. When appropriately used, vegetation moderates temperatures by providing shade and windbreaks. It is also essential for soil stability and erosion control. Native and ornamental vegetation is also essential to the quality of the city's parks and open spaces by providing a comfortable and aesthetic setting to support active and passive recreation.

Much of the native vegetation in Gresham's Urban Services Boundary (USB) has been displaced, first by agriculture and logging, and more recently by urban development. Also, competition from introduced invasive species such as English ivy, reed canary grass, and Himalayan blackberries has made it difficult for native plant communities to thrive. However, many areas of environmentally significant vegetation still remain within the USB. These natural resource sites include vegetation on steep slopes, within stream corridors and along the Columbia River and its sloughs and wetlands. Gresham also has many outstanding non-native trees and ornamental plant materials that date to when the community was a rural center for the outlying agricultural region.

Tree groves within Gresham's Urban Services Boundary include coniferous, and mixed deciduous/coniferous stands of trees. The area's remaining forested areas and tree groves are located mostly on steep hillsides, in or near wetlands, and along rivers, streams or sloughs. Tree groves are valuable wildlife habitat, recreation, and aesthetic resources. Forested areas also contribute to air quality, provide wildlife habitat, shade, and stabilize steep slopes.

The Gresham area has both emergent wetlands, where grasses are the dominant plant community, and forested wetlands, which are dominated by trees and woody vegetation. Vegetation is essential for wetlands to perform the important natural functions of stormwater storage, improvement of water quality, erosion control, ground water recharge, and fish and wildlife habitat.

Stream corridors are located throughout the Gresham area. Vegetation within stream corridors lessens downstream flooding and benefits water quality by slowing runoff and preventing erosion. Also, stream corridors provide vegetated corridors necessary for wildlife habitat, including travel and nesting.

Landscaping and tree plantings on private and public property enhance the aesthetic character of Gresham and also provide other benefits such as shade, wildlife habitat, and buffering and screening between different types of land uses.

### Efforts to Protect and Enhance Trees and Vegetation

Gresham has taken a proactive position towards protecting and enhancing the City's trees and vegetation. For example, the City's Community Development Code requirements for site design review (Article 7, Site Design Review) requires landscaping and tree protection measures for new multi-family, industrial, commercial, mixed-use and manufactured park development. The City's code also requires vegetation as part of buffering and screening between dissimilar land uses (Article IX, Section 9.0100 – 9.0110). Furthermore, parking lots are required to have special landscape treatment pursuant to Community Development Code, Section 9.0824.

The City also requires the protection and sometimes restoration of vegetation when development occurs in the following overlay districts - Floodplain District; Hillside Physical Constraint District; Natural Resource District, and Water Quality Resource Area District. Also, the Downtown and Civic Neighborhood Plan Districts require new development to provide special landscape treatments. The purpose is to enhance the unique design quality and character of the two districts.

The City of Gresham seeks to provide a level of protection for existing trees per Community Development Code Section 9.1000. This section seeks to preserve significant trees; control cutting of trees and retain trees and wooded areas. Tree removal permits are required if a certain size and number of trees are proposed to be removed. Also, the standards require permits for removal of a significant tree(s). A significant tree(s) is defined by the Development Code as a tree or group of trees that have been designated by the City as having unique importance. Removal of a significant tree or trees requires mitigation in the form of planting new trees. This section of the Code also regulates removal of trees in several of the City's Overlay Districts.

Gresham's citizens are involved in protection and management of the City's trees. Gresham Revised Code provides for the establishment of a Tree Preservation Council Advisory Committee consisting of seven members, five of which must have expertise with trees such as arborists, nursery operators, landscape architects or foresters.

The purpose of the committee is to advise the City Council and make recommendations to Council and the Planning Commission regarding preservation and protection of trees. The committee is also responsible for recommending designation of significant trees and maintaining and updating the significant tree list. Also, the committee engages in public education regarding topics such as tree protection, pruning and other maintenance activities.

## GOAL, POLICIES AND ACTION MEASURES

### GOAL

Protect and enhance the environmental and aesthetic contribution of trees and other vegetation.

## POLICIES

1. The City shall establish regulations to protect and, when necessary, restore trees and other vegetation to support community aesthetics, maintenance and/or improvement of water quality, erosion control and stability of slopes and unstable soils.

2. The City shall condition development approval to require preservation of existing trees and mitigation of the consequences of tree/vegetation removal.

3. The City shall protect environmental quality and public safety by:

    a. Regulating removal of trees and other vegetation on steep slopes, within floodplains, natural resource (Goal 5) overlay areas, water quality resource overlay areas and in tree groves and other forested areas.

    b. Instituting regulations and practices to prevent and immediately resolve hazards such as falling limbs and trunks and dangerous conditions caused by tree removal such as blow-down, landslides, soil erosion, and altered hydrology.

4. The City shall require:

    a. Installation of trees and other landscaping with all development, including single-family homes, residential subdivisions, major partitions, multi-family development, manufactured home parks, institutional, commercial, and industrial land uses, and

    b. Tree types and other plant materials installed as conditions of development approval are appropriate for the site conditions in which they are planted to ensure development of viable landscapes and not adversely affect adjacent property owners

5. The City shall require tree planting and other landscaping within and adjacent to parking lots to provide shade, aesthetic enhancement and buffering and screening of parking areas from dissimilar land uses.

6. The City shall require and enforce ongoing maintenance of natural vegetation and landscaping required as conditions of development approval.

7. The City shall require compliance with its tree regulations and conditions of development approval, and shall establish and enforce regulations whenever necessary to preserve trees, ensure development occurs per city standards and to deter vandalism and unauthorized removal of city trees.

8. The City shall protect trees and other vegetation when it designs and constructs public works projects. Mitigation of removed vegetation shall occur.

9. The City shall ensure its various codes, regulations and standards relating to landscaping, site development, tree protection and removal are consistent with and supportive of one another.

10. The City shall ensure that its street design and land use standards provide ample room and building setbacks to allow for tree planting.

11. The City shall establish an ongoing street tree program to enhance Gresham's livability by improving the aesthetic and environmental quality of its streets and neighborhoods.

**ACTION MEASURES**

1. Work with other jurisdictions, agencies, property owners and environmental organizations to protect wetlands, steam corridors, riparian areas, upland tree groves and other significant vegetation both within the City and on lands designated for future urban growth.

2. Maintain and periodically update approved tree lists for specific applications and site conditions such as street trees, parking lot trees and trees for wetland and riparian areas. These lists should allow flexibility to choose a wide variety of species that are proven suitable for local climate conditions and for specific uses and locations.

3. Protect and enhance the scenic quality of Gresham's trees and vegetation such as along creeks and rivers and as scenic backdrops on the City's buttes.

4. When necessary apply conditions of development approval to assure ongoing maintenance of trees and other vegetation required as part of development approval.

5. Assure coordination occurs between city and private utilities regarding actions that involve tree planting, protection, maintenance and removal.

6. Work with property owners to promote the preservation of large trees, tree groves and historic individual trees through the Significant Tree Program.

7. Ensure development actions comply with the City's landscape standards and tree protection ordinances.

8. Allow development to use planned development procedures to preserve tree groves and maintain natural open space.

9. Where possible, with all public street projects, require sufficient room within the right-of-way to plant street trees. Trees may be planted either within planter strips or at the back of sidewalks. When adequate planting area cannot be provided, required street trees may then be planted on private property.

10. Evaluate streets that have inadequately sized planter strips to determine if street trees can be planted elsewhere in the right-of-way or on private property.

11. Encourage preservation of significant tree groves and other natural resources through dedication of conservation easements, sale of development rights, and other voluntary actions including property donations.

12. Support efforts by community groups and neighborhoods to plant trees and undertake other projects such as restoration of wetlands and stream corridors.

13. Develop and maintain an automated data system that tracks tree removals and the status of the City's tree canopy.

14. Utilize impartial consulting arborists as early as possible in the Development Review process to provide advice about how to properly address and resolve tree protection issues.

15. Develop information and provide education for the general public regarding tree maintenance and protection, tree planting and the use of drought tolerant, low maintenance landscaping.

16. Provide incentives to encourage developers to preserve trees and other significant vegetation.

17. Encourage the installation of landscapes that are low maintenance, drought tolerant and require minimal chemical applications.

18. Prohibit through the development review process, the use of nuisance and invasive plant materials such as English Ivy. Otherwise, discourage the sale and propagation of these plant materials and encourage their removal.

19. Develop an Urban Forestry Management Master Plan and ultimately implement a citywide urban forestry management program.

20. Emphasize, where conditions allow, the planting of trees that will grow large, including long-lived evergreens and broad spreading deciduous varieties. Large trees are particularly important for their aesthetic and environmental contributions.

21. Develop tree-mitigation regulations / standards to guide the City in assessing fees or compelling compensatory action resulting from violation of its tree protection standards and / or conditions of development approval.

22. Allow flexibility in site design, particularly in parking lots to allow tree planting in areas where survival will more likely occur, particularly for trees, which achieve significant size. Trees are more likely to die in narrow interior parking lot strips.

(Added by Ordinance No. 1592 passed 9/7/04; effective 10/7/04)

# 10.100 CHAPTER 1
# CITIZEN INVOLVEMENT

## BACKGROUND

Since its inception in 1980, the comprehensive plan has strived to represent the interests of Gresham citizens. Citizen participation is integral to the planning decision making process, including updates to the Comprehensive Plan. A broad collection of officially recognized and supported citizen groups, including council advisory committees and neighborhood associations, advise the City Council, Planning Commission and other City officials on a regular basis. In addition, planning efforts are also informed by a variety of ad-hoc groups and various citizen involvement techniques.

The original comprehensive plan document, called the Community Development Plan, was developed in 1980, with substantial citizen involvement, thorough review and public hearings. For the subsequent 1988 update to the plan, six task forces were organized around major issues: natural/cultural resources; economic development; housing; signs; public facilities; and the Periodic Review Committee, which served as the clearinghouse for recommendations of the other task forces. The 1980 and 1988 planning efforts included broad representation of community interests and geographic areas. A citizen involvement coordinator was hired during the plan's conception and update in order to facilitate good communication between the City and its citizens.

Not only is citizen involvement critical to City planning efforts, but it also is a required component of the Oregon statewide planning program, as indicated by Statewide Planning Goal 1, Citizen Involvement.

> ***Statewide Planning Goal 1: Citizen Involvement. To develop a citizen involvement program that ensures the opportunity for citizens to be involved in all phases of the planning process.***

The wording of this goal signifies two important facets of the statewide planning system as it relates to Gresham. First, the vision and needs of local citizens drive the creation of comprehensive planning and related local documents. Second, while the comprehensive plan is required to meet a variety of state rules and standards, it should come from the Gresham community. Local citizen ownership of the Comprehensive Plan is vital to its success.

### Summary of Major Issues

The following are some of the major issues that were considered in planning for citizen involvement in Gresham:

*Current Citizen Involvement Framework*

Since the 1980 and 1988 comprehensive planning efforts, citizen involvement has expanded dramatically in Gresham. Gresham has formed many permanent commissions, citizen committees, and neighborhood associations. The City also coordinates efforts with a number of organizations within the community, the County and the region. For specific planning projects, a variety of techniques are utilized to garner public input, including community forums, stakeholder meetings and surveys.

Gresham has a variety of commissions, committees and task forces that advise on a wide variety of subjects. Some of these groups are called upon to make recommendations on comprehensive planning and Community Development Code issues. The primary organizations that provide advice on planning issues are listed below.

- Planning Commission. Central to the development of the Comprehensive Plan is the Planning Commission. This group of appointed community representatives is the "keeper of the plan" and therefore, serves an important citizen involvement function. The Commission conducts public hearings, advises council on land use issues and makes some land use decisions *(Article 2.20, Gresham Revised Code).*
- Citizen Involvement Committee. The function of the Citizen Involvement Committee is to help the City maintain an effective citizen involvement program in all phases of the land use planning process *(Article 2.36, Gresham Revised Code).*
- Community Development and Housing Committee. The CDHC gathers citizen comments, makes recommendations to the Council and provides leadership in promoting public education and understanding on matters pertaining to community development and housing for low and moderate income persons *(Article 2.28, Gresham Revised Code).*
- Rockwood Action Plan Implementation Committee. The purpose of RAPIC is to monitor the progress of the Rockwood Action Plan, and to advise the City Council concerning the implementation of the plan *(Article 2.38, Gresham Revised Code).*
- Gresham Transportation System Council Advisory Committee. This group assists in the development of the Transportation System Plan (TSP) and advises on public involvement for transportation programs *(Article 2.54, Gresham Revised Code).*
- Other Committees. Periodically land use projects require specialized input from citizens committees, such as Parks and Recreation Advisory Committee, Gresham Progress Board, Tree Preservation Committee and the Historic Resources Advisory Committee. The Council periodically establishes a temporary advisory committee or task force to assist with a specific project *(Article 2.18 Gresham Revised Code).*
- Neighborhood Associations. Neighborhood Associations are formally recognized in Gresham in order to facilitate communication with the City. Neighborhood Associations are provided with a variety of opportunities to participate in the planning process. For example, in many instances prospective developers are required to meet with affected Neighborhood Associations to discuss development proposals prior to submitting an application. *(Article 2.60, Gresham Revised Code).*

*City Roles in Citizen Involvement*

The City provides significant opportunity for citizens to be involved in the planning process by fulfilling three inter-related roles depicted in Figure 1.

- Coordination Role. The City fulfills its coordination role by providing the structure for citizen involvement to occur, such as establishing advisory committees; codifying citizen involvement rules in various official documents; and providing staff and funding for citizen involvement activities. Without this underlying structure, the back and forth communication to and from citizens could not occur.
- Communication Role. The City fulfills the communication role by developing ways to give information to the public on planning issues. The communication method takes a variety of forms, and the City is always looking for creative ways to deliver information more effectively. Some examples include posting notices, creating document summaries, newsletters, holding meetings on topics of interest, using utility bill mailings to inform residents and maintaining a web site on current projects.
- Facilitation Role. On the flip side of the communication role is the facilitation role, which allows the City to gather input from the public. This role is manifested in several forms, such as public meetings, community forums, small group meetings and citizen surveys. In addition to citizen input on longer range Comprehensive Plan and Community Development Code updates, the City also works to provide opportunities for citizen input on specific site development proposals.

**Figure 1. 1**

## CITIZEN INVOLVEMENT GOAL, POLICIES AND RECOMMENDED ACTION MEASURES

### GOAL

The City shall provide opportunities for citizens to participate in all phases of the planning process by coordinating citizen involvement functions; effectively communicating information; and facilitating opportunities for input.

### POLICIES

1. The City shall ensure the opportunity for citizen participation and input when preparing and revising policies, plans and implementing regulations.

2. The City shall consider the interests of the entire community and the goals and policies of the Comprehensive Plan when making decisions.

3. The City shall foster regular and ongoing two-way communication between citizens and City elected and appointed officials.

4. The City shall provide opportunities for meaningful citizen involvement on site development proposals.

5. The City shall keep citizens informed of issues confronting the City.

6. The City shall ensure that technical information necessary to make policy decisions is readily available.

7. The City shall facilitate involvement of citizens in the planning process, including data collection, plan preparation, adoption, implementation, evaluation and revision.

8. The City shall ensure that citizen concerns are considered in land use decisions and shall provide feedback to the public regarding how these concerns have impacted decisions.

9. The City shall ensure that citizen involvement plans and activities incorporate Gresham's diverse constituencies regardless of age, sex, religion, social or business affiliation.

10. The City shall ensure the opportunity for the public to be involved in all phases of planning projects and issues.

11. The City shall ensure that the public has complete and timely access to all public information concerning land use projects and issues. This includes private development proposals once they are in the formal application process.

### ACTION MEASURES

### Coordination Role

1. Establish council advisory groups and ad-hoc committees to advise staff, the Planning Commission, and City Council regarding land use issues by:

    a. Maintaining a Citizen Involvement Committee to assist the Mayor, Council, Planning Commission and staff in developing and implementing a program to promote and enhance citizen involvement in land use planning.

    b. Providing City staff to help with committees and citizen involvement activities, including a Citizen Involvement Coordinator position.

    c. Forming specific advisory committees to provide input into land use topics.

    d. Evaluating the citizen involvement program on a bi-annual basis.

2. Ensure that the input, information, factual contributions and expertise provided by citizens is considered when making decisions about land use issues by:

    a. Accurately relaying pre-hearing public comment and other information to the Planning Commission, and

    b. Reflecting public testimony in the relevant hearing record and findings.

3. Facilitate the formation of neighborhood associations and allow representatives to provide official recommendations to the City Council, Planning Commission and the City Manager on matters affecting the livability of the neighborhood.

### Communication Role

4. Keep the public informed of opportunities for involvement in all phases of land use planning issues by:

    a. Providing adequate notice for all citizen involvement activities. This includes contact with citizens:

        i. As early as possible of pending land use actions, and

        ii. Throughout the land use processes including informational meetings, work sessions, and public hearings.

    b. Keeping the public informed of opportunities for involvement in land use planning using a range of available media including the Internet, newspaper notices, mailings, newsletters, television and meetings. The special needs of Gresham's diverse citizenry (i.e., language, literacy skills) shall be considered.

    c. Providing timely and accurate follow-up to citizen inquires and requests for information.

5. Provide citizens timely access to all public information related to land use matters under consideration by:

a. Ensuring that planning information is available at City Hall,

b. Making available copies of all technical information, planning documents and staff reports through the Community & Economic Development Department and other locations, as appropriate, and

c. Having CEDD staff available to interpret information and provide consultation to citizens.

6. Communicate information clearly and effectively by:

a. Producing summaries of important documents that are long or complex.

b. Producing informational documents describing City processes.

c. Making documents such as the Comprehensive Plan and Community Development Code readily available.

d. Maintaining current information on electronic information systems and using these mediums to solicit public input.

e. Translating, when appropriate, summary minutes, flyers or other information into languages prominent in Gresham.

7. Engage in outreach activities to inform and encourage public involvement by:

a. Providing a Speakers Bureau consisting of planners, local officials or others willing to speak to neighborhood associations, civic clubs and classes about planning and related issues.

b. Holding community meeting in areas where development activity or other circumstances have resulted in public interest and concern.

c. Considering times, days and locations to maximize potential public participation.

**Facilitation Role**

8. Facilitate citizen input into the process for revising local land use plans and ordinances by:

a. Ensuring that the public has the opportunity to participate in the formulation of plan policies and review of measures to implement local planning objectives.

b. Ensuring that the public has the opportunity to review and comment on proposed changes to the Gresham Comprehensive Plan and Community Development Code prior to public hearings on the proposed plan amendments.

c. Utilizing existing advisory committees to review and make recommendations on revisions to the Comprehensive Plan and Community Development Code, which are intended to change the meaning or purpose of goals, policies or regulation.

d. Appointing special purpose advisory bodies to aid in the development and implementation of Comprehensive Plan and Community Development Code elements.

e. Providing information about what public input has been made during the planning process. Include this detail in meeting minutes, staff reports, planning documents and other publications. Create reports that provide information on public input from open houses and community forums.

9. Make public participation processes user-friendly by:

   a. Holding widely advertised public hearings in accessible meeting rooms,

   b. Providing public comment periods at all public meetings to allow citizens to speak on topics not necessarily on the agenda,

   c. Publicizing comments, ideas and recommendations obtained at community meetings and through the planning process, and

   d. Considering times, days and locations to maximize potential public participation.

10. Encourage broadly based public participation including all geographic area and diverse interests by:

   a. Emphasizing open communication between developers and neighbors about compatibility issues,

   b. Seeking citizen input through service organizations, interest groups and individuals, as well as through neighborhood associations, and

   c. Ensuring prospective developers comply with City requirements for early neighborhood involvement with affected neighborhoods.

11. When appropriate, provide culturally sensitive participation opportunities, which may include language translation and interpretation.

(Amended by Ordinance No. 1592 passed 9/7/04; effective 10/7/04)

# 10.200 AREAS SUBJECT TO NATURAL HAZARDS

## STATEWIDE PLANNING GOAL 7: AREAS SUBJECT TO NATURAL HAZARDS

"Protect people and property from natural hazards"

Statewide Planning Goal 7 requires that development not be allowed to locate in known areas of natural hazards where it would be at risk of property damage and/or loss of life without appropriate safeguards. Comprehensive plans are to provide an inventory of known natural hazard areas and require measures to prevent or minimize risks to people and property. Goal 7 defines natural hazards as: "floods (coastal and riverine), landslides, earthquakes and related hazards, tsunamis, coastal erosion and wildfires". At a minimum and where applicable, local governments must address the areas where these hazards can occur. At their discretion, they may also identify and plan for other kinds of natural hazards as well.

## 10.210 AREAS PRONE TO FLOODING

### BACKGROUND

*Overview – Flooding in Gresham*

Because of Gresham's topography, flooding does not pose as significant a hazard to broad areas of the community as it may for other cities within the northern Willamette Valley and along the lower reaches of the Columbia River. The only major river near Gresham is the Columbia River but a dike located near the shoreline (along N.E. Marine Dr.) as well as a dam system upriver essentially protects Gresham from any severe flooding that would otherwise be caused by this large intrastate waterway. In addition, Multnomah County Drainage District #1 maintains the dike and a system of drainage ditches and pump stations immediately south of the dike, from Troutdale to the Willamette River in Portland. These facilities help to minimize flooding in the entire Columbia River South Shore area.

However, waters from major flood events (e.g. 100 year floods) do inundate lands adjacent to other less significant water bodies in the area. These are the Columbia Slough, Johnson Creek, Fairview Creek and, to a lesser degree, Kelly Creek and Burlingame Creek. The 100-year floodplain areas associated with these streams are shown on Map # 1.

Within these areas flooding can pose a significant hazard. Its effects range from inconvenience to the potential for loss of life and property. Development and other activities within the floodplain such as filling and removing vegetation can make flooding worse by decreasing the area available for the storage and conveyance of floodwaters. When this occurs floodwaters are displaced onto lands not previously subject to flooding. Also, the velocity of floodwaters is often increased. Furthermore, buildings and bridges within the floodplain can function as dams during flooding and cause greater upstream inundation.

Urban development also increases the potential for flooding. This is because buildings and impermeable surfaces such as pavement cover lands that rainwater was once able to soak into.

Natural features like wetlands and riparian areas function as "natural sponges" that absorb and then gradually release surface water runoff. When these features are lost to urban development and replaced by pavement and buildings, storm water immediately flows into streams. This increases both the velocity and volume of water that the floodplain must accommodate. Often the result is an increase in the height of the floodplain and greater flooding.

The annual flood season in northern Oregon extends from October to April. The greatest potential for flooding occurs during December and January, when water-laden soils and streams can no longer convey runoff from heavy winter rains. This is often accompanied by runoff from the melting of lower elevation snow in the Cascades, such as occurred during the 1996 winter flood. Infrequent but intense rain events of relatively short duration can also cause local flooding during the summer months. An example is a two-hour thunderstorm that occurred in Gresham on 8/25/04, which flooded parking lots and streets.

### *The FEMA Program & Gresham's Participation*

Gresham participates in the National Flood Insurance Program, which is administered by the Federal Emergency Management Agency (FEMA). FEMA develops national standards for developing in floodplains and conducts floodplain insurance studies. Floodplain insurance studies are used by FEMA to identify 100 yr. floodplains (or "flood hazard areas"), assess risks of developing in floodplains and to establish flood insurance rates. A 100-year flood, which is also called the "base flood," has a 1 percent chance of occurring in any one year. Other federal, state, and local sources are used to estimate the floodplain's location if an area subject to flooding has not been mapped by FEMA. FEMA provides Gresham with maps and a study that identifies the 100-year floodplain of major streams as well as the elevation/cross section of the floodplain at various points along a particular stream. These maps and study are made available to the public at the City's Permits Center. The most recent FEMA floodplain study for Gresham was completed in 2002 for the Kelly Creek floodplain.

The Flood Insurance Program enables property owners to obtain federally subsidized flood insurance. The program also makes an area eligible for disaster relief if extensive area-wide flooding ever occurs. Participation in the program by local jurisdictions requires them to adopt the FEMA standards and apply them to new development within the mapped 100-year floodplains. They primarily require the first habitable floor of buildings to be elevated at least one foot above the 100-year floodplain elevation as well as requiring that foundations, basements, utilities, etc. be flood proofed and anchored. The City first adopted the original FEMA standards in 1980. The current version of these standards is found in the Community Development Code's Flood Plain Overlay District (Section 5.0100). The overlay district was adopted in 1988. Since then the federal government has updated the FEMA standards and the City has made the commensurate changes to the district.

The floodplain as defined by FEMA is divided into two parts: the floodway and the flood fringe. The floodway is the inner part of the floodplain (nearest to the stream) that conveys the highest velocity floodwaters and it is the most dangerous portion. It is the minimum area needed for the passage of the floodwaters so that upstream flood elevations are not increased. Floodplain

management regulations require preservation of an adequate floodway area to discharge the waters of a 100-year flood without cumulatively increasing the water surface elevation by more than one foot. Consequently, new development generally has to avoid encroaching into the floodway. The flood fringe is the outer area of the floodplain that surrounds the floodway and where floodwaters are usually relatively still. The flood fringe is still subject to flooding but does not contribute appreciatively to the passage of flood flows. Both the floodway and flood fringe are delineated on the FEMA maps.

*Metro Title 3 Floodplain Management Performance Standards*

Flooding and its hazards is also a regional issue. Areas subject to flooding overlap many local jurisdictional boundaries. Title 3 of the Metro Functional Plan, in addition to having water quality protection standards, has standards intended to protect the flood storage capacity of floodplains. The principal requirement calls for new development in floodplains to use a "balanced cut and fill" approach. Balanced cut and fill means that any placement of fill within the floodplain must be compensated by the removal of an equal volume of earth somewhere else in the floodplain portion of a development site. This helps to preserve the storage capacity of the floodplain and prevents it from enlarging and affecting lands not previously subject to flooding. In 1998 Gresham amended its Flood Plain Overlay district (Section 5.0125) to add Metro's Title 3 Floodplain Management Performance Standards.

*Other Gresham Measures to Minimize Flooding*

Gresham has constructed in recent years regional detention ponds to reduce flooding along its streams. The largest is a flood control facility located along Fairview Creek, near Birdsdale Avenue and Division Street. During a flood event, it temporarily diverts peak flows from Fairview Creek into a large engineered pond. After a storm subsides, filtered storm water is slowly released into the creek. Consequently, upstream flooding along Fairview Creek is reduced. Two similar but smaller facilities were constructed along Kelly Creek. In 2002, FEMA conducted a study of Kelly Creek and changed its maps to reduce the creek's previously mapped 100-year floodplain.

The City has had requirements for developers to provide on-site stormwater detention for new development since the early 1990's. These standards also require maintenance of water quality. They are found in Appendix A5.200 of the development code and are titled "Surface Water Management Systems." Design standards for the required storm water detention and water quality facilities are found in the "Gresham Public Works Standards Manual". They require new development to capture and temporarily detain stormwater from its impervious surfaces by using detention ponds, swales, underground tanks, large diameter pipes, etc. Stormwater detention and treatment systems are required to be designed to accommodate storm or rainfall intensity events that, depending upon conditions and the type of development, vary from the 2-year to 25-year storm.

Gresham also promotes green development practices to retain storm water and allow it to infiltrate into the ground instead of contributing to flooding. For example, the City reconstructed S.E. Yamhill Street in Rockwood into a "green street". Green streets allow stormwater to

infiltrate into the ground through the use of pervious surfaces, bio-swales and drywells rather than draining it into catch basins and pipes and then discharging it into streams. Also, Gresham will promote the protection of riparian areas along significant streams and wetlands to allow surface water to soak into the ground.

Green streets and other green stormwater practices will also be applied to Gresham's future urban growth areas, Pleasant Valley and Springwater. The urban development plans/standards for these areas will emphasize directing new development away from floodplains and protecting them as part of an environmental zone. In addition, development standards for these areas will require using natural storm water management processes (e.g. infiltration, planting trees for greater evapotranspiration) to reduce the runoff and flood hazard potential from new development.

## SUMMARY OF MAJOR ISSUES

The following are some of the issues, circumstances and conditions, which were considered in the update of this Comprehensive Plan chapter.

- Flooding in Gresham is confined to relatively small areas near its creeks. The Marine Drive dike and the other drainage facilities located in the South Shore area, which are maintained by Multnomah County Drainage District #1, help prevent major flooding by the Columbia River.
- The City first adopted the FEMA regulations for developing in floodplains in 1980.
- The Community Development Code's Flood Plain Overlay District was adopted in 1988. It has been amended since to be consistent with new FEMA rules.
- The most recent FEMA floodplain study for Gresham was completed in 2002 for Kelly Creek.
- Flooding is a regional issue because many waterways, such as Johnson Creek, cross jurisdictional boundaries. In response, Metro adopted flood plain management regulations as part of its Functional Plan **(**Title 3) in 1997. Metro standards require "balanced cut and fill" when fill is placed within the 100-year floodplain. Gresham incorporated these standards into its Community Development Code in 1998.
- Gresham seeks to reduce flooding impacts of existing and new development by constructing regional storm water detention facilities; requiring new development to provide on-site storm water detention; protecting undeveloped riparian and floodplain areas and where possible utilizing green practices.

## GOAL, POLICIES AND ACTION MEASURES

### GOAL

Protect life and property from flood hazards.

### POLICIES

1. The City shall take measures to protect the floodwater conveyance and storage capacity of its floodplains.

2. The City shall continue to participate in the National Flood Insurance Program, comply with Federal Emergency Management Agency (FEMA) and Metro Title 3 Floodplain Management Standards, and when necessary, amend its Flood Plain Overlay District map and standards accordingly.

3. The City shall maintain and make available to the public, a current inventory of Gresham's 100-year floodplain areas as mapped by FEMA and the Army Corps of Engineers.

4. The City shall require new development to utilize surface water management practices, which reduce the potential for flooding.

5. The City shall preserve the floodwater storage and conveyance capacity of floodplains in new urban areas, including Springwater and Pleasant Valley, by minimizing development within floodplains.

6. The City shall protect its wetlands, watercourses and their riparian edges in order to safely contain and gradually convey floodwater and allow it to infiltrate into the ground as much as possible.

7. The City shall use federal, state and local sources to estimate the floodplain's location if an area suspected to be subject to flooding has not been mapped by FEMA. The City shall require the applicant to provide the necessary information needed to substantiate flood boundaries and elevations.

### ACTION MEASURES

1. Provide information to citizens and developers about the public safety, economic and environmental benefits of protecting the water conveyance and storage capacity of the City's flood plains.

2. Coordinate with other agencies, special districts and jurisdictions drainage basin master plans, capital improvement plans and proposed flood protection strategies that affect shared watersheds and streams.

3. Coordinate with the Army Corps of Engineers, FEMA and other responsible state, regional, and local agencies regarding:

    a) Review and update of floodplain maps and regulations needed to comply with federal standards, and

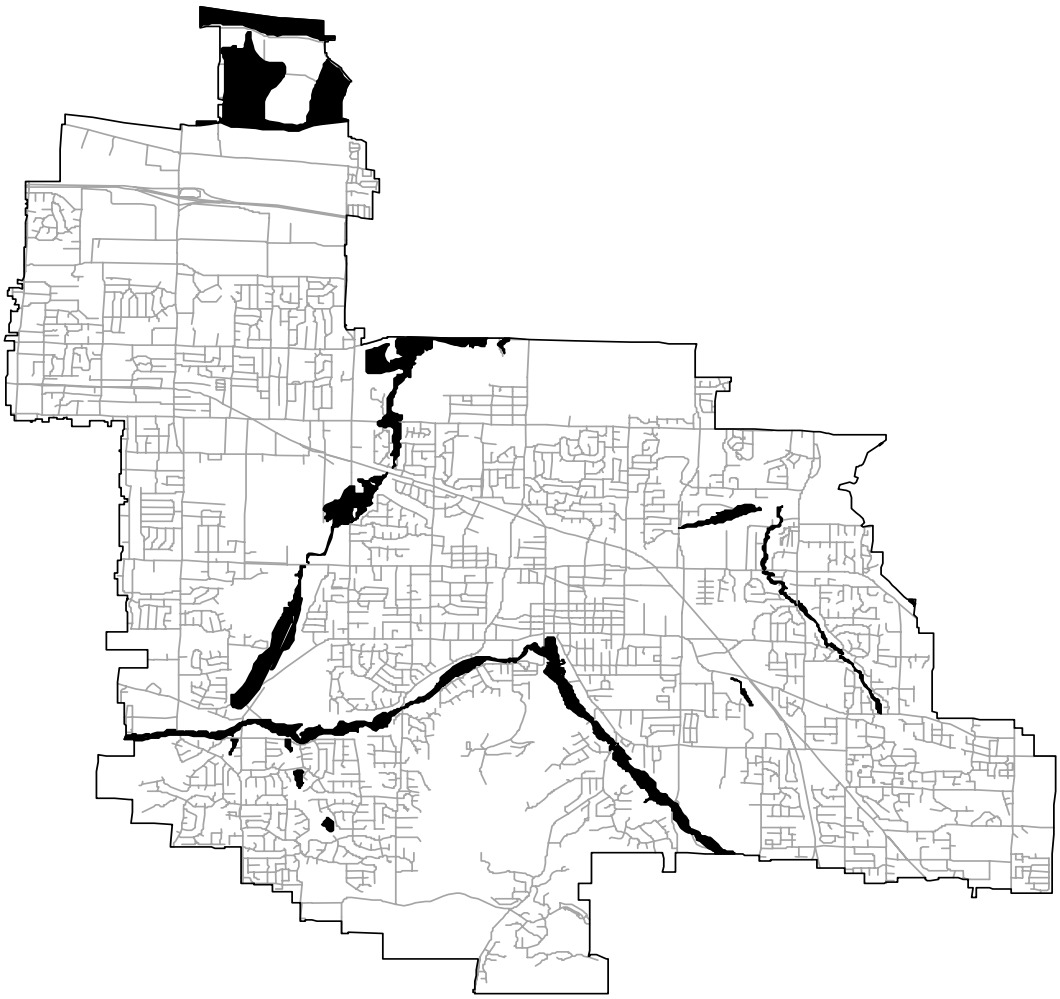
    b) Emergency operations planning necessary to protect life and property during a major flood event.

4. Where practical and as resources become available, restore the floodwater storage and conveyance functions of wetlands and natural watercourses.

5. Promote the public acquisition of property and easements within floodplains needed for the conveyance and storage of floodwaters and which can also be used for complimentary uses such as open spaces, wetlands restoration, passive recreation opportunities and regional stormwater detention facilities.

**Map No. 1**

FEMA 100-year Floodplains



## 10.211 STEEP SLOPES & LANDSLIDES

### BACKGROUND

*Overview*

Landslides are the downslope movement of rock, soil or related vegetation/debris. Geologists use the term "mass movement" to describe the different types of landslides such as rock fall, soil creep, slump, mudflow or debris flow. These kinds of earth movement can cause severe property damage and loss of life. Landslides are naturally occurring and relatively common in western Oregon especially near the coast, Cascades and within the Columbia Gorge, depending upon local geology, slope and soil conditions. They typically occur on the steep slopes of hillsides, ravines of streams and coastal bluffs/headlands during or shortly after prolonged periods of heavy rainfall. Although landslides are propelled by gravity, they can be triggered by geologic events (earthquakes, volcanic eruptions) or by human activity (e.g. excavation, grading, timber harvesting). Regardless of what initiates a landslide, the underlying cause in the northwest are periods of continuous rains that saturate the soil and which lubricate and loosen soil particles and rock so as to set the conditions to begin their downslope movement.

Of all the types of landslides, debris flows are probably the most dangerous to people and property. Debris flows are also referred to as mudslides, mudflows, debris avalanches or "rapidly moving landslides". Debris flows commonly start on steep hillsides (70%+) as soil slumps or slides that liquefy, accelerate to speeds of 35 mph or more and flow down hillsides onto gently sloping ground. Their consistency can range from watery mud to thick rock laden wet cement – dense enough to carry large boulders, trees and cars. Debris flows originating from different locations can combine in ravines and stream channels where their destructive power becomes concentrated and greatly magnified. Debris flows because of their high speed are difficult for people to outrun and can be unexpected because of their often distant off-site origin. They have caused most of the recent landside-related injuries and deaths in Oregon. There were a number of debris flows in western Oregon during the intense winter rainfall of 1996. One of these occurred in Douglas County where five people were killed and many others were injured.

Besides being initiated by natural processes, the following man-made changes to hillside areas can increase the susceptibility for landslides to occur:

- Excavation/Grading: Excavation is often needed to build homes or roads on sloping terrain. Grading can result in some slopes that are steeper than the pre-existing natural slopes. Since slope steepness is a major factor in landslides, these steeper slopes can be at increased risk for landslides. The added weight of fill and structures can also increase landslide susceptibility.
- Drainage Alterations: Man-made alterations to natural drainage patterns can be a factor that triggers landslides. Broken or leaking water/sewer lines can be problematic as can surface drainage retention facilities that direct water onto slopes. Lawn irrigation and minor alterations to small streams can also result in landslides. Also, surface drainage from the impervious surface areas of development reduces the opportunity for water to be

absorbed into the ground and can create flows that cause erosion of slopes and unstable soil conditions.

- Vegetation Removal: Removing vegetation, such as trees from hillsides, also increases the potential for landslides. In particular, trees through their root systems are capable of holding very large amounts of soil that help to stabilize steep slopes. A recent study by the Oregon Department of Forestry of active landslide sites on state forestlands found that 75% of such sites had been logged during the last 10 years.

*Oregon's Landslide Related Agencies & Programs*

The Department of Land Conservation and Development (DLCD) assists state agencies and local jurisdictions in implementing Statewide Planning Goal 7, Natural Hazards. Goal 7 requires jurisdictions to adopt comprehensive plan policies and implementing measures to protect as much as possible, people and property from natural hazards. Landslides are one of the natural hazards mentioned by Goal 7. The DLCD natural hazards planning guide, *"Planning for Natural Hazards"*, also addresses landslides. In addition to DLCD, the following state agencies and programs relate to landslides:

- Senate Bill 12 – During the 1999 session, the state legislature passed Senate Bill 12 in response to the numerous landslides that had occurred during the winter rains of 1996. This bill requires state and local governments to protect people from rapidly moving landslides (or debris flows). As indicated above, these are the most dangerous kind of landslides. Senate Bill 12 has four major components: it directed the Department of Geology and Mines (DOGAMI) to prepare maps of areas potentially prone to rapidly moving landslides, gave local governments the authority to regulate in areas prone to rapidly moving landslides, adopted standards (ORS 195.250-.260) to be applied by local jurisdictions when the DOGAMI mapping is completed, and provided $50,000 to a jurisdiction (Douglas County was later selected) to develop a model ordinance for regulating development in these areas.

Pending completion of the DOGAMI mapping, jurisdictions will need to modify their comprehensive plan/development standards and implement the Senate Bill 12 regulations if the DOGAMI maps show rapidly moving landslide areas in their communities. These standards include: requiring a geotechnical report if a property is shown to be within a rapidly moving landslide area, coordinating review of the report by DOGAMI before issuing permits, and regulating dwellings in debris flow areas by imposing mitigation measures and development conditions based on the recommendations of the geotechnical report.

- DOGAMI – DOGAMI has completed some preliminary maps showing potential areas susceptible to rapidly moving landslides for western Oregon jurisdictions, including Gresham. DOGAMI refers to these areas as "Further Review Areas". They are defined by Senate Bill 12 and ORS195.250 as: "An area of land within which further site specific review should occur before land management or building activities begin because either DOGAMI or ODF (Oregon Department of Forestry) determines that the area reasonably

could be expected to include sites that experience rapidly moving landslides as a result of excessive rainfall."

- State Building Codes Division – The division adopts statewide standards for building construction that are then administered by the state and local jurisdictions. These standards include requirements for cut, fill, and sloping of the lot relative to the location of the foundation. There are also foundation design requirements depending upon soil type, soil-bearing pressure, and compaction/lateral loads from soil and water on sloped lots. The local building official has the authority to require a soils analysis for any project where it appears the site conditions do not meet the requirements of the code or that special design measures must be taken. State building codes do not, however, set standards for grading not associated with the construction of buildings. However, local jurisdictions have the option of adopting the state grading standards for non-building related grading.

*Gresham's Steep Slope/Landslide Related Standards*

Most of Gresham's steep slope areas (15% and greater) and potential landslide areas are found in the southerly part of the City on or near Gresham Butte and the smaller Grant Butte. Gresham regulates development on these slopes through its development code and by implementing applicable state building code standards. The following is a summary of these requirements:

- Gresham's development code has the Hillside Physical Constraint Overlay District that limits development on the buttes and other areas with slopes of 15% or greater. These areas are shown on the Hillside Special Purpose District Map. This overlay district was amended in 2003 in order to provide clearer and more objective standards, offer greater flexibility to avoid development of steeper slopes (>35%) and to be consistent with above Senate Bill 12. Among the purposes of this overlay is to ensure that development proposed on or near hillsides conforms to the natural topography and minimizes the potential of earth movement such as landslides. In general, this overlay limits the percentage of each lot and the overall site area with slopes of 15% and greater that can be graded (for building pads, driveways, etc.) and essentially requires that sites with slopes greater than 35% be developed through the planned development (PD) process. A PD must dedicate at least 30% of the steeper parts of the site as open space. Also the PD standards allow less housing density (or larger lots) as the average slope of a site increases. Building lots are not allowed to include sloped areas greater than 60%. The hillside standards require a soils and geology report with recommendations as part of a development application in order to evaluate slope stability, bedrock/soil conditions, drainage patterns, seismic risk, and other geological factors. In addition, a geotechnical report is required for any proposed disturbance of slopes greater than 35%. The City's engineering/environmental consultant then reviews these reports and sends comments/recommended conditions to development planning staff.

  The Hillside Physical Constraint District Overlay and map also address the "rapidly moving landslide " or debris flow areas that are the focus of Senate Bill 12 and ORS 195.250. These are derived from the preliminary DOGAMI debris flow maps, referred to by DOGAMI as "Further Review Areas", and fall within the 15% and greater sloped areas regulated by Gresham's hillside district. They appear on the City's hillside district map

(attached Map No. 2) as "Higher Landslide Risk Area" and are found primarily on Gresham and Grant buttes. Section 5.0277 (Development in "Further Review Areas") of the hillside district has standards specifically for development proposed within these areas. With the exception of the geotechnical report requirement, these standards will be applied to development after DOGAMI completes its mapping effort. In the interim, development applications within these areas must include a geotechnical report prepared by a geotechnical engineer. The report must describe those design and construction measures that will be taken in order to reduce the potential for rapidly moving landslides and to maintain slope stability. DOGAMI staff as well as the City's geotechnical engineering consultant then review the report and make comments that are incorporated into the staff report.

- Gresham also regulates the removal of trees and other vegetation on hillsides through the Hillside Physical Constraint District and through its city-wide tree removal regulations. Section 5.0225 of the hillside district requires the maintenance of trees and vegetation outside of developed areas to be mainlined to protect against soil erosion and earth movement. It also prohibits the removal of trees with a circumference of 25 inches or greater (8 inch+ diameter) that are located more than 10 feet from proposed roads, driveways, utilities and building pads. Section 5.0223 also requires that no more than 35% of a development site area be graded or cleared of vegetation. In addition, Section 9.1000 of the development code contains additional citywide tree removal regulations, including a prohibition on the clear cutting of trees on slopes of 15% and greater. Clear cutting is defined as: "Any tree removal which leaves fewer than an average of one tree per 1,000 sq. ft. of lot area, well distributed throughout the entirety of the site."

- Gresham's Building Division reviews building permit applications for compliance with the state building code (adopted IBC and IRC) requirements. These include those standards related to placing structures on sloped sites. As previously indicated, the City's hillside district requires a geotechnical report (in addition to Soils/Geology Report) for development proposed on slopes greater than 35% as well as within the potential rapidly moving landslide areas that have been delineated by DOGAMI. A geotechnical report focuses on the impacts that the particular soil and geologic features will have on a proposed structure as well as the impacts the structure will have on the long term stability of those natural features. If the general geotechnical report for a subdivision or other development recommends that individual reports be done for any future structures such as house foundations and retaining walls, then the structural engineer in the City's Building Division reviews these structure related geotechnical reports. A copy is also sent to state DOGAMI staff for their review and comments.

- Gresham's development code (Section 9.0500) has city-wide requirements for grading, drainage, erosion control and stormwater detention/treatment. These include specific design standards that limit the steepness of cuts and fills and the composition and compaction of fills. The erosion control standards are intended to prevent soil movement during construction and the sedimentation of waterways. They require applicants to submit an erosion control plan as part of their permit application and to implement the best management practices that are described in the City's erosion control manual.

## SUMMARY OF MAJOR ISSUES

The following are some of the issues, circumstances and conditions, which were considered in the update of this Comprehensive Plan chapter.

- Landslides are natural events that can be exacerbated in intensity and frequency by development related activities such as grading and vegetation removal. They typically occur on steep hillsides such as found in the Columbia River Gorge and on the buttes in south Gresham.
- Geologists acknowledge that debris flows or "rapidly moving landslides" are the most damaging and life threatening kind of earth movement because of their large mass, velocity and distant origin. The state legislature, through Senate Bill 12, directed the state Department of Geology and Mining Industries (DOGAMI) to map areas in western Oregon (including Gresham) that are susceptible to debris flows, adopted development standards for them and authorized local jurisdictions to adopt development regulations for these areas in order to protect lives and property.
- Gresham controls development on hillsides with slopes of 15% and greater primarily through its Hillside Physical Constraint Overlay District and associated special purpose district map. These standards and map were amended to address above Senate Bill 12 and state debris flow information as well as to offer more flexible development standards so that the grading, vegetation removal and development of steep sloped areas can be minimized and the potential for landslides is reduced. Gresham also implements applicable state building code standards for locating structures on sloped areas such as through its geotechnical report analysis requirements for proposed foundations and retaining walls.

## GOAL, POLICIES AND ACTION MEASURES

### GOAL

Protect life and property from hazards associated with landslides and unstable soils.

### POLICIES

1. The Community Development Code shall discourage land divisions in areas over 35% slopes. Property that is entirely above 35% slopes may be improved to the extent of one dwelling per existing lot of record. Subdivisions of land that are partially above 35% slope shall not generally include development of the portions in excess of 35% slope. Limited development of the portions of the site on greater than 35% slopes may be permitted when these steep slopes encroach into areas which are logical dwelling locations and engineering studies determine that development will be in compliance with accepted engineering design principles. Dwellings planned on greater than 35% up to 60% slopes may be permitted when located within a Planned Development of 10 or more acres in size; and occur on land which is not susceptible to earth movement or landslide hazards; and where construction and design methods are employed to minimize cuts, fills and other potential adverse impacts.

2. Limited development on greater than 35% slopes may occur for a residence on a vacant lot of record, trails/multi-purpose paths, and for the logical extension and provision of public facilities, utilities, and driveways, where construction and design methods are employed to minimize cuts, fills, and other potential impacts. With these exceptions and those related to planned developments (Policy #1), all other sloped areas of greater than 35% on development sites shall be protected by an easement or by dedication of an open space tract.

3. Land divisions on slopes greater than 35% shall only be allowed through the Planned Development (PD) process. The PD standards for hillside development shall encourage the transfer of density to those site areas with less than 15% slopes, allow less development density as the degree of slope increases, and limit the amount of sloped areas greater than 35% that can be included as part of building lots.

4. Removal of trees on slopes over 15% shall be restricted to prevent clear cutting and to limit removing trees with a trunk diameter of 8-inches and greater.

5. City development standards for slopes of 15% or greater shall limit the amount of site area that can be graded, cleared of vegetation, or otherwise disturbed.

6. Development on slopes of 15% or greater will require a soils/geology report prepared by a state certified engineering geologist or geotechnical engineer to evaluate geologic conditions and hazards, slope stability, and to provide recommendations for protecting life and property from landslides and soil erosion.

   In addition, development within an area identified on the Hillside Physical Constraint Overlay District map as a potential "Higher Risk Landslide Area" shall require a geotechnical report that describes how the proposed construction methods and design measures will maintain slope stability and minimize erosion.

7. Development on slopes of 15% and greater shall be required to handle surface water runoff in a way that will not destabilize slopes, increase erosion or degrade water quality.

8. The City hillside development standards shall include state ORS 195.250 requirements that pertain to potential rapidly moving landslide ("Further Review Areas") identified by the state Department of Geology and Mining Industries (DOGAMI). These standards will be applied to proposed development within such areas after their mapping by DOGAMI is finalized. In the interim, the City shall require geotechnical reports for developments proposed in the "Higher Landslide Risk Areas" (DOGAMI's "Further Review Areas") that are shown on Gresham's Hillside Physical Constraint Overlay District map.

## ACTION MEASURES

1. The City will continue to protect steep slopes and landslide hazard areas as public open space/wildlife habitat as Metro bond measure funds and other funding sources become available for this purpose.

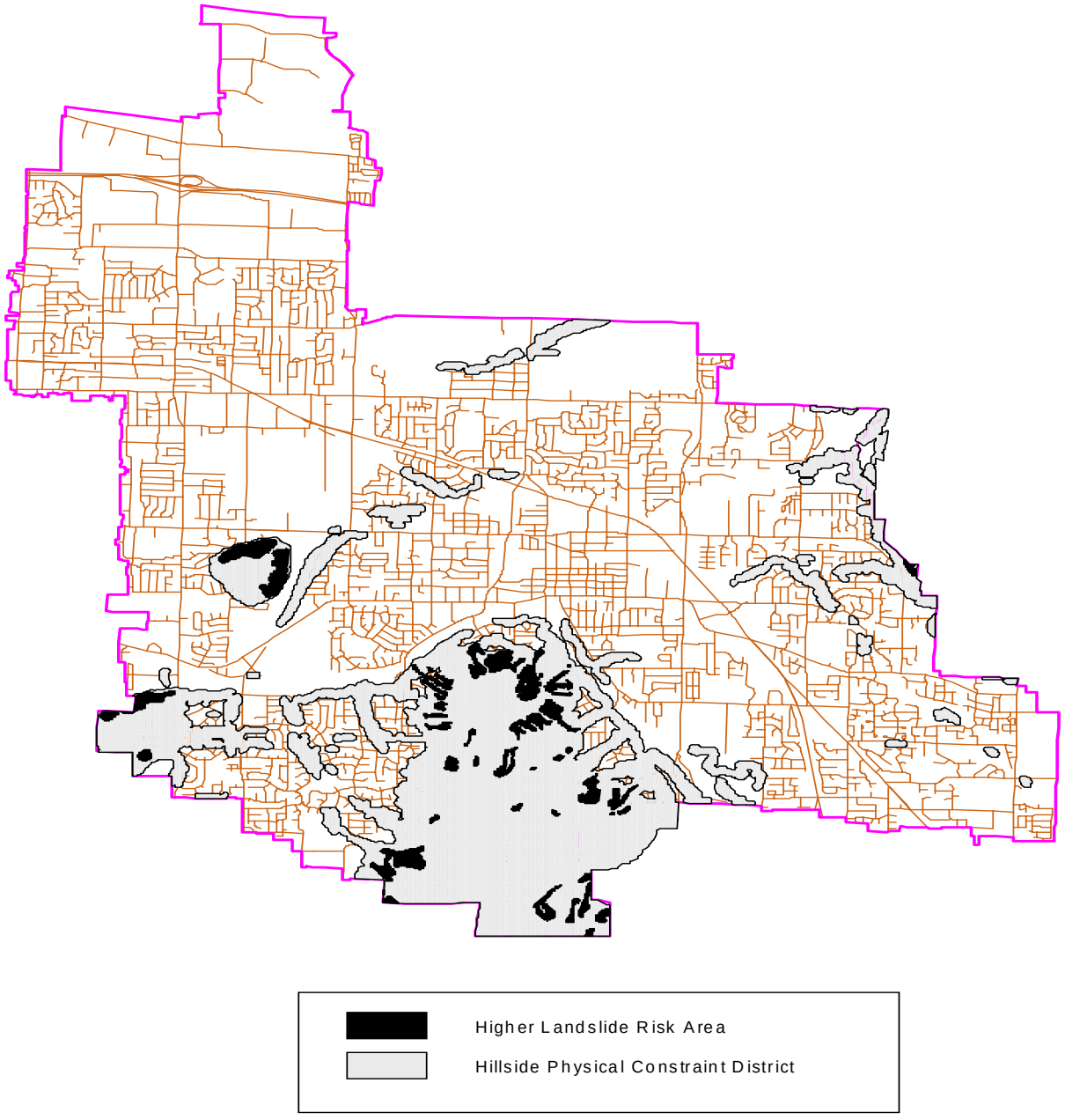
2. Provide staff resources to inspect hillside developments that are under construction in order to ensure their compliance with erosion control, drainage and slope stability standards as well as compliance with development code limitations on grading and the removal of trees and other vegetation.

3. Encourage and offer incentives for innovative site designs (such as clustering dwelling units) that exceed City standards related to allowed slope disturbance, tree removal, etc., and which propose to set aside a substantial amount of the site as protected open space.

4. Update Gresham's hillside maps/development standards so that they reflect new maps and other current information from DOGAMI, etc. about the location and severity of potential landslide hazards, recommended content for geologic/geotechnical reports and how landslide risks can be minimized.

5. Provide information to the public on the City's website and at the building permits center about preventing landslides and soil erosion on hillsides. This should include landslide hazard maps and information about potential risks, using innovative building design techniques for hillsides, using native plantings to stabilize slopes instead of installing a lawn, managing surface water runoff to avoid soil erosion and how to minimize cuts and fills.

**Map No. 2**


Higher Landslide Risk Area
Hillside Physical Constraint District

## 10.212 EARTHQUAKE HAZARDS

### BACKGROUND

*Overview*

An earthquake is defined as the "perceptible trembling to violent shaking of the ground, produced by the sudden displacement of rocks below the earth's surface." Rocks respond to stress (being squeezed or pulled apart) near the earth's surface by breaking. Where the rocks break and move, a fault is produced. The gradual buildup of tectonic forces along a fault followed by the sudden release of stress is what causes an earthquake. An earthquake's epicenter is the position on the earth's surface directly above the focus of the earthquake. The focus is the location within the earth where underground rock moves and sends out earthquake energy waves which in turn cause ground shaking.

Scientists have measured the energy released from earthquakes for more than 50 years. This energy is measured in terms of "magnitude" on the Richter Scale, invented by Charles Richter in 1934. The largest vibration or seismic wave from an earthquake is measured and recorded on a seismograph. The Richter Scale is logarithmic, that is, an increase of 1 magnitude represents an increase of 10 times in an earthquake wave amplitude (height) as it appears on a seismograph. For example, the seismic waves of a magnitude 6 earthquake are 10 times greater in amplitude than those of a magnitude 5 earthquake, and 100 times greater than a magnitude 4. However, in terms of energy release, a magnitude 6 earthquake is about 30 times greater than a magnitude 5, and 900 times greater than a magnitude 4. Earthquakes with a magnitude of 2 or less are called microquakes and are not usually felt. Magnitude 3 and 4 quakes are commonly felt but rarely cause damage. Damaging ground shaking can accompany a magnitude 5 or 6 event, and major damage can occur from earthquakes of magnitude 7 and above. The Richter Scale has no upper limit.

Earthquakes occur along two types of faults: deep (10-60 miles) subduction zone faults and shallower (0-10 miles) crustal faults. A subduction zone is defined as the location where two tectonic plates collide, with one plate sliding underneath the other. Tectonic plates are approximately 60-mile thick slabs of earth that move and interact with each other, producing not only earthquakes but volcanic eruptions as well. The plates do not slide smoothly past each other. They tend to lock up, build pressure and, at some point, release the pressure dramatically in the form of an earthquake. Subduction zone earthquakes typically affect a much larger area than crustal fault earthquakes and also produce tsunamis. A tsunami is a fast moving and tall, powerful wave caused by the uplift of the sea floor near shorelines. Tsunamis arrive in minutes and are often more destructive to coastal communities than the earthquakes that produce them. In the case of the Northwest, a subduction zone called the Cascadia Subduction Zone is located 300 miles offshore in the Pacific Ocean. There, the denser Juan de Fuca Plate is being subducted or pushed under the more buoyant North American Plate.

Oregon also has many geologically active crustal faults. They are especially prevalent in the Cascades, south-central Oregon (Klamath Falls), northeastern Oregon, the coast range and in the

West Hills/downtown area of Portland. These faults are more of a local problem, especially to those who are geographically close to these faults. They are capable of producing magnitude 7 earthquakes and are typically closer to population centers. As a result, a smaller magnitude earthquake could result in as much damage to people and property as an earthquake originating in the Cascadia Subduction Zone.

Although present Northwest residents have not experienced a large earthquake, such earthquakes have happened in the recent geological past. Strong evidence suggests that a large earthquake of at least magnitude 9 occurred along the Cascadia Subduction Zone as recently as 1700. It was powerful enough to create a tsunami that destroyed Native American settlements along the British Columbia, Washington, and Oregon coasts as well as affecting Japan. Geologists believe such subduction zone earthquakes have occurred along the coast every 300 to 800 years for the last 11,000 years. During the last 11 years, smaller scale earthquakes associated with crustal faults have also occurred which nonetheless have caused much property damage. These were the 1993 Scotts Mill earthquake near Molalla that caused $30 million dollars in damage, the 1993 Klamath Falls earthquake that caused two deaths and $10 million dollars in damage, and the 2001 Olympia, Washington earthquake that caused 400 injuries and $3 billion dollars of damage.

In addition to tsunamis which affect coastal areas, there are three basic hazards associated with earthquakes. These hazards are ground shaking, landslides on steep slopes, and liquefaction near water bodies.

Ground shaking is the motion caused by seismic waves of an earthquake and is the primary cause of earthquake damage. The strength of ground shaking depends on the magnitude of the earthquake, the type of fault movement, and distance from the epicenter. Ground shaking can be amplified or attenuated by near surface soils. Buildings on poorly consolidated and thick soils will typically suffer more damage than buildings on consolidated (i.e. firm, hard) soils and bedrock. Alluvium soils (deposited by rivers) in particular, such as those found in the Willamette Valley and most of the Portland area can amplify seismic waves and increase ground shaking. Building construction and design contributes greatly to the ability of structures to withstand ground shaking. Wood structures tend to suffer less damage than buildings made of brick or un-reinforced masonry. Ground shaking can also rupture utility lines (water, natural gas, etc.) and damage roads and bridges.

Steep slopes can be very hazardous during and after earthquakes. Landslides are the downslope movement of rock, soil, vegetation, etc. Water plays a pivotal role by decomposing and loosening rock, lubricating rock and soil surfaces to allow movement and by making soil particles buoyant which overcomes their inertia to move. In the long rainy season of winter and spring, soils can become saturated with water and an earthquake during this time can trigger a rapidly moving landslide.

Earthquakes can turn soil into quicksand in a process called liquefaction. This typically occurs along river channels, lakes, bays and other major water features where there is a relatively high water table. Earthquake shaking causes the water pressure to increase and the water table to rise. The air spaces between the soil particles soon become filled with water, friction or cohesion is decreased, and the particles can then readily move. Consequently, the strength of the soil

decreases and with it the ability to support building foundations, bridges, etc. Granular soils (gravel, sand and silt), because of their loose consolidation, are more susceptible to liquefaction when located next to water bodies.

*Oregon's Earthquake Related Agencies & Programs*

The Department of Land Conservation and Development (DLCD) assists state agencies and local jurisdictions in implementing Statewide Planning Goal 7, Natural Hazards. Goal 7 requires jurisdictions to adopt comprehensive plan policies and implementing measures to protect as much as possible, people and property from earthquakes and other natural hazards. Also, the Goal 7 guidelines state that local governments should coordinate their land use plans with mitigation programs, response, recovery, and emergency preparedness. DLCD has also developed a guide for local jurisdictions to use for natural hazards mitigation planning titled: *"Planning for Natural Hazards, Oregon Technical Resource Guide, 2000."* In addition to DLCD, the following state agencies and committees are also involved with earthquake awareness/preparedness and other natural hazard issues:

- Department of Geology and Mineral Industries (DOGAMI) – Besides regulating mining, DOGAMI produces maps about Oregon's geology and geologic hazards including Oregon's active faults, earthquake history, and seismic risk assessments. Also DOGAMI partners with other state agencies to develop natural hazard-related programs/policies and informs the public about geological hazards through its reports and website.
- State Building Codes Division – The Oregon Building Code Division adopts statewide building construction standards that are administered by the state, cities, and counties. Recently, the state adopted the International Building Code (IBC), as well as the International Residential Code (IRC), for single family and duplexes with certain amendments. Seismic standards in these codes primarily affect the design and construction of foundations and walls.

Both the IBC and IRC refer to six different seismic zones, Zones A through F. These reflect varying degrees of ground shaking (spectral acceleration) that can occur, with Zone A having the least potential for movement and Zone F the most potential. (Maps that show these zones are available for any zip code from a USGS web site.) This classification is largely dependent on nearness to active faults and the soil type in a particular area. Zone A construction has to meet the least stringent seismic standards in the IBC and IRC, while construction in Zone F has to meet the most stringent. Eastern Oregon is within Zone C, the Willamette Valley and Portland area is within Zone D, and the Oregon coast varies between Zones D and E. The seismic standards that apply to a particular building also depend on what use category it is in. The codes have four use categories, Categories 1 through 4. Minor structures such as storage buildings are in Category 1, most residential and business uses are within Category 2, while high occupancy or critical facilities such as schools, hospitals, police and fire stations, and other emergency services structures are in Categories 3 and 4. Therefore, a Category 4 use within Zone F would be subject to the strictest seismic standards under these codes. In addition, Category 3 and 4 uses are subject to special inspections by independent third parties who have expertise in certain disciplines, such as a geotechnical engineer or a concrete testing firm. The IBC also requires

that Category 3 and 4 uses be functional after an earthquake. The previous UBC code only required that such uses be designed so as to protect the lives and safety of their occupants.

Seismic upgrades to an existing building are only required when there is change in occupancy that results in putting the structure in a higher use category.

- Oregon Seismic Safety Policy Advisory Commission (OSSPAC) – OSSPAC is a state advisory commission created in 1990 by the governor, to promote public earthquake awareness and preparedness through education, research, and legislation. The 18- member commission is made up of state legislators, representatives from state agencies (DOGAMI, ODOT, Building Codes Division, DLCD, OEM), and from local governments, public interest groups, utility districts, and the private sector. Specifically, the objectives of OSSPAC are to: (1) develop and influence seismic safety policy at the federal, state, and local levels; (2) facilitate and improve public understanding of seismic hazards and encourage the identification of earthquake risk; and (3) support research and special studies, appropriate mitigation measures, and response/recovery actions from earthquakes. In 2000, the committee produced the document *"Oregon at Risk"* which is an earthquake educational tool for policymakers, educators, and the general public.
- Office of Emergency Management (OEM) – OEM primarily assists local governments in recovery operations following an earthquake or other emergency, and provides information about hazards and risk reduction. It also coordinates with the Federal Emergency Management Agency (FEMA) and administers federal disaster relief funds after the president declares a major disaster. OEM has produced the *"Oregon Emergency Management Plan*" that describes how the various state agencies will make a coordinated response to an emergency. It includes specific response procedures for earthquakes. In addition OEM, in cooperation with other state agencies, produced the *"Natural Hazards Mitigation Plan."* It describes and references all of the risk reduction measures recommended in other plans and sources for various natural hazards including earthquakes.

*Gresham's Seismic Risk & Preparedness Measures*

Metro and DOGAMI have created a map ("Portland Metropolitan Relative Earthquake Hazards Map") that shows the various areas of the region and their relative risk of being subject to earthquake hazards, either from a subduction zone or crustal fault earthquake. These hazards are ground shaking, slope instability, and liquefaction. The map is divided into four zones: Zones A, B, C, and D. Areas in Zone A have the greatest risk being subject to one or more of the above earthquake hazards while areas in Zone D have the least risk. Most of the Zone A and B areas on the regional map are located in downtown Portland/ inner eastside and northwest Portland, the West Hills, as well as the west side of the region, particularly the Beaverton, Tigard and Tualatin areas. Zone D, the area with the least risk, affects most of east Multnomah County and Gresham.

However, there are two areas of Gresham, comprising about 20% of the city, where the higher risk zones apply. These are the Columbia River shoreline area in the north part of the city and the buttes in the south part. The shoreline area, between the river and slough, is within Zone A

(greatest risk) and Zone B because of its shallow water table and the potential for liquefaction during an earthquake. The slopes of Grant Butte and Gresham Butte are within Zones B and C because of their potential for slumping and landslides.

Gresham has addressed the potential damage from earthquakes in the following areas:

- The Gresham Emergency Operations Plan (EOP) sets forth the City's action plan and describes how its departments will respond to various natural hazards and other emergencies. Section III-B of the plan addresses earthquakes. In addition to structural damage to buildings, the plan states that an earthquake of between 6.0 and 8.0 on the Richter Scale may include fires/explosions, disruption of vital services such as water and power, looting, and flooding from dam failures on the Columbia and Sandy rivers. The emergency actions listed in the EOP that describe how the City would respond to an earthquake take these possible consequences into account.
- The City's Building Codes Division of the Community and Economic Development Department (CEDD) reviews building permit applications for compliance with IBC and IRC requirements. The division has a structural engineer who reviews plans for buildings subject to the above-described state seismic standards.
- Gresham's development code has the Hillside Physical Constraint Overlay District that limits development on the buttes and other areas with slopes of 15% or greater. These areas are shown on the Hillside Special Purpose District Map. Among the purposes of this overlay is to ensure that development proposed on or near hillsides conforms to the natural topography and minimizes the potential of earth movement such as landslides. In general, this overlay limits the percentage of lot area that can be disturbed (by grading, etc.) or developed, essentially allows only needed roads and utilities on slopes of 35% or greater, and requires a soils and geology report as part of a development application in order to evaluate slope stability, seismic conditions/risk, and other geological conditions.

  Those areas on the buttes that, in the opinion of DOGAMI, are particularly susceptible to landslides ("Higher Landslide Risk Area") are also shown on the special purpose district map. For proposed development in these areas and in areas with slopes of 35% or greater, the hillside district also requires a geotechnical report prepared by a geotechnical engineer. The report must describe those design and construction measures that will be taken in order to reduce the potential for landslides and to maintain slope stability. DOGAMI staff as well as the City's geotechnical engineering consultant then review the report and make comments that are incorporated into the staff report.

**SUMMARY OF MAJOR ISSUES**

The following are some of the issues, circumstances, and conditions that were considered in the update of this comprehensive plan chapter.

- Oregon has a geologic history of large-scale Cascadia Subduction Zone earthquakes that have affected a wide area of the Pacific Northwest, as well as localized crustal fault

earthquakes of smaller magnitude. If the epicenter of a crustal fault earthquake is located in or near an urban area, it is still capable of causing much damage and loss of life.

- There are four earthquake related hazards: tsunamis, ground shaking, liquefaction near water bodies, and landslides on steep slopes. The latter three could affect the Portland area.
- There are five state entities involved with earthquake awareness and preparedness. These are: the Department of Land Conservation and Development (DLCD), Department of Geology and Mineral Industries (DOGAMI), State Building Codes Division, Oregon Seismic Safety Policy Advisory Commission, and the Office of Emergency Management.
- Compared to the rest of the region, most of Gresham and east Multnomah County has been found by DOGAMI to have the least risk of experiencing major earthquake damage. However, the Columbia River shoreline area and the slopes of the buttes have the potential for liquefaction and landslides, respectively.
- Gresham has addressed the potential for damage from earthquakes through its Emergency Operations Plan, applying building code seismic standards to new structures and ensuring that development on hillsides is designed and constructed in a way that takes into account seismic risks and the potential for landslides.

## GOAL, POLICIES AND ACTION MEASURES

### GOAL

Protect life and property from earthquake damage.

### POLICIES

1. The City shall coordinate with Oregon Department of Geology and Mineral Industries (DOGAMI), Metro, and other agencies in the maintenance of up-to-date earthquake hazard maps and related information.

2. The City shall, as required and as new seismic risk information becomes available, adopt regulations to protect the public from earthquake hazards.

3. The City shall coordinate its earthquake emergency response planning with the Federal Emergency Management Agency (FEMA), Multnomah County Emergency Management Department, neighboring cities, and other government agencies.

4. The City shall require new development to comply with all applicable seismic building and development code standards for minimizing earthquake damage.

5. In regard to public facilities:

   (a) The City shall design and construct public facilities in a way that takes into account potential earthquake hazards.

(b) The City shall upgrade the seismic resistance of existing public facilities to meet current standards, as funds become available.

### ACTION MEASURES

1. Maintain and make available to the public, current earthquake hazards information such as earthquake hazards maps, earthquake preparedness tips for homes/schools/businesses, and seismic-related building code standards for developers.

2. Integrate earthquake safety planning into City operations.

3. Review and modify as necessary, to reflect current resources and new seismic information, the City's Emergency Operations Plan that describes how the City's departments will respond to an earthquake and its after-effects.

4. Assess potential earthquake damage to the City's infrastructure and plan for corrective measures, especially in the most seismically vulnerable parts of Gresham, i.e. near the Columbia River shoreline and on the slopes of the buttes.

(Amended by Ord. 1620 passed 2/21/06; effective 3/23/06)
(Amended by Ord. 1464 passed 12/1/98; effective 1/1/99)
(Amended by Ord. 1346 passed 1/17/95; effective 2/16/95)

# 10.220 NATURAL RESOURCES

## 10.221 NATURAL RESOURCES, FISH AND WILDLIFE HABITAT, WATER RESOURCES AND ECOLOGICALLY AND SCIENTIFICALLY SIGNIFICANT AREAS

### SUMMARY OF FINDINGS

Some 45 sites having potential significance as natural resource areas have been identified in the Inventory of Significant Natural Resources and Open Spaces. These include wetlands, riparian corridors, upland areas, and greenways. Many of these sites support a wide variety of plant and wildlife species which add an indispensable element to the quality of life in Gresham. A stand of Hogan's cedar trees has been identified as being ecologically and scientifically significant. These resources perform a number of additional useful functions, including stormwater retention, water cleansing, slope stability, recreation, and visual relief in an otherwise urban landscape. Policies and strategies within this category are intended to protect the most significant of these resources while allowing appropriate degrees and types of development where impacts to these resources can be minimized (Sections 2.300 to 2.370 - Findings document).

### NATURAL RESOURCES POLICY

It is the policy of the City to assist in protecting the quality and quantity of the following resources:

1. Fish and wildlife habitats.
2. Visual resources (scenic views and sites).
3. Water resources.
4. Ecologically and scientifically significant areas.
5. Mineral and aggregate resources.
6. Energy sources.
7. Significant and unique natural features, such as a major stand of trees.

The City will assess the impacts on these resources when a development project is proposed. The project developer and city staff shall outline measures to preserve or mitigate negative impacts on these natural resources.

**IMPLEMENTATION STRATEGIES**

1. An Inventory of Significant Natural Resources and Open Spaces shall be adopted as an appendix to the Community Development Plan. This inventory shall list those natural resource and open space features which are found to be significant in the community. For each resource the Inventory shall include a description of its characteristics, an analysis of conflicting uses, and a summary of economic, social, environmental, and energy (ESEE) consequences of permitting or restricting conflicting uses.

2. Based on findings contained in the Inventory of Significant Natural Resources and Open Spaces, provisions shall be adopted in the Community Development Code and Standards document to restrict development actions on specific sites identified in the Inventory when such actions would have adverse impacts.

3. Sites as specified in the Inventory of Significant Natural Resources and Open Spaces shall be designated on the Community Development Special Purpose District Map as special purpose districts. Such district designations shall include Natural Resource (NR), and Open Space (OS).

4. Sites indicated in the Inventory of Significant Natural Resources and Open Spaces as having particular importance as fish and wildlife habitat areas shall be designated on the Community Development Special Purpose District Map as Natural Resource (NR) districts. The NR district shall function as a special purpose overly district.

5. Measures shall be adopted in the Community Development Code and Standards document to restrict development proposed within or adjacent to an NR district site. These measures shall require any such development to take place in a manner which minimizes adverse impacts on the resource site. Findings of public need and lack of alternative sites shall be required in connection with any proposed development activity within an NR district site.

6. Within specific wetland sites as identified in the Inventory of Significant Natural Resources and Open Spaces, development shall be permitted only in connection with an approved plan for mitigation. Such mitigation plan may include creation of a functionally equivalent wetland area elsewhere, in conformance with mitigation policies of the U.S. Environmental Protection Agency.

## A. VISUAL RESOURCES

### SUMMARY OF FINDINGS

Visual resources contribute substantially to the attractiveness and livability of Gresham. While scenic views are available from many points, there are view corridors focusing on Mt. Hood and the Columbia River which are of sufficient significance to warrant some degree of protection. Likewise, the scenic backdrops comprised of the hills and buttes in the southerly portion of the city provide welcome visual relief in the urban environment and should be protected against severe degradation (Section 2.350 - Findings document).

### IMPLEMENTATION STRATEGIES

1. The Community Development Standards document shall require specific landscaping and design standards for multi-family, commercial and industrial uses in order to enhance the urban landscape and prevent or minimize obscuring community views of Mt. Hood, the Columbia River, and local hillsides.

2. Removal of trees on slopes over 15% shall be restricted to prevent clearcutting.

3. Because of the outstanding scenic quality of the view of the Columbia River from Marine Drive, standards shall be included in the Community Development Standards document to limit the height of all new structures built on property lying north of Marine Dr. in order to preserve the quality of this visual resource.

4. The Community Development Standards document shall include a design review process to improve the visual quality of streetscapes, and to preserve outstanding views of Mt. Hood in designated view corridors through measures including landscaping and building height standards and limitations on signage.

5. The Community Development Standards document shall require underground utilities for all new land developments, except for electric power transmission lines over 50,000 volts, primary feeder lines, and transformer vaults.

## B. MINERAL AND AGGREGATE RESOURCES

### SUMMARY OF FINDINGS

There are three sand and gravel quarries and one clay pit and brick manufacturing plant operating in Gresham. Protection of these resources is necessary to sustain urban development. Mineral and aggregate resources face depletion from urban development which covers the resource and consumes the product. Many aspects of surface mining operations are incompatible with adjacent land uses. Reclamation of depleted surface mine areas and adequate buffering of less intensive, adjacent areas must be ensured (Section 2.360 - Findings document).

### IMPLEMENTATION STRATEGIES

1. The Community Development Standards document shall establish standards which provide for the efficient mining of mineral and aggregate resources and ensure the reclamation of surface mining sites in conformance with state regulations.

2. The Community Development Standards document shall require a public hearing prior to establishment or expansion of surface mines for mineral and aggregate resources.

3. The Community Development Standards document shall contain standards and criteria governing the establishment or expansion of surface mines for mineral and aggregate resources to ensure that such operations will be buffered from adjacent properties and that adverse impacts to public health, safety, and welfare will be minimized.

## 10.222 ENERGY SOURCES

### SUMMARY OF FINDINGS

The city has no developed energy sources. Wind and solar power are potential local energy sources, although the potential wind resource at current technological levels is insufficient for economic application (Sections 2.380 to 2.382 - Findings document).

### POLICY

It is the City’s policy to protect energy sources.

### IMPLEMENTATION STRATEGY

1. Citizens shall be permitted to generate energy from alternative sources where such activities do not endanger the health or safety of life and property.

## 10.223 ENERGY CONSERVATION

### SUMMARY OF FINDINGS

Conservation of energy at the local level is best achieved through programs aimed at fostering energy efficient transportation modes and land use patterns, reducing travel distances from residences to work and activity areas, infilling vacant land, increasing densities of land uses and encouraging alternate energy use experimentation. Reductions in energy consumption reduce the reliance on foreign sources. (Section 2.383 - Findings document).

### POLICY

It is the policy of the City to support energy conservation measures.

### IMPLEMENTATION STRATEGIES

1. The City shall pursue a more energy-efficient urban form by:

    a. Encouraging the development of vacant and underutilized property within established and developing areas which have the capacity to accommodate more population.

    b. Developing the Central Business District which serves as a focal point for activity within the city, paying particular attention to design considerations for the pedestrian mass transit user.

    c. Encouraging the development of employment opportunities within the city, in order to reduce the necessity of job-related commuting.

2. The city shall develop policies and strategies concerning transportation that promote energy efficiency and conservation such as clustering higher housing densities in close proximity to transit facilities and trafficways providing functions of collector or arterial streets.

3. The city shall regularly review, and modify if necessary, municipal operations and practices to ensure that the maximum benefit is achieved from energy usage. City codes, practices and policies shall be reviewed to ensure they do not discourage energy conservation.

4. As an element of the city's Capital Improvement Program, the city shall favor facility and service improvements, extensions and programs which promote the goal of energy conservation.

5. The Community Development Standards document shall require that development proposals consider provisions for energy conservation and alternate energy sources as an integral component of the development.

6. The Community Development Standards document shall include standards to achieve the necessary spatial orientation to attain the maximum benefit from incoming solar radiation for structures and subdivisions.

7. Existing and future public institutions should consider the installation of solar equipment for heating and cooling.

8. The city will seek state and federal assistance for, and encourage insulation of, existing structures.

# 10.230 ENVIRONMENTAL QUALITY

### SUMMARY OF FINDINGS

The overall environmental quality of Gresham is satisfactory. The present level of environmental quality is a valuable community asset which makes Gresham a desirable community. The environmental quality of the city may be jeopardized, however, by continued growth and development. There are no major air, water, land, or thermal point-source polluters in Gresham. Area-wide sources of pollution, in the form of urban growth and development, pose a threat to maintenance of the existing environmental quality. The potential for non-point pollution of the aquifer from sub-surface sewage disposal should continue to decrease as sewers are extended into mid-Multnomah County. (Sections 2.400 to 2.461 - Findings document).

### POLICY

It is the City's policy to enhance the quality of Gresham's air, water and land resources and to retain the relatively peaceful nature of the city's living and working environments.

## 10.231 AIR QUALITY

### AIR QUALITY BACKGROUND

### INTRODUCTION

Air quality can dramatically affect a local jurisdiction’s quality of life and the health of its citizens. Air pollution knows no boundaries and its negative impacts can be harmful and widespread. Consequently, it is a matter of national and international significance. Thus the federal government has taken the lead in developing laws and standards for the states to follow.

In 1970 the Clean Air Act was adopted as federal law. Subsequent amendments in 1977 and 1990 significantly expanded the scope of air quality regulations throughout the nation.

The Clean Air Act and its subsequent amendments are meant to reduce air pollution through a variety of regulatory and market based means. The Clean Air Act covers the entire nation.

However the states do much of the work to carry it out. The law allows individual states to have stronger pollution controls if they wish. However, states are not allowed to have weaker regulations than those set for the whole country.

Pursuant to the law, the EPA sets limits on how much of a pollutant can be in the air anywhere in the United States. This ensures that all citizens have the same basic health and environmental protections.

Under the authority of the Federal Clean Air Act, the Environmental Protection Agency has established national ambient air quality standards (NAAQS) for pollutants considered harmful to people and the environment. These standards are set at levels that are meant to protect the health of the most sensitive population groups, including the elderly, children and people with respiratory diseases.

Common air pollutants covered by the NAAQS include Ozone, Lead, Particulate Matter, Carbon Monoxide, Nitrous Oxide, Sulfur Dioxide and Volatile Organic Compounds (VOC's).

**BACKGROUND**

Oregon Department of Environmental Quality (DEQ) and State Implementation Plans (SIP)

The Clean Air Act and its enforcement by the Oregon Department of Environmental Quality guides air quality programs and regulatory actions at the local level. This is because the state must implement the act through legislation and administrative rules. These actions, in turn, affect every jurisdiction in Oregon.

Oregon, like other states must develop State Implementation Plans **(**SIPs) that explain how each will do its job to implement the Clean Air Act. A State Implementation Plan is a collection of regulations a state will use to clean up polluted areas and maintain areas that have achieved compliance with Clean Air Act standards. The federal Environmental Protection Agency (EPA) must approve each SIP. If the EPA does not approve a SIP it can take over enforcing the Clean Air Act.

The EPA has approved Oregon's State Implementation Plan. It is the Oregon Department of Environmental Quality's (DEQ) job to oversee the SIP and to implement other aspects of the Clean Air Act. Per its federally mandated responsibilities DEQ also has responsibilities that encompass:

- Operating the vehicle inspection program, which protects air quality in the Portland and Medford areas;
- Administering air quality permits for industry including both major and minor sources of pollution;
- Abatement of air pollution from wood burning;
- Overseeing asbestos abatement;

- Administering the Oxygenated Fuels Program
- Visibility in federal designated wilderness areas and national parks
- Enforcement of air quality laws.
- Assisting small businesses with air quality related issues, and
- Air pollutant monitoring

The agency uses a combination of technical assistance, inspections and permitting to help public and private facilities and citizens understand and comply with state and federal environmental regulations.

### Oregon Statutes and Administrative Rules

ORS Chapter 468a is devoted entirely to air quality. In addition DEQ's Environmental Quality Commission has the authority to develop and adopt State Administrative Rules (OARs). In this regard OAR Division 200 through Division 268) implement the air quality statutes.

Much of the ORS Chapter 468a was newly adopted or amended subsequent to passage of the Clean Air Act. The same is true of the administrative rules. Frequent additions and amendments are made to the statute and administrative rules to address both new federal requirements and local needs. For example rules have either been recently adopted, or are pending, pertaining to field burning, wood stoves, ozone-damaging volatile organic compounds and air borne toxic chemicals.

### Air Quality in the Portland Metropolitan Region

The human, environmental and economic health of local communities can be profoundly affected by air pollution. In years past, the Portland Metro Region had air quality problems that were threatening the region's environmental health and economy.

In the late 1970s and early 80's state and federal air quality standards were consistently exceeded in the Portland Region. This was a very serious problem. The situation improved somewhat in the 1980's. Still, from 1982 to the early 1990s there were numerous incidents of air pollution limits being surpassed. Finally in 1991, DEQ designated the Region as not meeting Federal Clean Air Standards for ground level ozone and carbon monoxide. Fortunately, air-pollution has been significantly improved since then and DEQ did not have to enforce mandatory pollution control programs. Now, due to new pollution control technology on vehicles and industries, and the development of other pollution prevention programs, Oregon hasn't had a carbon monoxide violation in several years. It is important to note that DEQ's inspection vehicle program has been a major contributor to reducing air-pollution in the Portland region.

Most air pollution comes from everyday activities – driving, home heating, outdoor-cooking; operation of lawn and garden equipment, use of wood stoves, paints, personal care products such as hair sprays, etc. About 90% of air pollution is generated from these everyday activities. Cars and trucks are the major sources. In the Portland region less than 10% of air pollution is created

by industry. Gresham and the rest of the Portland Metropolitan Region are part of the Willamette Valley air shed. Air pollution within the air shed is influenced by the topography and climate of the Willamette Valley basin and by the concentration of human activities that emit air contaminants. However, Gresham has a locational advantage over other Portland area communities because of its proximity to the Columbia River Gorge. Often, strong easterly winds from the Gorge disperse air-pollutants that would otherwise build up in the local area.

Air quality planning in this region is focused on meeting the National Ambient Air Quality Standards and compliance deadlines set by the EPA and enforced by DEQ. Failure to meet these standards could result in loss of transportation funding from state and federal sources; increased health risks to citizens and environmental damage. Also activity of industries that cause point source air pollution could be curtailed. This could result in unemployment and other economic hardships.

Air pollutants that affect Gresham and the rest of the Portland region originate from three broad categories.

- Point (direct) sources, which emit large volumes of pollutants from specific locations such as industrial sites;
- Area sources which individually discharge small levels of pollutants from numerous sites such as woodstoves, lawn and garden equipment, solvents, backyard burning, etc, and
- Mobile sources, which are predominantly automobiles.

**Management of "Indirect" (Mobile) and (Direct) Point Sources of Air Pollution**

The Oregon Environmental Quality Commission (EQC) has found that "Indirect Sources" are air contamination sources as defined in ORS 468A.005. Therefore the EQC adopted Administrative Rules within OAR Division 254 to control the concentration of air pollution from motor vehicle trips and aircraft operations associated with these land uses. These include but are not limited to hospitals; parking facilities; retail, commercial and industrial facilities; recreation, amusement sports and entertainment facilities and educational facilities.

Within the Portland air quality maintenance area, DEQ requires approval of an indirect source permit before an entity can construct or expand a parking facility or other land use which would create new or additional parking capacity of 1000 or more spaces. The exception is within the Central City area of Portland. Within the Portland Core, a permit is required before development of a facility that would require 800 parking spaces.

DEQ can require an Indirect Source Emission Control Program (ISECP) as a condition of permit approval. The ISECP is intended to reduce mobile source emissions resulting from these projects. The ISCEP may include, but is not limited to, a variety of mitigating measures such as, posting transit route and scheduling information; construction and maintenance of bus shelters and turn-out lanes; maintaining mass transit fare reimbursement programs; limiting traffic volume so as not to exceed the carrying capacity of roadways, and altering the level of service at controlled intersections.

### Air Containment Discharge and Title V Permit Programs

The Oregon Department of Environmental Quality manages the state's Air Containment Discharge Permit (ACDP) Program. There are six categories of these types of permits that cover more than 100 activities per DEQ's administrative rules. ACDPs are used primarily to manage minor sources of air contamination. However they are also required for any new major source or major modification at an existing major source.

DEQ also manages the state's "Title V" permit program. This is a comprehensive operating permit program for Oregon's "major" industrial sources of air pollution. As defined in the program, a "major source" of air emissions has the potential to emit 100 tons of any criteria pollutant. Or, for emitters of hazardous air pollutants, a major source has the potential to emit 10 tons of any single hazardous air pollutant or 25 tons of any combination of hazardous air pollutants. Approximately 130 sources are currently permitted under the Oregon Title V Operating Permit Program.

There are no significant point- source air polluters in Gresham. Several large light industrial and warehousing / distribution businesses are located in the Columbia South Shore industrial area. These include the Albertson's Distribution Center, Honda of America, Boyd's Coffee Company, and Boeing. None of these activities qualify as a "smoke-stack" industry. Nearby farming and aggregate mining activities, combined with the right climate conditions sometimes contributes to suspend particulate matter pollution.

### Coordination of Air Discharge Permits with Local Government

State law requires DEQ and applicants seeking air discharge permits to coordinate their actions with local governments to ensure consistency with local comprehensive land use plans. Specifically, DEQ's Division 18 administrative rules require a Land Use Compatibility Statement from local governments when there is any:

- New development that requires an air discharge permit;
- Physical expansion on a property or proposed use of additional land for a facility operating under a discharge permit, or
- Physical change or change of operation of an air pollutant source that results in a net significant emission rate increase as defined by OAR 340-200-0020.

Furthermore any new air discharge permit renewal requires a Land Use Compatibility Statement if one has not been previously submitted.

Local planning offices have the responsibility to certify whether or not the business or facility under review meets all local planning requirements. This includes submitting findings of fact for any local reviews or land use approvals.

In Gresham, the Statement of Land Use compatibility is processed concurrently with the procedures for obtaining a development permits. For an action that does not require a

development permit, the Gresham Development Code requires the City Manager to process a Statement of Land Use Compatibility as a Type I permit.

### The Link Between Air Quality, Transportation and Land Use

The federal Environmental Protection Agency has designated the Portland - Vancouver Metropolitan area a maintenance area for ozone and carbon monoxide. This means that the area has had a history of non-attainment but is now consistently meeting the National Ambient Air Quality Standard. Activities and projects cannot occur in the region that would result in violation of the federal standards.

Metro and the U.S. Department of Transportation (USDOT) are required to determine that implementation of Metro's Regional Transportation Plan (RTP) and its Transportation Improvement Program (MTIP) does not lower air quality in the region below acceptable limits. This "air quality determination" is necessary before Metro can adopt its Regional Transportation Plan and before the USDOT can acknowledge it. This impacts East Multnomah County and Gresham because the area has several key projects identified in the RTP.

Without an "air quality determination" Metro would not be eligible to receive federal transportation funds. Furthermore USDOT's conformity designation requires that no goals, directives, recommendations or projects identified in the RTP have adverse impacts on the State Implementation Plan. Also the RTP must support prompt implementation of any Transportation Control Measure (TCM) identified in the SIP.

In January 2001, the USDOT determined that the project list associated with the Financially Constrained portion of the Regional Transportation Plan was consistent with the air quality objectives of the State Implementation Plan. The transportation related ozone and carbon monoxide emissions produced by implementing projects on the financially constrained list are expected to be within the limits imposed by the State Implementation Plan.

The land use, transportation and air quality connection is obvious since most of the region's air pollution comes from automobiles. Alternatives to automobile use are essential if the Portland Region is to maintain and improve its air quality. The Metro 2040 Plan and Regional Transportation Plan embody the guiding principles necessary to create a region that can be easily traveled by a variety of transportation modes including transit, walking and biking.

Furthermore the State Transportation Planning Rule, Division 12 was substantively amended in 1999 to promote the development of safe, convenient and economic transportation systems. The goal is to reduce reliance on the automobile so that air pollution, traffic and other livability problems faced by urban areas in other parts of the country might be avoided. The rule promotes changes in land use patterns and the transportation system that make it more convenient for people to walk, bicycle, use transit, and generally drive less to meet their daily needs. This will help to reduce air, water and noise pollution, conserve energy and reduce emissions of greenhouse gasses that contribute to global climate change.

In the last several years, Gresham has taken several land use / transportation actions to reduce automobile use including:

- Adoption of a Transportation System Plan (TSP) and implementing land use regulations and design standards in conformance with the Regional Transportation System Plan and the State Transportation Planning Rule;
- Adoption of zoning districts and standards that promote the development of compact, transit supportive land use.
- The development of efficient and comfortable transit centers stations;
- An active program to develop safe and useable bike and pedestrian facilities and connections throughout the community, and
- Development of transportation-efficient and environmentally sensitive urban development plans for the Pleasant Valley urban growth area.

### Open Burning

Open burning causes a substantial number of citizen complaints in the Gresham area. Air pollution caused by open burning can be a serious local problem. Unregulated open burning can be a serious nuisance and health threat. For example, DEQ prohibits the burning of specific materials such as animal wastes, wire, rubber materials, automobile parts, petroleum treated materials, etc.

Open burning is regulated and enforced by DEQ and often by local fire departments / districts. For example it is against the law to conduct open burning that:

- Unreasonably interferes with enjoyment of life or property,
- Creates a public or private nuisance or
- Is a hazard to public safety

DEQ regulations prohibit certain types of open burning in selected areas of the state. In the Willamette Valley, burning control areas are established around cities based on population. For example any city with a population of 45,000 or more has a six-mile special control area. Within these control areas specific materials are not to be burned. These materials are in addition to those prohibited by DEQ. These include waste from commercial establishments, slash from forestry operations and debris from construction, demolition activity and land clearing.

Within the Willamette Valley, DEQ analyzes air quality and weather data daily to determine if ventilation is sufficient to allow open burning, and notifies the State Fire Marshal accordingly. The Fire Marshal forwards this information to all fire districts in the valley. State regulations also give DEQ the authority to prohibit open burning anywhere in the state on a day-to-day basis depending upon air quality and weather conditions

The State Fire Marshal can also make a separate determination to prohibit open burning based upon safety conditions. The issuance of fire permits is the responsibility of fire departments. These agencies can also restrict open burning based on local conditions for fire hazard.

Open burning associated with a residence ("backyard burning") is prohibited in and around the Portland Metropolitan area unless a hardship is demonstrated and DEQ has issued a "hardship" permit. In East Multnomah County this area extends to 182nd Avenue. Residential property owners east of 182nd are allowed to burn yard debris on DEQ approved days.

The City of Gresham does not require "backyard" burning permits. However, Gresham's City Code was amended in 1998 and 2000 to require solid waste franchisees to provide curbside collection service of yard debris and delivery to a City-approved processor (Section 7.25.225). Also, the City, through the Gresham Department of Environmental Services, strongly encourages citizens to compost yard debris or dispose of the material in a way that does not require burning or hauling to a landfill.

## SUMMARY OF MAJOR ISSUES

### State and Federal Laws

1. Through the Clean Air Act, the federal government acting via the States has the responsibility for ensuring nation-wide clean air-standards. The Oregon Department of Environmental Quality (DEQ) is the state's regulatory agency responsible for implementing the Clear Air Act's Standards.

2. The Environmental Protection Agency has approved Oregon's federally mandated State Implementation Plan (SIP). The SIP is required to show how the state's plans comply with EPA air quality standards.

3. The Portland region's serious air-quality problems of the 1970's and 80's have been significantly reduced through a combination of voluntary and regulatory actions prompted by Clean Air Act mandates.

4. State Law requires "Land Use Compatibility Statements" to ensure actions which require environmental permits are coordinated with local comprehensive land use plans.

### Transportation, Land Use and Air Quality

5. The Portland – Vancouver Metropolitan area has been designated by DEQ / EPA as an Air Quality Maintenance Area for Ground Level Ozone and Carbon Dioxide. The area has had a history of non-attainment but is now consistently meeting the National Ambient Air Quality Standard. Activities and projects cannot occur in the region that would result in violation of DEQ / EPA standards.

6. The United States Department of Transportation (USDOT) has found that implementation of the Financially Constrained Project List of Metro's Regional Transportation Plan (RTP)

will not cause regional air quality to fall below standards set by the State Implementation Plan.

7. Automobiles contribute the highest percentage of the region's air pollution. Alternatives to the internal combustion engine and automobile travel are essential if the Portland Region is to maintain and improve its air quality. Indirect Source Permits are required for major land uses that concentrate more than 1,000 parking spaces in a specific location.

8. The Metro 2040 Plan and Regional Transportation Plan embody the guiding principles necessary to create a region that can be easily traveled by a variety of non-polluting transportation modes including transit, walking and biking.

9. The State Transportation Planning Rule, OAR Division 12 was substantively amended in 1999 to promote the integration of land use and transportation planning so that the air-quality and other livability problems faced by urban areas in other parts of the country might be avoided.

### Open Burning

10. Open burning is often the subject of citizen complaint in the Gresham area.

11. It is against the law to conduct open burning that unreasonably interferes with enjoyment of life or property, creates a public or private nuisance, or is a hazard to public safety.

12. DEQ enforces open burning laws rules. The agency and the State Fire Marshal allow open burning on specific days based on weather conditions. DEQ also prohibits the burning of certain materials.

13. The City of Gresham does not issue "back-yard" burning permits.

14. Gresham now requires solid waste franchisees to provide curbside collection of yard debris and delivery of the material to an approved processor. This program substantially reduces the extent of backyard burning.

## AIR QUALITY GOAL, POLICIES AND RECOMMENDED ACTION MEASURES

### GOAL

Improve air quality and reduce air pollution.

## POLICIES

1. The City shall work in partnership with the Oregon Department of Environmental Quality and Metro to maintain and improve air quality consistent with state and federal standards.

2. The City shall ensure, through coordination with the Oregon Department of Environmental Quality, that existing and future land uses with the potential for air discharges, comply with state air quality standards.

3. The City shall reduce air pollution by coordinating its economic development, land use and transportation planning efforts to be supportive of an efficient urban form and non-auto transportation modes including transit, pedestrian and bicycle travel.

4. The City shall adopt and maintain a Transportation System Plan (TSP) and implementing regulations which reduces the potential for air pollution by requiring of development:

    a. A well-connected and efficient road system;
    b. Opportunities for transit, bike and pedestrian travel; and
    c. A land use pattern supportive of non-automobile transportation modes.

## ACTION MEASURES

1. Gresham will coordinate land use applications with the potential for air-discharges with the Oregon DEQ to ensure all necessary air quality permits and conditions are met.

2. Gresham will seek ways to reduce air pollution associated with its municipal operations such as:

    a. Implementing best industry practices;
    b. Utilizing lesser polluting fuels in city vehicles;
    c. Limiting the use of chemicals, including ground maintenance activities, and where possible, supporting the use of non-polluting alternatives.

3. Reduce the need for automobile use by encouraging the location of affordable housing along major transit corridors but not concentrate affordable housing in any area of the City.

4. Coordinate emergency operations planning with DEQ and other state and regional offices to address the possible accidental air discharge of toxic materials from area industrial and commercial operations.

5. Work with DEQ to abate nuisance impacts and potential health hazards associated with incidents of open burning.

6. Promote public education about the alternatives to open burning such as:

a. Recycling paper products
b. Composting yard debris,
c. Reusing and recycling old lumber and other construction materials; and
d. Taking non-recyclable material to landfills.

7. Implement policies and take actions to reduce congestion on major streets to lessen localized impacts of automobile travel through means such as signal timing, access management, intersection improvements, etc.

8. Promote public education regarding ways individual actions can reduce air pollution.

9. Encourage the preservation and planting of trees and other landscaping as a means to improve air quality.

(Amended by Ord. 1581 passed 12/16/03; effective 1/15/04)

## 10.232 WATER RESOURCES QUALITY

### WATER RESOURCES QUALITY BACKGROUND

#### INTRODUCTION

The City of Gresham and its Urban Services Boundary encompass four distinct drainage basins. They are:

- West Gresham
- Fairview Creek to the Columbia Slough Watershed
- Johnson, Butler and Kelly Creeks to the Willamette River Watershed
- Burlingame, Kelly, and Beaver Creeks to the Sandy River Watershed

Portions of all of the drainage basins are within a large area that has water-bearing layers of silts, sands and gravels. This includes the very important Troutdale Gravel Aquifer. This aquifer supplies water to the Columbia Southshore Wellfield. Wells in this area are essential to provide back-up water supply to the Portland Water Bureau and its customers.

Each drainage basin is a complex environmental system of topography, vegetation hydrology, and geomorphology. Water flows through each via a network of interconnected streams and drainage ways, underground channels, and aquifers. Water quality problems in one drainage basin not only can affect the nearest stream system and possibly aquifers, but also all other downstream waters and, sometimes, groundwater resources.

Water pollution, like air pollution, knows no boundaries and can be widespread and harmful. Consequently, the federal government has enacted national laws requiring conformance to minimum standards. Local and state governments are required to conform to federal laws such as the Clean Water Act. In Oregon, the Department of Environmental Quality has the responsibility of implementing the act. Within the Portland Metropolitan region, water quality has diminished to the extent that it has contributed to the decline of several fish populations. These populations have become either endangered or threatened per the federal Endangered Species Act (ESA). This has significant implications. New development activity will have to be evaluated for its impact on water quality; significant restoration efforts to natural drainage ways and streams will be needed. Development of regulations and standards to address ESA requirements are being undertaken by Metro in cooperation with the region's local governments. Gresham and local governments will have a choice – to either adopt Metro's protection program or a local one that accomplishes the same objectives.

Gresham created a separate Stormwater Division in its Department of Environmental Services in 1993. This was partly in response to growing awareness of the importance of water quality and expanding federal, state and regional rules and mandates. The City's Stormwater Division is primarily responsible for management of the surface water quality within Gresham. Among its many responsibilities is assuring conformance with federal and state water quality laws and rules.

## WATER QUALITY ISSUES

Throughout Gresham, urbanization and other activities has caused the loss of naturally permeable surfaces capable of absorbing and filtering surface water. Drainage ways and streams have been filled, directed into culverts or hardened channels and development has occurred in wetlands and floodplains. This has prevented these resources from storing and filtering stormwater. Also, riparian vegetation has been removed, leaving water bodies exposed to direct sunlight, which significantly increases water temperature. Elevated water temperatures are inhospitable to many forms of aquatic life, especially for many fish species such as salmon, trout and steelhead.

Excess rainwater, often carrying pollutants from impermeable surfaces, flows directly into piped drainage systems, open drainage ditches and streams. This situation can cause significant problems, including damage to the stormwater system, flooding, stream bank erosion, sedimentation and damage to fish and wildlife habitat. Furthermore, without the natural ability of wetlands, floodplains and riparian soils to store water, other serious impacts can result, including reduced dry-weather flows, degraded water quality, loss of aquifer capacity, land subsidence and the loss of fish and wildlife habitat.

The potential for groundwater pollution affecting aquifers is a regional concern. If solvents and other toxic materials get in the aquifers, the region's access to drinkable water would be compromised. This is a particular concern for the aquifer that supplies the Southshore wellfields.

North of the Southshore wellfields, some contamination of shallow aquifers by industrial chemicals has taken place. It is estimated that this occurred over twenty years ago. While no longer occurring, a contaminant plume is slowly progressing toward the location of the deeper wellfield aquifer. Monitoring and remediation efforts are ongoing. Wells have been drilled to bring the contaminated water closer to the surface to allow solvents to evaporate. Other wells are in place specifically to monitor pollutant travel speed and direction.

Surface and groundwater water pollution from both point and non-point sources negatively affect Gresham's surface and ground water quality. Non-point source pollution is the result of many different activities, such as chemicals used for landscape maintenance and agriculture, soil erosion, car washing, and inappropriate disposal of household cleaning agents. The total aggregate effects of non-point source water pollution can be very serious. On the other hand, point source pollution comes from specific, identifiable locations such as industrial uses.

## THE FEDERAL CLEAN WATER ACT AND RELATED RULES AND REGULATIONS

The United States Congress passed the Clean Water Act (CWA) in 1972. The CWA is the cornerstone of surface water quality protection in the United States. The objective of the Act is to restore and maintain the chemical, physical and biological integrity of the nation's waters. It was the first comprehensive federal approach to water quality regulation and established national standards for effluent discharges and water quality standards. The Clean Water Act was strengthened by subsequent amendments in 1972, 1987 and 1990, which added federal control of toxic water pollutants, stormwater and oil spills. Also significant is that it also allows the federal government to enforce its provisions.

The Oregon Department of Environmental Quality (DEQ) has the responsibility for developing water quality standards to comply with CWA standards. Oregon DEQ's objective is to protect beneficial uses of rivers, streams, lakes and estuaries. Beneficial uses include drinking water, cold water fisheries, industrial water supply, recreation and agricultural uses. DEQ monitors water quality and reviews available data and information to determine if these standards are being met. If they are not, the agency can legally enforce compliance.

In addition to the CWA, the Safe Drinking Water Act and the Endangered Species Act have requirements that Gresham must meet. Also, the state and Metro have adopted rules and policies applicable to local jurisdictions that are intended to implement federal requirements.

The following summarizes the seven federal, state and regional water quality regulatory programs under the Clean Water Act that Gresham and other Oregon jurisdictions must comply with.

### National Pollutant Discharge Elimination System (NPDES) Permit for Municipal Separate Storm Sewer Systems

DEQ administers this federally mandated permit program, which requires local jurisdictions to develop and implement management practices that reduce the pollutants carried by stormwater

into state waters.  State waters include all natural water bodies, plus those waters that connect to other natural water bodies.

### Water Quality Standards and Total Maximum Daily Loads (TMDLs)

To comply with federal requirements, Oregon DEQ adopted water quality standards that protect beneficial uses such as drinking water, cold water fisheries, aesthetics, recreation, agriculture and other uses. DEQ's standards cover parameters such as bacteria, pH, turbidity, dissolved oxygen, temperature, and total dissolved gas, certain toxic and carcinogenic compounds, habitat and flow modification, and aquatic weeds or algae. Gresham's stormwater must not cause a violation of these standards when it flows into state waters. If a water body doesn't meet the standards, DEQ is required to set a TMDL. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. Because Gresham surface waters violate one or more water quality standards at some point during the year, DEQ will require further efforts by Gresham to clean up stormwater through the NPDES permit process.

There are three water bodies within Gresham that are listed by the Oregon Department of Environmental Quality (DEQ) as "water quality limited." DEQ is required by the federal Clean Water Act to maintain a statewide list of water bodies that do not meet federal water quality standards. This list is called the 303(d) list because of the section of the Clean Water Act that establishes the requirement. Table 1, below, is the current list of Gresham streams and other water bodies that do not meet current standards.

**Table 1**
**303(d) Listings for Gresham Water Bodies**

**WATER QUALITY LIMITED WATER BODIES WITHIN GRESHAM (10/10/03)[1]**

| Waterbody | Parameter | Time of Year | Year 303(d) Listed | Year TMDL Expected |
|---|---|---|---|---|
| **Johnson Creek** | PCB and PAHs | Year Around | 2002 | Not known |
| **Johnson Creek** | Temperature | Summer | 1998 | 2003 |
| **Johnson Creek** | Dieldrin | Year Around | 1998 | 2003 |
| **Johnson Creek** | DDT | Year Around | 1998 | 2003 |
| **Johnson Creek** | Fecal Coliform | Year Around | 1998 | 2003 |
| **Fairview Creek** | Fecal Coliform | Winter/Spring/Fall | 1998 | 2003 |
| **Fairview Creek** | E Coli | Year Around | 1998 | 2003 |
| **Fairview Creek** | pH | Spring/Summer | 1998 | De-list 2004 |
| **Kelly Creek** | E Coli | Summer | 2002 | 2007 |
| **Columbia Slough** | Temperature | Spring/Summer/Fall | 1998 | 2003 |
| **Columbia Slough** | Iron | Year Around | 2002 | Not known |
| **Columbia Slough** | Manganese | Year Around | 2002 | Not known |
| **Columbia Slough** | Chlorophyll a | Spring/Summer/Fall | Pre-1996 | 1998 |
| **Columbia Slough** | Dissolved Oxygen | Year Around | Pre-1996 | 1998 |
| **Columbia Slough** | pH | Spring/Summer/Fall | Pre-1996 | 1998 |
| **Columbia Slough** | Phosphorus | Spring/Summer/Fall | Pre-1996 | 1998 |
| **Columbia Slough** | Bacteria | Year Around | Pre-1996 | 1998 |
| **Columbia Slough** | DDT/DDE | Fish Tissue: Year Around | Pre-1996 | 1998 |
| **Columbia Slough** | PCBs | Fish Tissue: Year Around | Pre-1996 | 1998 |
| **Columbia Slough** | Lead | Year Around | Pre-1996 | 1998 |
| **Columbia Slough** | Dieldrin | Fish Tissue: Year Around | Pre-1996 | 1998 |
| **Columbia Slough** | 2,3,7,8 TCDD (dioxin) | Fish Tissue: Year Around | Pre-1996 | 1998 |

[1] Water quality limited waterbodies are those for which traditional, technology-based approaches are not adequate to protect beneficial uses from excessive pollution. The parameters listed have been, or are, on the 303(d) list. Parameters are removed from the 303(d) list once a TMDL is set for them. This does not indicate that the waterbody is safe for all its many uses.

## OTHER REGULATIONS AND LOCAL EFFORTS

### Wellhead / Well Field Protection

The 1986 federal Safe Drinking Water Act requires states and local agencies to establish wellhead protection zones to safeguard groundwater for drinking. In Gresham, this area is based on a groundwater model simulation of the 30-year time of travel to the production wells of the Columbia Southshore Groundwater Resource Wellhead Protection Area. This area is subject to Best Management Practices (BMPs) that are aimed at providing appropriate levels of protection.

The Gresham City Council, in January 2003, adopted a wellhead protection program for the area in and around Portland's Southshore Wellfields. The program includes regulatory standards involving the storage, handling and use of solvents and other toxics that could pollute the groundwater resource. The City's wellhead protection program was the result of a yearlong planning process involving area industries, Gresham, Portland and the Cities of Troutdale and Fairview.

### Underground Injection Control (UIC) Rules

The DEQ administers the federal UIC program in Oregon, pursuant to the federal Safe Drinking Water Act. The UIC program manages injection of fluids into the ground. All stormwater infiltration sumps within the City of Gresham are classified as UICs and must be registered and meet regulatory requirements set by DEQ.

### Endangered Species Act (ESA)

The ESA prohibits the "taking" of a member of any species listed as 'threatened' or 'endangered,' and allows the U.S. Fish and Wildlife Service (USFWS) or National Oceanic Atmospheric Agency (NOAA)-Fisheries to impose some prohibitions for listed species. The ESA defines "take" to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." The requirement is important for Gresham because the City's surface waters are either current habitat for threatened species, or are upstream from such habitat. It has been found that loss or degradation of habitat resulting from land development or water quality degradation can be considered a taking. The jurisdiction that permitted or allowed the offending development can be held liable.

The ESA requires jurisdictions to look at all the activities that occur under their authority that could harm threatened or endangered species. For Gresham and other cities, this not only includes land use regulations, but also management of surface water, maintenance and other operations associated with running a city.

Metro is working with the region's jurisdictions to develop a regional strategy to protect stream corridors and other natural resources necessary for water quality. An important part of the strategy is to protect wetlands and streams, provide adequate streamside buffers and key upland natural resources that contribute to water quality.

Metro has undertaken an extensive natural resource inventory and analysis of these resources. This effort will be followed by development of land use regulations and standards in conformance with USFWS and NOAA objectives.

The idea is that jurisdictions that adopt a water resources protection and land use regulatory plan in compliance with Metro's program, will be safer from legal action. Furthermore, if jurisdictions adopt Metro's program it will allow them to also comply with Statewide Planning Goal 5. The alternative is for jurisdictions to develop their own natural resources inventories and standards. However, any independently adopted program must be found to be in substantial compliance with Metro's own program.

### Metro Urban Growth Boundary Functional Plan -- Title 3

Gresham has complied with Metro Functional Plan – Title 3, Water Quality. The City adopted required erosion control and floodplain standards in 2000. In 2002, required water quality resource protection standards and maps were adopted.

Title 3 requires floodplain regulations to ensure "balanced cut and fill" in floodplains. These provisions are intended to prevent importation of fill into floodplains that would decrease the resource's overall water storage capacity.

The City's Water Quality Resource Area Overlay District map and standards provide for water quality protection by requiring new development to maintain vegetated buffers around streams and wetlands that can filter surface water runoff.

### Locally Enacted Regulations, Standards and Green Practices

In 1999 though 2001, Gresham adopted regulations and standards requiring the provision of surface water management systems and stormwater quality control. These provisions form the basis of the city's current regulations to ensure development does not harm water quality and cause the City to be in non-compliance with DEQ standards. They are applied to all major development in the City

In November 2003, it is expected that the City will also adopt the Gresham Water Quality manual. The manual is an important tool to control the quality of stormwater resulting from new development. It will serve as a guide to implement "Best Management Practices for Managing Stormwater."

An integrated approach to planning for and management of land use, transportation and surface water management can have a profound positive impact on water quality. Gresham and other jurisdictions in the Portland metropolitan region are moving toward a "Green Practices" philosophy of managing water quality.

The emphasis is to preserve or mimic the natural hydrologic cycle to the extent possible. This is done by promoting, to the degree practicable, that surface water is treated on the site where it

occurs or infiltrated after treatment; providing as much pervious surface as possible; using natural drainage systems such as vegetated swales and ditches, and preserving and restoring natural streams, wetlands and floodplains.

## SUMMARY OF MAJOR ISSUES

1. Urbanization and other human activities in Gresham have caused the substantial loss of naturally permeable surfaces capable of absorbing and filtering surface water. The loss of wetlands, floodplain area, natural drainage ways and stream channels has also occurred. This has reduced these resources' ability to store, cool and filter surface water.

2. Surface and groundwater water pollution from both point and non-point sources negatively affect Gresham's surface and groundwater quality.

3. The potential for groundwater pollution affecting the Troutdale Aquifer that borders the Columbia River is a regional concern. If solvents and other toxic materials used in industrial processes get in the aquifer, the region's access to drinkable water would be compromised. Shallow aquifers in the general area have already been contaminated.

4. Through the Clean Water Act, the federal government requires the states to establish and enforce specific water quality standards. In Oregon the Department of Environmental Quality has this responsibility.

5. Gresham is required to manage surface water quality to address five categories of federal state and regional surface water quality laws and related implementing rules. These include:

    - National Pollutant Discharge Elimination System (NPDES) Permit for Municipal Separate Storm Sewer Systems
    - Oregon DEQ Water Quality Standards and Total Maximum Daily Loads (TMDLs)
    - Well Field / Well Head Protection and Underground Injection Control per the 1986 Federal Safe Drinking Water Act
    - Endangered Species Act
    - Title 3 – Metro Regional Functional Plan

6. Metro has taken the lead in developing regulatory maps and standards to create a "safe harbor" for local jurisdictions that must comply with the water quality requirements of the Endangered Species Act. Metro's maps and regulations, once adopted by local jurisdictions, would also allow local jurisdictions to comply with Statewide Planning Goal 5.

7. In 1993, the City created the Stormwater Division in the Department of Environmental Services to specifically manage water quality issues.

8. Since 2000, Gresham has enacted several new local regulations to address water quality and surface water management. These include:

    - Water Quality Resource Area Overlay District and implementing standards;
    - Erosion Control Standards;
    - Balanced cut and fill provisions as part of the City's Flood Plain Standards;
    - Standards to ensure installation of surface water management systems and implementation of stormwater quality controls.

## WATER QUALITY GOALS, POLICIES AND RECOMMENDED ACTION MEASURES

### GOAL

Prevent surface and ground water pollution and improve water quality.

### POLICIES

1. The City shall require new development to comply with all land use regulations and other standards necessary to properly manage surface water quality and quantity.

2. The City shall ensure, through coordination with the Oregon Department of Environmental Quality, that existing and future land uses with the potential for water discharges, comply with state and federal water quality standards.

3. The City shall establish and maintain water quality plans, regulations and standards consistent with federal, state and Metro laws and rules as necessary to protect surface and groundwater quality.

4. The City shall protect the water quality, conveyance, storage functions and associated environmental values of streams, wetlands, 100-year floodplains and other natural drainage-ways and water bodies.

5. The City shall protect, and where practicable, restore water quality and the physical and biological integrity of the area's system of wetlands, rivers and streams and associated environmental values, including natural vegetation and fish and wildlife habitats.

6. The City shall encourage and support the development of drainage systems that preserve or duplicate the natural hydrologic cycle as a means to store, treat and convey surface water run-off.

7. The City shall require that surface water treatment and management of run-off quantities occur on-site for development projects that require development permit approval.

8. The City's surface water management program shall protect public safety and property and shall be based on long-term practicability and effectiveness.

9. The City shall, prior to approval of an Underground Injection Control (UIC), require documentation of compliance with DEQ groundwater rules. A letter from DEQ approving a UIC rule authorization application constitutes adequate documentation for a UIC.

10. The City shall require that development be a sanitary sewer system per the Gresham Community Development Code and applicable Oregon DEQ rules and standards.

11. The City shall implement measures to protect water quality necessary to sustain viable habitat for fish species, particularly those listed by the National Marine Fisheries Service as threatened or endangered.

12. The City shall adopt regulations and standards to protect streamside vegetative buffers and other natural resource areas that contribute to water quality consistent with Metro Goal 5 and Title 3 requirements. This includes the need to maintain water temperatures required for viable fish habitat.

**ACTION MEASURES**

1. Adopt a Water Quality manual to promote the use of "best water management practices" to achieve the City's water quality objectives.

2. Maintain and when necessary update wellhead / well field protection measures to prevent contamination of groundwater including that which sustains the existing Southshore wellfield.

3. Periodically review and update the City's water quality related plans, policies, regulations and standards to ensure consistency with federal, state and regional requirements.

4. Work with agricultural interests, Multnomah and Clackamas Counties, the Oregon Department of Agriculture, watershed advocacy groups and others to improve water quality and reduce agricultural runoff in Gresham.

5. Work with other jurisdictions, agencies and advocacy groups to address water quality issues that have inter-jurisdictional impacts.

6. Educate the public about the need to protect water quality and provide opportunities for citizens to be involved in restoration and enhancement projects involving area streams, wetlands and rivers.

7. Plan and implement programs to protect and restore the water quality functions of wetlands, stream corridors and other riparian areas such as:

    a. Acquisition of property and conservation easements;
    b. Stream restoration and wildlife habitat enhancement projects;

c. Erosion control/prevention including protection of hillsides from actions that cause erosion and landslides; and

d. Re-vegetation of stream and wetland areas and protection of appropriate existing vegetation.

8. Maintain an accurate inventory of stream corridors and their respective environmental conditions as a basis from which to restore their contribution to water quality.

9. Ensure all City operations and public improvement projects are conducted in ways to protect water quality consistent with all applicable regulations.

10. Encourage the use of green practices and use of green building methods and other emerging and innovative water quality technologies to improve water quality in Gresham.

(Amended by Ord. 1464 passed 12/1/98; effective 1/1/99)
(Amended by Ord. 1581 passed 12/16/03; effective 1/15/04)

## 10.233 NOISE POLLUTION

### SUMMARY OF FINDINGS

Noise is a recognized cause of physical and psychological stress which has been directly related to various health problems. Motor vehicle traffic noise is the major contributor to the ambient noise level in Gresham. Portions of northern Gresham also lie within the Portland International Airport (PIA) noise contour levels, and are evaluated annually by the Port of Portland for noise impacts. Ambient noise level is most bothersome on Gresham's heavily traveled streets (Section 2.431 to 2.437 - Findings document).

### POLICY

It is the City's policy to create and maintain a quiet and healthful environment for those who live, work, and play in Gresham.

### IMPLEMENTATION STRATEGIES

1. The Community Development Standards document shall ensure that future "noise sensitive" developments are designed and located so as to minimize the intrusion of noise from motor vehicle traffic and/or neighboring noisy uses.

2. The Community Development Standards document shall ensure that new commercial, industrial, and public developments are landscaped and designed such that Department of Environmental Quality (DEQ) noise standards are met and neighboring "noise sensitive" properties are not negatively impacted by the new land use or associated activities.

3. The city shall seek a response and/or assistance from the Department of Environmental Quality (DEQ) when reviewing commercial or industrial uses in or near residential areas to prevent degradation of previously quiet environments.

## 10.234 LAND RESOURCE QUALITY

### SUMMARY OF FINDINGS

Land quality in Gresham is not currently threatened by large-scale waste and process discharges. There is no solid waste site within the city and the municipal sewerage system will eventually serve annexed areas currently using sub-surface sewage disposal. Normal human activity and economic processes in Gresham contribute to the quantity of regional waste and process discharges. METRO has the authority to provide solid and liquid waste disposal in the metropolitan area, and has approved a regional landfill site in eastern Oregon. Solid waste from the metropolitan area will be transported to the site (Sections 2.440 to 2.461 Findings document).

### POLICY

It is the City's policy to maintain and improve, if possible, the current quality of Gresham's land resources.

### IMPLEMENTATION STRATEGIES

1. The city shall actively participate with the Metropolitan Service District (MSD) and the Department of Environmental Quality (DEQ) in the solid waste site selection process.

2. The city shall discourage solid waste sites in Gresham which would adversely affect neighboring land uses or which are unsuitable because of natural conditions at the site, including but not limited to:

    a. Depth to water table.

    b. Soil conditions.

    c. Impacts upon drainage.

    d. Water quality degradation or similar problems.

3. The Community Development Standards document shall require that subsurface sewage disposal systems be approved only under conditions which assure that groundwater resources will not be degraded.

4. The city shall ensure that future land use activities with significant waste and process discharges conform to all State and Federal environmental quality standards.

5. The city shall seek a response or assistance from the Department of Environmental Quality or any other interested State or Federal agency when reviewing proposed land uses with potential for significant waste and process discharges.

## 10.235 THERMAL POLLUTION

### SUMMARY OF FINDINGS

Temperature has been identified by the DEQ as a parameter of concern for the Columbia Slough and Johnson Creek, and studies of Johnson Creek in 1992 indicated conditions at or above critical temperatures for growth and spawning of salmonids. Increasing imperviousness as a result of urbanization, as well as the removal of streamside vegetation and the overhanging tree canopy along Gresham creeks has the potential for raising current water temperatures which in turn destroy fish habitats (see Section 2.450, Volume 1 - Findings document).

### POLICY

It is the City's policy to minimize the removal of streamside vegetation which would adversely impact stream temperatures.

### IMPLEMENTATION STRATEGIES

1. The Community Development Plan will limit and discourage the removal of vegetation and trees along city streams through appropriate flood plain land use designations such as open space, greenways, parkland, and recreation trails.

2. The city shall seek a response or assistance from the Department of Environmental Quality or other interested agencies when reviewing future land uses or activities which have the potential to raise water temperatures of Gresham's streams.

3. The city shall ensure that future thermal pollution discharges conform to all State and Federal thermal discharge standards.

(Amended by Ord. 1464 passed 12/1/98; effective 1/1/99)

# 10.300 THE PHYSICAL ENVIRONMENT

## 10.310 LAND USE

### SUMMARY OF FINDINGS

Land use patterns for most of the city are already established. The size of the city is approximately 13,777 acres and will grow to 14,344 acres if all of the planned annexations are completed. Gresham is a predominantly residential community of single family detached homes. Commercial uses are located along arterial streets and in commercial centers. A relatively stable Central Business District composed of mixed uses exists. Industrial development in the 1980's included several major industrial developments. Some portions of the city are not served by park facilities (Section 3.100 to 3.120 - Findings document).

### POLICY

It is the City's policy to ensure that an adequate supply of land exists for residential, commercial, office, institutional, industrial and open space needs.

## 10.311 RESIDENTIAL LAND USE

(Repealed by Ord. 1620 passed 2/21/06; effective 3/23/06)
(Amended by Ord. 1387 passed 2/6/96; effective 3/7/96)
(Amended by Ord. 1308 passed 4/5/94; effective 5/5/94)
(Amended by Ord. 1140 passed 7/18/89; effective 8/17/89)

## 10.312 COMMERCIAL LAND USE

### SUMMARY OF FINDINGS

Commercial development is the most rapidly growing sector of the city's economy. Employment in the retail and office/service industries are expected to generate 73% of the forecasted employment growth to the year 2005 adding nearly 6,000 new jobs under the baseline or "most likely" employment forecast. Retail trade is expected to capture 70% of the commercial sector employment growth in the next 20 years. Commercial development is forecasted to need around 240 acres of commercially designated land during that time period.

Growth in Gresham's commercial service businesses reflects the national trend which shows that services are rising in importance as a source of employment over traditional manufacturing industries.

The site requirements of commercial service firms vary according to the size of the business and type of service being provided. Strip commercial development has played a role in providing goods and services to the residents of the city. However, because of the problems associated with strip development, new businesses may be located within existing strips but these commercial areas will not be extended. Businesses in east county tend to be smaller than their

counterparts in Multnomah County. Smaller businesses are more likely to be located in multi-tenant buildings than larger businesses, which support the contention for providing sites for commercial centers. For businesses which require high customer visibility there is a need to provide sites for commercial centers along major streets. The Urban Land Institute's locational standards for shopping centers should be considered in designating new sites for commercial development.

Keeping abreast of factors which are taking place in the commercial land marketplace is essential for the maintenance of a healthy climate for economic development. Factors such as the inventory of commercially designated land and the location and size of these properties should be periodically studied to establish whether or not market needs are being met.

The Central Business District once was the center of economic activity in the city. This area has the potential to become the focal point for business and civic activities for the entire east county area. Commercial development in the city's traditional commercial core should also be supported and promoted (Sections 4.700 to 4.743 - Findings document).

**POLICY I**

It is the policy of the City to provide an adequate amount of serviceable commercial land to facilitate the development of commercial centers or infill commercial strip development and prevent the need for lateral expansion of commercial strips along major streets.

**IMPLEMENTATION STRATEGIES**

1. The city will meet consumer commercial services and retail needs by designating land for the development of regional, community and neighborhood scale centers.

2. The city will promote the redevelopment of commercial strips through the application of traffic management techniques to improve circulation.

3. The city will annually assess the supply of serviceable sites for commercial development to ensure that a three-year supply is maintained for each year of the five-year capital improvements program. If the city finds less than a three year supply, the following actions may be taken:

    a. Change the Capital Improvements Program to add or reschedule projects which make more land serviceable;

    b. Amend the land use map to redesignate more serviceable land for commercial development; or

    c. Reconsider the economic development objectives and amendment of plan policies based on public facility limitations.

4. The city will provide opportunities for commercial uses in high density residential areas. These should be low traffic generating, small scale "walk-in" types of commercial uses.

5. The city will promote focused commercial development in downtown and Central Rockwood to take advantage of expected increased population densities in and around these areas as a result of the light rail transit system. Downtown will be the focus of retail and office development while transit-oriented retail, service, and office development will be promoted in Central Rockwood.

6. The city will establish locational criteria for siting commercial development.

7. The city will establish a standard to control the parcelization of large commercial sites which have potential to be developed as regional scale shopping centers.

**POLICY II**

It is the City's policy to encourage commercial development which increases employment opportunities; reduces dependency on outside of-city goods and services; promotes energy-efficient travel patterns; is compatible with neighboring land uses; and promotes good community design.

**IMPLEMENTATION STRATEGIES**

1. The Community Development Standards document shall establish standards for commercial and office uses to ensure:

   a residential areas are buffered from potential adverse effects;

   b. street access points are consolidated;

   c. pedestrian circulation and safety is accomplished;

   d. loading and parking areas are adequate to meet the demand;

   e. adequate lighting is provided for crime prevention; and

   f. landscaping is employed to enhance the appearance of the project.

2. The city shall encourage intensified commercial development in the city's downtown and Rockwood commercial district.

3. The Community Development Standards document will include a provision which will allow the reduction of off-street parking requirements when it can be demonstrated that the proximity of the proposal to mass transit reduces off-street parking demand.

4. The Community Development Standards document shall establish standards to allow small scale commercial operations to sell produce raised on the property.

### POLICY III

It is the City's policy to ensure that the supply of commercially designated land meets the market demand.

### IMPLEMENTATION STRATEGY

1. The city will periodically evaluate the supply of commercial land in order to establish whether the inventory includes parcels of adequate size and location to meet market demand. Adjustments to the supply shall be made where findings indicate a need to do so.

### POLICY IV

It is the policy of the City to identify certain properties as potential sites for a future regional shopping center in order to focus appropriate marketing and public facility planning efforts toward these sites. The property known as the "Zimmerman" and "McGill" sites are identified as sites for a future regional shopping center.

### IMPLEMENTATION STRATEGIES

1. The city will assist the private sector in marketing these areas as potential sites for a regional shopping center.

2. The city will assist in the timely extension of public facilities necessary to serve the regional shopping center sites.

(Amended by Ord. 1443 passed 5/5/98; effective 6/4/98)
(Amended by Ord. 1366 passed 7/11/95; effective 7/11/95)

## 10.313 INDUSTRIAL LAND USE

### SUMMARY OF FINDINGS

The City of Gresham’s potential for industrial development is great. The city has 1,448 acres of vacant or significantly underutilized industrial land. A significant amount of this land is in large lots, which is unique in the Portland metropolitan area. These sites are attractive to large scale industrial developments. Under the high growth scenario industrial development is forecasted to need 353 acres of industrially designated land through the year 2005. The city's location in the Portland metropolitan area makes Gresham attractive to manufacturing firms requiring access to a large and diverse labor force. A sizable percentage of the local labor force has post secondary education which also is attractive to firms needing workers with some technical training and experience. Gresham's proximity to the Port of Portland's marine and international airport facilities makes it attractive to export industries.

Traditionally, industrial development in Gresham has taken place in small-scale firms but this trend is changing. The Fujitsu electronics plant and the Albertson's distribution center represent

large firms which have taken advantage of the availability of large and relatively inexpensive tracts of land. In addition, the annexations of the 1980's have brought into the city several industrial parks which contain large industrial firms.

The forecasted leaders in industrial employment to the year 2005 include manufacturing of transportation equipment and electrical components and wholesale trade. Growth is projected to be centered in light industrial development although substantial growth in moderate/heavy industrial developments is expected as well (Sections 4.700 to 4.743 - Findings document).

(Amended by Ord. 1140 passed 7/18/89; effective 8/17/89)

**POLICY I**

It is the policy of the City to promote expansion of existing industrial uses and attract industrial development which is labor and capital intensive as well as environmentally desirable.

**IMPLEMENTATION STRATEGY**

1. The city will encourage the maintenance of large industrial tracts (20+ acres) which exist north of Sandy Boulevard for large scale planned industrial developments. The Standards Document shall require that a conceptual street and parcelization plan be submitted in conjunction with a land development proposal in this area.

**POLICY II**

It is the policy of the City to ensure that there are opportunities for a wide range of industrial uses and to strive for compatibility between industrial and adjacent land uses.

**IMPLEMENTATION STRATEGIES**

1. The City will establish locational criteria for siting industrial land uses.

2. The City will establish three industrial districts:

    a. A heavy industrial district for industrial uses which process, fabricate, utilize heavy equipment or require substantial areas for outdoor storage;

    b. A light industrial district for light industrial uses which assemble, manufacture, distribute or warehouse materials as well as research and development facilities; and

    c. A business park industrial district for low intensity industrial manufacturing and limited office, service or retail uses as well as research and development facilities.

**POLICY III**

It is in Gresham's long term best interest to ensure that the City's public facilities and services can accommodate new industrial development.

**IMPLEMENTATION STRATEGIES**

1. The city will annually assess the supply of serviceable sites for industrial development to ensure that a three year supply is maintained for each year of the five-year capital improvements program. If the city finds less than a three year supply, the following actions may be taken:

    a. Change the Capital Improvements Program to add or reschedule projects which make more land serviceable;

    b. Amend the land use map to redesignate more serviceable land for industrial development; or

    c. Reconsider the economic development objectives and amendment of plan policies based on public facility limitations.

**POLICY IV**

It is the City's policy to ensure that the supply of industrially designated land meets the market demand.

**IMPLEMENTATION STRATEGY**

1. The city will periodically evaluate the supply of industrial land in order to establish whether the inventory includes parcels of adequate size and location to meet market demand. Adjustments to the supply shall be made where findings indicate a need to do so.

## GOAL 9 - ECONOMIC DEVELOPMENT

### BACKGROUND

### Industrial and Business Park Employment

#### Statewide Planning Goal 9: Economic Development

*"To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare and prosperity of Oregon's citizens."*

#### Introduction

The following shows that the City of Gresham must undertake a land use strategy which promotes additional family wage job opportunities. This is essential for the City to attain a balance of employment, population and households necessary for a complete and fiscally sustainable community.

### Employment and Population

In August of 2001, Metro completed an analysis of regional centers in metropolitan Portland and the sub-regions they serve. This analysis evaluated the ratio of jobs to population within four miles of each regional center, regardless of jurisdictional boundaries. The Gresham regional center area, which includes most of the East County population: Gresham, Fairview, Wood Village, Troutdale and east Portland, is dramatically underserved by employment opportunities with an employment to population ratio of 0.34 – lower than the 0.69 average ratio for all centers in the Metro area.

A variety of other measures indicate that Gresham and East Multnomah County lag in the number of jobs compared to the rest of Multnomah County and the Portland Metro area. Even though job growth in the last decade was positive, increasing from 27,535 in 1990 to 38,945 in 2000, it did not match the rest of the Metro area. In fact, Gresham's ratio of jobs to population remained almost stagnant. For example, in 1990 Gresham had 6.0% of Multnomah County's jobs and 12.0% of the county's population or a ratio of .5 to 1. In 2000, the City had almost the same ratio with 7.1% of the county's jobs and 13.7% of the population.

Current data also indicates the number of jobs in Gresham is out of balance with the number of households when compared to the rest of the region. In 2000, Gresham had 1.17 jobs for every household – significantly below the county, regional and U.S. ratios. Gresham's jobs to household ratio had actually declined during the period 1980 to 1990 after a decade of annexations and rapid housing growth.

The facts show that Gresham has become more of a bedroom community in the last twenty years. For example, the relatively low number of jobs compared to population and households reveal that the City's residents find work in other communities. Almost 40% of the Gresham workforce travels more than 10 miles and the average work trip is 7.7 miles. Only Tualatin residents travel further.

Gresham also experiences occupational mismatches, further contributing to fewer residents finding work nearby. The resident workforce supplies a higher proportion of managerial, clerical, and sales occupations, while the demand by local employers is skewed toward services, production, and assembly jobs.

### Existing Land Use – Need for More Buildable Industrial Land

In terms of land use, Gresham is predominately a residential community. Land designated for residential use totals about 10,000 acres, or 70% of the City's total land area. Lands designated for industrial/business park uses about 18% of the City, or 2,580 acres. Mixed-use and commercial lands encompass about 1,000 and 725 acres respectively.

Over the past decade, Gresham's supply of vacant industrial land has declined. A 1991 inventory identified a supply of 1,620 vacant acres. In 2000, only 853 vacant acres remained. Environmental, ownership, transportation and other infrastructure constraints limit the suitability of these remaining lands for development. Only 166 acres of vacant land are unconstrained.

Furthermore, if access to Interstate 84 through an adequate arterial system is taken into account, only 127 acres of unconstrained land remains.

Parcel size is also a significant industrial development issue. There are only six vacant parcels in Gresham larger than 40 acres. There are 160 parcels smaller than 40 acres, and 102 parcels are less than four acres in size. All of the City's largest industrial parcels have significant development constraints.

A key component of the City's policy strategy of improving its jobs to household ratio is to have more buildable industrial and business park lands. Even under Gresham's low jobs/households ratio, Gresham could face a shortage of developable industrial / business park land. For example, an additional 1,850 to 2,445 business park-related jobs are forecast over the next 20 years – requiring 133 to 176 acres of land. The City currently has 114 acres of unconstrained vacant and underdeveloped business park land, leaving a potential net deficit of 19-62 acres.

Gresham is not alone in its shortage of ready-to-build industrial sites. A recently completed Metro "Regional Industrial Land Study, Phase 3 (RILS)" suggests that a regional shortage of industrial land exists. The study forecast a demand for 6,300 net acres over 20 years to meet projected employment needs. Total supply of industrial land in the region is currently 9,200 acres, but only 2,400 are unconstrained and ready to develop. There is also a lack of large industrial sites, which could have market consequences. The report states:

> "The availability of ready-to-build parcels is constraining market potential. Regionally, the forecasted demand for small (less than 3-acres) and large (over 50 acres) individual industrial parcels may exceed the existing unconstrained industrial supply unless proactive public policies interact with market forces to enhance and preserve strategic industrial holdings."

The 3,900-acre regional shortfall of industrial land will have to be made up through improvements to constrained lands and through the designation of additional industrial land. The region is forecast to add another 188,400 industrial jobs over the next 20 years – over one-fourth of these jobs are projected to require tech/flex space. Based on past trends, the City is projected to add 6,720-8,860 industrial jobs over the same planning period. This equates to 6%-7% of the Region's projected job growth.

### Regional, State and National Trends

The success of the regional and local area economy depends largely on national economic trends. The following are trends that Gresham should watch and accommodate, if possible, in its efforts to build a stronger local economy.

- Flex space. Companies are moving away from large manufacturing facilities towards smaller, more flexible facilities and more research and development facilities.
- Expedited commerce. Advances in technology will lead to more "just-in-time" inventory for stores and direct shipments to consumers, reducing the need for warehouse space, but increasing the need for sophisticated distribution facilities.

- Warehousing. Fewer warehouses will likely be needed, but new buildings will be larger, with more storage volume and fewer employees.
- Connectivity. The availability, speed and reliability of Internet connections and telecommunication facilities will become increasingly important for office, as well as industrial users. In distribution facilities, "information will replace inventory," allowing products to be quickly shipped as needed.
- Quality matters. The quality of life offered by a community will become just as important as transportation and utilities in companies' locational decisions. A quality community will attract quality employers.
- Skilled workforce. Future industries will need a skilled and educated workforce that can quickly adapt to changing technologies.

## GOAL 9 - ECONOMIC DEVELOPMENT
## GOALS, POLICIES AND ACTION MEASURES
## Industrial and Business park Employment

### GOAL

Achieve and maintain an environment of sustainable economic prosperity and opportunity.

### POLICIES

1. Gresham shall ensure an adequate supply of ready-to-build employment lands. The City shall designate and maintain on its Community Development Plan Map the land base necessary for sustained and diverse economic development and job creation.

2. The City shall acquire a share of the region's jobs at least proportionate to its population growth. The City shall focus on economic sectors and targeted industries that hold the most promise for the creation of a diverse economic base, family wage job growth and career opportunities.

3. Gresham shall actively seek to change its current balance of land uses to at least achieve a ratio of jobs to households on par with that of the rest of the Portland Metropolitan Region.

4. Gresham shall link its land use, transportation and economic development efforts with the need for jobs that match the skills of its workforce.

5. Gresham shall emphasize its need for more employment and a larger tax base as necessary for the City's economic and fiscal sustainability when considering expansion of the Urban Services Boundary.

6. The City shall be able to respond proactively to larger-scale economic development opportunities by having appropriately zoned, ready-to-build industrial / business park sites of appropriate size and location.

7. Gresham shall plan its future land uses and urban services to be the employment and economic center of the East Metro area.

8. Gresham shall regularly update its industrial and business park land supply. The City shall consider re-designating lands that cannot practicably be developed for these uses within the planning period.

9. Gresham's public facility plans shall realistically represent the infrastructure needs of its industrial / business park sites. When services are inadequate, the City shall identify practical means to provide needed services to specific sites and ensure needed long-term, system-wide infrastructure capacity.

10. Gresham shall manage its industrial and employment lands to prevent inappropriate and unrelated retail and office land conversion.

11. Gresham shall increase the potential for higher employment densities to improve its job to household ratio and make more efficient use of its existing employment lands.

12. The City shall ensure that adequate transportation facilities either are, or can be, provided to existing and future employment lands.

13. The City shall ensure that its economic development, land use planning and regulatory efforts support retention and growth of existing business and also address the needs of small businesses that wish to locate in Gresham.

## GOAL 9 - ECONOMIC DEVELOPMENT, INDUSTRIAL EMPLOYMENT
## ACTION MEASURES

| # | ACTION MEASURES<br>Programs | Ongoing Actions | Future Actions | Implementers & Partners |
|---|---|---|---|---|
| 1. | Maintain a five-year minimum supply of ready-to-build industrial and business park lands. For the longer term, maintain an inventory of vacant and unconstrained land adequate to accommodate the City's 20-year employment projections. | | ☑ | CEDD, DES, PC, CC, Metro, Mult. Co. |
| 2. | Take action to attain a larger share of the Portland metropolitan area's employment base with an emphasis on achieving a greater mix of jobs in light industrial and business park uses. | | ☑ | CEDD, PC, CC, Metro, Mult. Co., ECDD |
| 3. | Develop profiles of targeted industries and other businesses that match Gresham's economic development objectives. | | ☑ | CEDD, Metro, ECDD |
| 4. | Develop and maintain a current information base of employment lands and their suitability to accommodate industrial, business park and other employment uses. | | ☑ | CEDD, DES, Metro |

| | | | | |
|---|---|---|---|---|
| 5. | Target industrial sectors that have the following characteristics for future location or expansion in the Gresham area:<br><br>a. A strong competitive position relative to the nation currently or demonstrated improvement in competitive standing since 1990.<br>b. Demonstrated high worker productivity or a rate of productivity growth more rapid than has been experienced nationwide by firms within the industrial sector.<br>c. Value added product output that is equal to or greater than 50 percent. This indicates that at least half of the industry's output value is created within the regional economy.<br>d. A high local employment multiplier and/or high forecasted local employment growth. The employment multiplier indicates the level of stimulus that an industry sector provides to supporting employment activity in the local area or region.<br>e. An annual wage level at least equal to the current Metro region-wide average or a demonstration of positive wage growth during the most recent seven years. | | ☑ | CEDD, Metro, ECDD, PSU |

| # | ACTION MEASURES<br>Programs (continued) | Ongoing Actions | Future Actions | Implementers and Partners |
|---|---|---|---|---|
| 6. | Maintain information necessary to periodically assess the performance of Gresham's industrial, service and retail/commercial sectors compared to the region as a whole. | | ☑ | CEDD, Metro, PSU, OED, ECDD |
| 7. | Form a "Development Advisory Group" consisting of representatives from Gresham's business community, neighborhood associations, real estate and builders' groups. The "Group" shall periodically meet with City staff to share information, advise participants of development issues and trends, and discuss the effects of City land use policies and regulations. | ☑ | | CEDD, DES, OCM, Neighborhood Association Coalition, Gresham Chamber |
| 8. | Increase jobs in Gresham at a rate to achieve at least the Metro region's average ratio of jobs to households. | | ☑ | CEDD, DES, Metro, PSU, Gresham Chamber |
| 9. | Ensure that City's Transportation System (TSP) and Public Facility Plans (PFP) identify the public infrastructure needs of the City's existing and future industrial and business park sites. | | ☑ | CEDD, DES, PC, CC, Metro, Tri-Met |
| 10. | Within Gresham's urban services boundary establish and maintain land use designations on at least two large "ready to build" (serviceable), vacant industrial / business park sites of at least 40 acres in size. These lands shall be unconstrained by natural hazards, sensitive natural resources, size, ownership and topography and practicably capable of being served by requisite public facilities and services. | | ☑ | CEDD, DES, PC, CC, Metro |
| 11. | Develop and implement land use, transportation and other actions to promote opportunities for existing and future Gresham residents to live close to where they work. | ☑ | | CEDD, DES, Tri-Met, ODOT, PC, CC |

| | | | | |
|---|---|---|---|---|
| 12. | Evaluate the possibility of increasing the value and efficiency of employment lands by allowing the transition to more flex space and office build-out. | | ☑ | CEDD, PC, CC, PSU |

| # | ACTION MEASURES<br>Projects (continued) | Ongoing Actions | Future Actions | Implementers and Partners |
|---|---|---|---|---|
| 13. | Increase the number of ready-to-build industrial and business park sites through investments in needed infrastructure and environmental protection / mitigation as funds become available. | | ☑ | CEDD, DES, OCM, PC, CC, Metro, ECDD |
| 14. | Periodically review land use regulations and policies to ensure that:<br><br>a. Emerging and non-traditional economic activities are not precluded from locating in Gresham, and<br>b. Existing businesses can adapt their operations to respond to changing economic conditions. | | ☑ | CEDD, DES, PSU |
| 15. | Evaluate land use policies and regulations with the objective of enhancing the flexibility and efficiency of Gresham's industrial and business park employment lands. Possible future actions may include:<br><br>a. Allowing information sector uses to locate on light industrial lands.<br>b. Increasing the amount of land allocated for business park uses.<br>c. Transitioning from three industrial zones, (Heavy Industrial, Light Industrial and Business Park) to two zones (Industrial and Business Park).<br>d. Encouraging more employment intensive land uses to locate within and near the MAX corridor.<br>e. Adopting standards to promote more intense business park and industrial development to increase the City's ratio of employees per acre.<br>f. Using, where appropriate, performance-based zoning and development standards. | | ☑ | CEDD, DES, PC, CC |
| 16. | Evaluate the feasibility of allowing emerging and non-traditional industrial uses to locate within or in close proximity to regional and town centers, transit corridors and other mixed-use districts. | | ☑ | CEDD, PC, Metro, PSU |

| # | ACTION MEASURES<br>Intergovernmental Coordination and Cooperation | Ongoing Actions | Future Actions | Implementers & Partners |
|---|---|---|---|---|
| 17. | When it is determined practicable and in Gresham's economic interests, assert that the City be the provider of urban services to future employment lands brought into the East Metro Area Urban Growth Boundary that are near or next to the City limits. | | ☑ | CEDD, PC, CC, Metro, Mult. Co., Clack Co. |
| 18. | Work with Multnomah and Clackamas Counties and other East Metro jurisdictions to ensure that Metro's actions to expand the UGB reflect East County needs for local economic development and employment. | | ☑ | CEDD, PC, Metro, Mult. Co. Clack. Co, Troutdale, Fairview, Wood Village |
| 19. | Coordinate transportation planning and capital expenditure strategies with other agencies and jurisdictions to enhance Gresham's pivotal location advantage regarding transportation opportunities. These include proximity to Interstate 84, U.S. Highway 26, heavy and light rail facilities, the Troutdale and Portland International Airports and the Columbia River. | | ☑ | CEDD, DES, OCM, Metro, Port of Portland |
| 20. | Coordinate land use planning actions and economic development strategies with private utility providers to make certain of their ability to plan for and deliver energy and telecommunication service, including fiber optics, satellite and high speed internet services. | | ☑ | CEDD, DES, Private Utilities |
| 21. | Involve local school districts, Mt. Hood Community College and the region's public and private universities in the City's economic development planning efforts. Encourage them to provide education opportunities to meet the work force skill needs of the contemporary and future industrial economy. | | ☑ | CEDD, MHCC, PSU |

**ABBREVIATIONS**

| | |
|---|---|
| CC | Gresham City Council |
| CEDD | Gresham Community and Economic Development Department |
| DES | Gresham Department of Environmental Services |
| ECDD | Oregon Economic and Community Development Department |
| OED | Oregon Employment Division |
| OCM | Gresham Office of City Manager |
| ODOT | Oregon Department of Transportation |
| PC | Gresham Planning Commission |
| PSU | Portland State University |

(Amended by Ordinance No. 1553, passed 9/3/02; effective 10/3/02)

## 10.314 DOWNTOWN AREA DEVELOPMENT

### SUMMARY OF FINDINGS

Gresham's Central Business District was once the focal point of the community. Today, retail trade and office development is dispersed throughout the city and the community lacks a focal point. An objective of the community is to re-establish the downtown as the center of community activity. This objective has been re-affirmed through the Envision Gresham 2020 process, which designated the downtown area as the city's "High-Density Core."

To further implement the 2020 Final Action Plan with respect to the downtown area, the Gresham Downtown Plan was prepared and adopted in 1995. This plan promotes mixed-use development throughout the area, and encourages some of the highest development intensities in the city. A wide range of commercial and multi-family residential uses are permitted in the downtown area, along with appropriate Community Services. (Appendix 37 - Findings document.)

### DOWNTOWN AREA LAND USE POLICY

It is the City's policy to create an image of the downtown area as the focal point of the community's business and social activities by providing for a variety of land uses and the highest development densities.

### IMPLEMENTATION STRATEGIES

1. The city will promote high intensity mixed use development in and around the existing central business district.

2. The city shall designate land for moderate and high density housing, office and commercial development adjacent to the transit stations. The highest density developments should be focused around Central and Cleveland LRT stations.

3. To assure intensive land development in the Downtown Area and in the vicinity of the light rail stations, minimum residential development densities and minimum floor area standards will be instituted.

4. Major people-oriented institutional uses, such as a library, will be encouraged to locate within the Downtown Area.

5. The city will encourage master development plans to be submitted for phased development projects.

6. The city will encourage the development of a major public facility in the Downtown Area which would attract people from around the metropolitan area in order to stimulate additional development in the community and maximize use of light rail.

7. Land use designations and development standards in the Downtown Area shall permit and encourage a wide variety of multi-family housing types, including row houses, apartments, flats, condominiums, and dwellings combined with commercial uses.

## DOWNTOWN AREA TRANSPORTATION POLICY I

The City, recognizing the auto as the dominant transportation mode, will seek to provide a coordinated streets and parking management program to meet future traffic demands in the downtown area.

## IMPLEMENTATION STRATEGIES

1. Street system improvements in the Downtown Area will include traffic channelization, increased carrying capacity (where appropriate), safety improvement, and enhanced visual quality along the existing streets.

2. The city will monitor parking needs within the Downtown Area, and will consider participating in construction of future parking garages to satisfy demand and to reduce the need for large surface parking lots which may make the area less pedestrian-friendly.

3. The city will conduct a parking management and demand study for the core area. Such a study will consider, among other things, the impacts of future street construction on parking availability in the core area, and the demand for parking structures, as proposed in the Gresham Downtown Plan. The city will not seek acquisition of future street rights-of-way in the area west of NE Kelly St. until after completion of this study, unless such rights-of-way are required in connection with new development activity.

4. Any future comprehensive parking management program developed within the Downtown Area shall acknowledge investment by businesses which participate in the local improvement district for downtown parking as provided in Ordinance Number 614 and Resolution Numbers 421 and 430. Funding for future parking programs will be sought from sources such as the Community Development Block Grant Program and economic development programs funded with Oregon lottery revenues.

5. To encourage more intensive development and a more pedestrian-friendly environment in the Downtown Area, minimum on-site parking requirements will be reduced or eliminated in the core area and in the vicinity of light-rail transit.

6. The city shall accommodate light rail park and ride facilities. However, the city will seek to discourage overflow parking into areas which would reduce parking availability to Downtown Area patrons, residents and employees. Expansion of park and ride facilities is encouraged in satellite facilities outside the Downtown Area.

   Additions to Light Rail park and ride facilities within the Downtown Area shall be accommodated when a facility can be shown to be one of the following:

Reserved transit rider parking provided as part of a joint development project; or a joint parking facility shared by public transit parking and a complementary private or public use; or a structured parking facility with ground potential future conversion to a more intensive transit-supportive use.

7. The city will seek to extend public streets as shown on the Gresham Downtown Plan map to provide numerous direct connections between destinations in the downtown, to provide additional properties with street frontage, and to enhance both pedestrian and vehicular circulation.

8. The city will retain existing street rights-of-way in the Downtown Area to maintain a pedestrian scale and to support vehicular circulation. Existing substandard streets will be upgraded in connection with abutting development activity, and as funds are available through the Capital Improvements Program.

**DOWNTOWN AREA TRANSPORTATION POLICY II**

It is the policy of the City of Gresham to fully realize the advantages of the significant investments in public transit within the downtown area. Public transit, along with enhanced pedestrian circulation, will play a significant role in the movement of people within the downtown area.

**IMPLEMENTATION STRATEGIES**

1. The city will work closely with Tri-Met to assure that bus routes within the Downtown Area are effective in meeting the needs of transit riders.

2. The city will actively seek to attract transit-supportive development throughout the downtown area. When feasible, the city will work with Tri-Met to provide for air-rights development over the light rail park and ride facilities themselves.

3. The city will encourage transit-supportive joint development or development projects which have a direct physical link to a transit station. The city will support the creation of major rail transit destination uses in the Downtown Area, especially in those areas adjacent to light rail stations. The city will join in cooperative programs with Tri-Met, the City of Portland, the Chamber of Commerce, the Gresham Downtown Development Association, and other entities to market and encourage transit-supportive development of properties adjacent to light rail stations. This may include cooperation on a regional transit development corporation or similar entity.

4. The city will work with Tri-Met to pursue construction of a new light rail station on the MAX line at N. Main Ave., and development of a linking service to the downtown core.

5. The city shall seek to establish a limited free fare zone for transit service within the Downtown Area.

6. The city will encourage and require enhanced pedestrian circulation in the design of new development projects throughout the downtown area.

7. The city will promote pedestrian movements between City Hall and downtown-area light rail stations by:

    a. Providing improvements and pedestrian aids such as sidewalks, signage, walking maps, benches, street trees, and lighting, to improve pedestrian safety and create a stronger link between the downtown area and City Hall.

**DOWNTOWN AREA URBAN DESIGN POLICY**

It is the City's policy to pursue measures to enhance the urban design of the downtown area.

**IMPLEMENTATION STRATEGIES**

1. The city will provide flexibility in development standards for developers who integrate into their building design features such as plazas, galleries and arcades.

2. The city will pursue the development of a "Town Square" central plaza to act as a focal point for activities within the downtown area.

3. Through land use designations and development standards, the city will seek to achieve increased intensities of development throughout the downtown area, in ways which preserve desirable existing characteristics and focus the most intensive uses in close proximity to light rail stations.

4. The city will provide crime prevention suggestions to developers, and adopt site design standards to help create a downtown-area environment which is safe and secure.

5. The city will prepare architectural design guidelines for key areas of the downtown, and establish an architectural review committee to evaluate major new construction.

6. The city will pursue acquisition and development of neighborhood parks and “pocket parks" within the downtown area to serve existing and future residents.

7. The city will design and construct gateway entrances to the downtown area as indicated in the Gresham Downtown Plan.

8. The city will work with the Oregon Department of Transportation to strengthen the link between the downtown core, Main City Park, and the Springwater Trail by improving pedestrian access across Powell Blvd. at Main Ave.

**DOWNTOWN AREA IMPLEMENTATION POLICY**

It is the City's policy to work closely with local business, neighborhood groups and other interested parties to work toward attainment of the Gresham downtown plan. The city shall explore sources, such as lottery-funded state economic development programs, to assist in the implementation of the plan.

### IMPLEMENTATION STRATEGIES

1. The city will use the Capital Improvement Program as one tool to finance proposed improvements within the Downtown Area, as identified in the Gresham Downtown Plan, and existing facilities which are substandard. The city will also investigate other alternatives to help develop and upgrade public facilities in the Downtown Area.

2. The Development Code and Standards should be used as an effective tool to attract commercial and multi-family residential development which is pedestrian-friendly and transit-supportive to the Downtown Area. The city will provide flexibility within its development standards to encourage combinations of uses which complement each other and enhance convenience for residents, workers, shoppers and visitors to the downtown area. The city will continue to review its approval processes so that it can respond expeditiously to innovative development proposals while still preserving the public interest.

(Amended by Ord. 1354 passed 4/4/95; effective 4/4/95)

## 10.315 OPEN SPACE

### SUMMARY OF FINDINGS

The Inventory of Significant Natural Resources and Open Spaces contains a number of significant open space sites, including schools, parks, greenways, golf courses, utility sites, and cemeteries.

The natural environment of Gresham provides unique opportunities to develop an integrated open space system. This may include sensitive natural resource and areas hazardous to urban development. Open space designations in areas exhibiting physical constraints on urban development also can reduce erosion and surface water runoff, protect groundwater resources, benefit drainage management, maintain stream flooding capacity, and reduce pollution. While recognizing the need for certain public facilities within open space areas, such as schools and park improvements, measures are needed which minimize the conversion of open space to other uses and preserve multiple use options such as trails, greenways, and parks use (Sections 3.150 to 3.156 - Findings document).

**POLICY I**

It is the policy of the City to ensure the availability of sufficient open space for all areas of the city by: working with citizens to identify needs; investigating alternative funding strategies; and involving volunteers, and public and private organizations.

**POLICY 2**

It is the policy of the City to locate open spaces so as to protect natural resources and areas subject to flooding or otherwise inappropriate for development.

**POLICY 3**

It is the policy of the City to develop an interconnected open space system, if possible, and to negotiate conflicts which may arise concerning proposed additions to the open space system.

**IMPLEMENTATION STRATEGIES**

1. Significant open space areas shall be listed in the Inventory of Significant Natural Areas and Open Spaces and shall be evaluated in terms of their characteristics, potentially conflicting uses, and the economic, social, environmental, and energy consequences of protecting their open space character or of permitting conflicting uses.

2. Significant open space areas shall be designated on the Community Development Special Purpose District Map, using a special purpose Open Space (OS) district designation.

3. The Community Development Code and Standards Volumes shall include measures to restrict development activity in areas designated OS. Such development activity shall be limited generally to developments which serve a public need, can take place with minimal impact on the open space site, and for which there is a lack of suitable alternative sites.

4. Measures shall be included in the Community Development Standards document to enable the city to require the dedication or reservation of suitable open space areas in connection with land division proposals when such areas provide:

   a. An area of like character to that which is developed, which may provide active recreation space;

   b. Sufficient passive open space to protect natural resources at the site and protect development from hazard areas (flood plains and slopes over 35%).

5. Open spaces and greenways shall be used to enhance the accessibility of residential areas, schools and parks by establishing a safe and well-marked trail system which would also connect with significant regional trail systems, such as the 40-Mile Loop.

6. Lands set aside with in developments may remain in private ownership provided:

a. Portions are sufficiently improved and maintained to offer active recreation opportunities;

b. They do not interfere with the continuity of or access to adjacent greenway lands;

c. Easements transferring development rights are dedicated to the public.

7. Flexible design options within developments will be permitted to mitigate the impacts of required open space and recreation land dedicated or reserved.

8. At the option of the city, small residential developments (where setting aside or dedication of open space land is not practicable, and where it would not interfere with interconnections between existing or planned greenways) may make a cash payment to the city in lieu of land dedications. These revenues must be earmarked and applied providing recreation opportunities in the community.

9. Historically and culturally significant sites may be incorporated into the city park system.

10. The city shall investigate multiple-purpose use of public lands such as reservoir sites for recreation and view purposes, where such uses are compatible with the utility installations.

11. The city should obtain 1.3 acres per 1,000 population for neighborhood parks, 2.0 acres per 1,000 population for community parks and 4.0 acres per 1,000 for other open spaces. This standard represents a goal as identified in the 1988 Parks & Recreation Plan.

12. The city shall favor open space transfers of undeveloped land situated between existing greenways at least sufficient to provide pedestrian movement. The city shall attempt to obtain easements for purposes of public access across developed lands situated between greenway segments. Where such easements are not obtainable, a well-signed trail system along public rights-of-way shall be established to interconnect greenway segments.

13. The city will consider only those properties for open space, park and recreational acquisition that can demonstrate a public benefit. Participation in other acquisitions shall be considered by the city according to the site's merits and depending upon public funds. Public open space dedications must meet the criteria as outlined in Section 10.5805 Public Open Space.

14. The city shall coordinate with other agencies to establish joint use agreements or leases on property or facilities that could meet recreational needs.

15. The city shall coordinate with Multnomah County to review tax foreclosure lands for potential open space or recreational uses.

## 10.316 CITY OF GRESHAM'S HISTORIC RESOURCES

### INTRODUCTION

The City of Gresham's Historic Resources Inventory was first done in 1987 and later updated in 1990, 1993, 1997 and 1998. The Historic Resources Inventory is used as a management tool for land use decisions involving historic and cultural resources. It also is the City's guide for historic and cultural resource preservation policies.

The inventory is based on a visual overview of the Gresham area, a literature search for historic dates and records, and survey information for each site listed. These sites ranged from historic bridges and cemeteries, to churches, schools, and residences. Of 238 sites inventoried, 191 are residences. The 1987 inventory report served as the basis from which a landmarks inventory, containing the most significant of the city's historic and cultural resources, was prepared.[1]

### BACKGROUND AND DISCUSSION

Age of Structures and Cultural Landmarks

Pioneer settlement in Gresham occurred in the late 1800's when the Oregon Trail migrations brought settlers through the region on their way to the Willamette Valley. Many claimed land along the Barlow Road and long a network of roads subsequently constructed throughout east Multnomah County. A few houses and farm buildings of that era still exist.

By the early 1900s, Portland was experiencing enormous population growth. This was largely the result of the 1905 Lewis and Clark Exposition, which gave the City international exposure and established it as a major maritime port.

Booming population and increased affluence prompted owners of large land claims to divide their properties into large "junior acre" lots. These properties were bought by those desiring a rural lifestyle in close proximity to a increasingly urbanized and congested city.

This pattern of development continued until the 1940's along early county roads such as Barker (162nd), Jenne (174th), Stark, Burnside, Division and Powell. Today, many structures of this era still exist, despite the substantial widening of the major arterial streets on which they are located. The large "junior acre" lot patterns are also evident, and these early land divisions continue to have a significant impact on new development.

By the 1950's, demand was increasing for smaller subdivision lots as a result of Federal Housing Authority (FHA) loan programs and suburban growth throughout the metropolitan area. This resulted in new residential subdivisions in Gresham and in unincorporated Multnomah County. Much of this development, especially in the County, took place on the remaining large tracts

[1] The 1987 Historic Resources Inventory Report and its 1991 update are incorporated into this update of the Comprehensive Plan as resource documents. They may be acquired at the City of Gresham Community and Economic Development Department located at 1333 NW Eastman Parkway, Gresham, OR 97030, 503-618-2760.

behind existing “junior acre” lots. The majority of the more than 4,500 structures annexed since 1980 to the City were built almost entirely during the 1950’s and 60’s.

In 2003, Gresham faced the challenge of preserving its historic and cultural resources in the midst of more intense urban development. In part this is due to changing urban development patterns requiring more efficient use of urban lands and transportation resources. State land use law reinforces this future development pattern primarily by requiring urban development to occur within an Urban Growth Boundary.

In 1998, Gresham accepted the responsibility to plan for the urbanization of about 1,500 acres in the Pleasant Valley area that was added to the Urban Growth Boundary. In 2002, the UGB was expanded by another 18,650 acres. Much of this new land is south of Gresham in the vicinity of the communities of Boring and Damascus. In the future several thousand acres are likely to be urbanized as part of Gresham. There are many historic and cultural resources in both of these areas. Clackamas and Multnomah Counties have surveyed some of these resources. There may be others that have yet to be documented. Gresham will have to work with area citizens, interest groups and Multnomah and Clackamas Counties to ensure protection of these important historic resources.

### Gresham’s Historic Landmark District

This special purpose district designation is applied to historic landmark sites, which have been identified in the Inventory of Historic and Cultural Landmarks. It also applies to property lying north of Interstate 84, where discovery of archeological resources during the course of development is likely. These properties are identified within the City’s Historic and Cultural Landmarks Overlay District. They are subject to the provisions of Section 5.030 (Historic and Cultural Landmarks Overlay District) of the Gresham Development Code. Some landmarks with this designation require prior review and approval of proposed exterior alterations. Also, all landmark structures are subject to standards which could delay issuance of demolition permits.

The history of Gresham is reflected both in the city's form and in the buildings and structures constructed over time. As buildings fall into disuse and deterioration, the city's historic and cultural heritage passes into oblivion. Positive public policy is required in order to draw civic attention to Gresham’s historic heritage and to provide impetus for preservation and appreciation.

Historic resource planning and protection are especially needed in a city like Gresham, where rapid population growth and development threaten to blur the past and obliterate its tangible evidence. Historical resources play a vital role in establishing a community’s identity and enhancing its educational, cultural and aesthetic qualities.

In accordance with Statewide Land Use Goal 5, resources surveyed in the 1987 Historic Resource Inventory Report were evaluated to determine their relative significance in the Gresham area. The most significant of these resources have been designated as landmarks. These landmarks are listed in Figure 1 and described in detail in the inventory of Historic and Cultural Landmarks (Appendix 9), adopted as an appendix to the Community Development Plan.

Those listed as Class 1 landmarks are considered to be the most significant. Six of the Class 1 resources are listed on the National Register of Historic Places. These are the Zimmerman House, the Louise Home, the First Bethel Baptist Church, and the Gedamke Residence, the Carnegie Library and the Dr. Hughes Residence. The Class 2 resources are somewhat less significant but still of considerable value to the community due to their age or architecture.

As described in the Inventory of Historic and Cultural Landmarks, each of these resources is subject to conflicting uses in the form of periodic alterations or demolition. Additional conflicting uses have been documented for some of the landmarks. In order to protect these historic landmarks from conflicting uses, which would result in their being degraded or eliminated, a program has been developed to provide appropriate levels of protection. This program is based on two criteria. First it requires the identification of conflicting land uses allowed within the land use districts in which the landmarks are located. These are land uses for which a development permit could be applied for and if approved would threaten the landmark's historic or cultural value. Second is an analysis of the Economic, Social, Environmental and Energy (ESEE) consequences. This is a study of the consequences that would result from protection of the landmark on the identified conflicting uses and on the landmark itself. The identification of conflicting uses and analysis of the ESEE consequences are part of the "Inventory of Historical and Cultural Landmarks". The ESEE analysis indicates that none of the landmarks are so significant or threatened by impending actions that all conflicting uses should be prohibited. At the same time, all of the landmarks warrant some degree of protection against hasty demolition. Furthermore, those identified as Class 1 landmarks should be protected against major permanent alterations that would adversely affect the character and integrity of their exterior appearance.

**Gresham Carnegie Library**
**Figure 1**

## INVENTORY OF HISTORIC AND CULTURAL LANDMARKS

### Class 1 Landmarks

| No. | Address | Name | Points | Use | District |
|---|---|---|---|---|---|
| 1 | 17111 NE Sandy | Zimmerman House | 100 | Institutional | BP |
| 2 | 410 N. Main | Carnegie Library | 95 | Institutional | CUC |
| 3 | 1304 E. Powell | William Gedamke House | 90 | Commercial | DC-2 |
| 4 | 722 NE 162nd | The Louise Home | 90 | Institutional | LDR |
| 5 | 1420 SE Roberts | Witter(Stallard) Residence | 85 | Residential | LDR |
| 6 | 3680 SW Towle | Heiney House | 85 | Residential | LDR |
| 7 | 101 S. Main | 1st Bethel Baptist Church | 80 | Institutional | CUC |
| 8 | 938 SE Roberts | Bernard Witter Residence | 85 | Residential | LDR |
| 9 | 330 W. Powell | W. Gresham Grade School | 80 | Institutional | CUC |
| 10 | 140 SE Roberts | Rev. Thompson Resid. | 80 | Residential | LDR |
| 11 | 1325 W. Powell | J. R. Elkhorn Ranch | 75 | Residential | LDR |
| 12 | 2415 SE Ambleside | Ambleside House | 90 | Residential | LDR |
| 13 | 43 NW Ava | W. K. Hamilton Residence | 70 | Residential | DR-12 |
| 14 | 307 NE Kelly | Freeman Property | 75 | Residential | CUC |
| 15 | 1229 W. Powell | Dr. Hughes Residence | 65 | Residential | LDR |
| 16 | 1265 SE Roberts | Judge Stapleton House | 80 | Residential | LDR |
| 17 | 3655 SE Powell | Peterson Residence | 80 | Residential | LDR |
| 18 | 611 NW Wallula | Fred Honey House | 75 | Residential | LDR |
| 19 | 31 NW 11th | Lunceford Residence | 80 | Residential | LDR |
| 20 | 53 NW 12th | Walker Residence | 80 | Residential | LDR |
| 21 | 54 NW 12th | Aldrich/Bliss House | 80 | Residential | LDR |
| 22 | 1801 NE 201st | Lowitt Estate | 70 | Residential | MDR-24 |
| 23 | 2202 SW Pleasant View | Giese House, Workshop & Cellar | 50 | Residential | LDR |

### Class 2 Landmarks

| No. | Address | Name | Points | Use | District |
|---|---|---|---|---|---|
| 24 | 103 W. Powell | US Post Office | 85 | Institutional | CUC |
| 25 | 122 N. Main | Duane C. Ely Building | 75 | Commercial | CUC |
| 26 | 58 W. Powell | Gresham Lodge #152 | 75 | Institutional | CUC |
| 27 | 19720 SE Stark | 11-Mile marker | 75 | Object | GC |
| 28 | 23500 SE Stark | 13-Mile Marker | 75 | Object | GC |
| 29 | 25700 SE Stark | 14-Mile Marker | 75 | Object | LDR |
| 30 | I-84 & NE 169th | Pioneer Grave | 75 | Object | BP |
| 31 | 18706 E. Burnside | Satellite Restaurant | 70 | Commercial | TD |
| 32 | 101-117 N. Main | Congdon Building | 60 | Commercial | CUC |

Source: Gresham Historic and Cultural Resources Inventory (1990), 93-32-CPA, and Gresham Comprehensive Plan Map

(Amended by Ordinance 1194 passed 10-2-90; effective 11-2-90)
(Amended by Ordinance 1414 passed 2-4-97; effective 3-6-97)
(Amended by Ordinance 1456 passed 9-15-98; effective 10-15-98)

To implement this program, measures have been adopted as part of the Community Development Code. These measures seek to involve interested citizens in protecting landmark resources, promote the economic and cultural benefits of historic resources, and designate additional landmark resources as new information is presented.

### Cultural Resources

There are few precisely identified or documented archaeological sites in the Gresham area. However, this does not suggest that such sites are non-existent or that indications of human pre-history are lacking. The record of human settlement in the Portland metro area dates back 3,000 years.

The lack of archaeological sites is related to the lifestyles of west coast aboriginal peoples who sustained themselves through nomadic hunting and gathering. Therefore, Native American settlements in Multnomah County were primarily in the flood plain of the Columbia River and Willamette Rivers where there was abundance of seasonal food sources.

Two tribes of Upper Chinook dialect people, the Clackamas and the Cascades, were most common to the local area. These tribes were highly transient, primarily living off of hunting, fishing and trading. Their hunting and gathering range encompassed most present day Multnomah County and throughout the Mount Hood National Forest west of the Cascade Summit.

The majority of known Native-American villages were located on the north bank of the Columbia River. The village closest to present-day Gresham was at the western end of what is now Blue Lake Park. However signs of early habitation are found throughout the Columbia South Shore area. Fire pit lenses and other isolated finds have been recorded and investigated along the Sandy River and along Deep Creek in northwestern Clackamas County.

In the Willamette Valley archaeological sites are usually found accidentally. This is because of the isolated nature of Native American habitations and campsites plus the vast amount of humus in the forest and flood borne silts in flood plains. However, the State Historic Preservation Office has investigated at least eighteen archaeological sites in the Gresham area. Sufficient data has been gathered to confirm that archaeological resources do exist and that more are likely to be encountered in connection with development activity.

Detailed assessments of the significance of archaeological sites disturbed or discovered in this manner should take place at the time of discovery. At that time, the ESEE consequences of protecting the sire or allowing development can be considered based on the input of qualified professionals and the State Historic Preservation Office.

## HISTORIC AND CULTURAL RESOURCES GOAL, POLICIES AND ACTION MEASURES

### GOAL

Protect and preserve Gresham's historic, archaeological and cultural resources.

### POLICIES

1. The City shall adopt and maintain an inventory of historic and cultural landmarks to promote and maintain preservation of Gresham's historic and cultural heritage.

2. The City shall provide landmark resources reasonable protection from inappropriate exterior alterations and untimely demolition.

3. The City shall require that it and appropriate others (State Historic Preservation Office (SHPO), Commission on Indian Affairs, Native American Tribes, etc.) be notified of the discovery of archaeological sites.

### ACTION MEASURES

1. Apply and maintain a "Historic and Cultural Landmarks" overlay district to properties listed on the City's inventory of historic and cultural landmarks.

2. Encourage public knowledge and appreciation of Gresham's unique history and culture through actions and programs such as informative publications, workshops and other events with historic and cultural themes.

3. Periodically update Gresham's "Inventory of Historic and Cultural Landmarks" to assure it accurately reflects all eligible properties including listing all properties on the National Register of Historic Places.

4. Develop a process to add qualified sites and structures to Gresham's Historic and Cultural Landmarks Inventory that are brought into the City through annexation.

5. Maintain a Historic Advisory Committee to advise the City Council regarding historic and cultural resource issues and to actively promote preservation of Gresham's historic and cultural heritage.

(Amended by Ordinance No. 1608 passed 6/21/05; effective 7/21/05)
(Repealed and Replaced by Ordinance No. 1592 passed 9/7/04; effective 10/7/04)
(Amended by Ordinance No. 1287 passed 6/15/93; effective 7/15/93)
(Amended by Ordinance No. 1140 passed 7/18/89; effective 8/17/89)

## 10.317 OFFICE LAND USE

### SUMMARY OF FINDINGS

Office development in Gresham is locally oriented and relatively small in size. The average office in Gresham has six employees. The average office development in Gresham requires a small site of around 4,000 square feet. There are four separate markets for office development in the city. The first is the small office which often locates in former residences. The second

market is large multi-tenant office buildings. The market for the latter has been weak. The third market is office development along commercial strips and in commercial centers. The final office market exists in business park settings. This business park office market is growing rapidly in other areas of the county but has seen only limited growth in Gresham. Nationally, an increasing number of corporate headquarters are being located in business parks (Sections 4.700 to 4.743 - Findings document).

### POLICY

It is the City's policy to encourage office development especially in downtown and in the vicinity of light rail stations.

### IMPLEMENTATION STRATEGIES

1. The city will establish locational criteria for siting office development.

2. The Community Development Standards document shall establish the criteria by which a residence may be utilized for home occupations, keeping in mind the protection of the residential character of the area.

3. The city will permit limited retail and commercial services in office developments.

4. Office development should be permitted around major activity centers such as the hospital and college and within industrial developments to accommodate executive, research and development needs.

(Amended by Ord. 1140 passed 7/18/89; effective 8/17/89)

## 10.318 GRESHAM CIVIC NEIGHBORHOOD

### SUMMARY OF FINDINGS

Gresham Civic Neighborhood describes a partly developed superblock site of 130 acres close to the core of the city. Bounded by Burnside, Eastman Parkway, Division and Wallula (212$^{th}$ Ave.), the block is bisected by light rail. The term “Civic Neighborhood” connotes an urban neighborhood which includes uses and features associated with the center of a city; an area which embodies civic qualities and is likely to inspire a sense of civic pride in those who use it.

During 1994-95, the City was joined by Metro, Tri-Met, property owners, and PGE in preparing a mixed-use master plan for the superblock which became known as the Gresham Civic Neighborhood. An important purpose of the plan is to demonstrate that development of mixed uses at relatively high densities is not only feasible in Gresham, but can offer advantages not found in conventional suburban development. This is to be a transit-oriented neighborhood with good connections to adjacent neighborhoods – on foot as well as by car and bicycle. Those who live and work in the Civic Neighborhood will generate fewer automobile trips than their

counterparts elsewhere; not only because of the proximity of light rail, but also because it would be more convenient to walk to nearby commercial uses to obtain needed goods and services.

By guiding development within the Civic Neighborhood towards a mix of uses at relatively high densities, Gresham will demonstrate the advantages of sustainable development and set an important precedent for the region.

## CIVIC NEIGHBORHOOD POLICY

It is the City's policy to create on the Gresham civic neighborhood site a mixed-use, transit-oriented urban environment with a strong civic presence, accommodating some of the highest intensities of residential and commercial uses in Gresham.

## IMPLEMENTATION STRATEGIES

### LAND USE

1. Provide for a compatible mix of land uses which support and complement nearby uses.

2. Provide for uses of a density and configuration that will capitalize fully on the presence of light rail and bus service.

3. Uses which are consistent with the urban character of a civic central neighborhood will be encouraged.

4. A mix of commercial developments will be encouraged to:

    - Create new jobs
    - Generate direct and indirect tax revenue
    - Attract new central area residents
    - Provide new amenities

5. Accommodate an appropriate mix of uses to satisfy community needs, including:

    - Support regional goals for increased densities
    - Provision of new housing options in Gresham
    - Reduced dependence on automobiles
    - Public open space and other public facilities

### OPEN SPACE AND PEDESTRIAN CIRCULATION

1. Create a comprehensive pedestrian network, linking the Civic Neighborhood with adjacent areas and developments.

2. Integrate public open spaces and landscaped areas as a cohesive system.

3. To the extent that it is practical to do so, integrate the pedestrian system and the open space system.

4. Use open space and pedestrian circulation to reinforce desired land use patterns.

5. Encourage access to public and commercial facilities by those who live or work in adjacent areas, without use of automobiles.

6. Provide safe and convenient access for all to transit stations.

7. Capitalize on the near and distant views which distinguish this location.

8. Integrate flood control measures with components of public and private landscape.

9. Capitalize on flood control measures to enhance the quality and attractions of the superblock to appropriate land uses and development types.

10. Maintain the special character of the Wallula corridor and its natural features.

TRANSPORTATION

1. Design the Civic Neighborhood as a model multi-modal access community, accommodating the needs of all modes in a balanced and non-exclusionary manner.

2. Capitalize on the presence of light rail at the site.

3. Locate and configure parking in ways which will not dilute urban densities nor interrupt street frontages or public open spaces.

4. Parking should be convenient yet not dominant; adequate but not over-provided for normal, day to day needs.

5. Provide a hierarchy of local access streets within the superblock which will provide flexibility in circulation options and will be effective in serving a changing range of land uses over time.

6. Respect the established character and functions of existing streets in the vicinity.

7. Dimension streets for their local access functions, using no more land than is necessary.

8. Improve accessibility to the rest of central Gresham, with which this superblock is intended to function as an integral part.

9. Accommodate an effective link between historic downtown Gresham and the Civic Neighborhood.

10. Actively encourage walking and use of bicycles and transit.

11. To mitigate external neighborhood traffic impacts in the Civic Neighborhood environs, the City will develop a Neighborhood Traffic Management Plan in cooperation with all adjacent neighborhoods, Civic Neighborhood owners and developers, and interested parties.

    a. The Plan's goal is to reduce and minimize non-local Civic Neighborhood vehicle trips on surrounding local and neighborhood collector streets, between Powell and Stark, Birdsdale to Eastman/223rd.

    b. The Plan should assure convenient pedestrian, bike and transit access between the Civic Neighborhood and its surrounding community.

## CIVIC NEIGHBORHOOD CHARACTER

1. Foster a character for the Civic Neighborhood which is appropriate to its central location and complementary to its residential and commercial neighbors, including West Gresham.

2. Project an image of a welcoming environment.

3. Encourage architectural diversity within defined parameters of building scale and density.

4. Design the street system as the framework for a walkable scaled and densely developed central city district; streets that feel safe to walk on by day and after dark.

5. Set a precedent for the quality of public and private development with the design, materials and workmanship evident in all public infrastructure improvements.

6. Establish design guidelines to be used uniformly throughout the superblock to ensure consistency in adherence to these objectives.

7. Phase development so that it appears to be fully integrated with other components of the neighborhood. Avoid leaving unfinished edges between phases.

8. Respect the integrity of nearby neighborhoods.

## IMPLEMENTATION

The guiding principles for this implementation strategy are summarized below:

1. Development within the Civic Neighborhood is a primary City priority.

2. Public investment in major infrastructure improvements which have regional and community-wide significance should be given high priority by the City and throughout the region.

3. Public actions should be focused on development products which support transit and contribute to the role of a Regional Center. Primary development types include medium- and high-density housing, and office projects. Public actions should be re-evaluated five years from the adoption of this policy.

4. Public investment activities in the near-term will consider known funding sources including the City's capital improvement programs, development fees and City share of regional implementation programs. In the longer term, other funding sources will be considered, including urban renewal, residential tax abatement, and other programs as they may become authorized and feasible.

(Section 10.318 added by Ord. 1366 passed 7/11/95; effective 7/11/95)

## 10.319 CENTRAL ROCKWOOD AREA

### SUMMARY OF FINDINGS

The Central Rockwood Area is identified in Appendix 39, Volume 1 of the Community Development Plan. This area is focused on the triangle formed by SE 181st Ave., E. Burnside, and SE Stark, but also includes the Rockwood area MAX stations and land within roughly one-half mile of those stations. Unlike the historic core of downtown Gresham, most of Central Rockwood was developed after World War II, when the patterns of land use were driven by a desire to accommodate convenient use of the automobile. To some extent, the area went directly from farmland and open space to suburban subdivisions, strip malls, and high-volume arterial streets over the period from roughly 1950 - 1990. Nearly all of the few older buildings and landmarks which had provided a visual link to Rockwood's origins as a rural crossroads community were removed. The result has been an auto-oriented, low-profile patchwork of land uses and activities which are often poorly integrated and visually unappealing. Although there is little vacant land in Central Rockwood, much of the developed property is inefficiently used.

For these and other reasons, the Central Rockwood area has suffered from a lack of focus and identity. Its role in mid-Multnomah County and, more recently, in Gresham has been poorly defined. This began to change in 1986 with the appearance of MAX light rail transit service, and again in 1992, with completion of the Gresham 2020 Vision. The MAX line had the effect of linking Central Rockwood much more closely to the rest of the region, and in particular to the regional employment center in central Portland. The 2020 Vision acknowledged Rockwood's importance as a part of Gresham, and gave it a specific role to play. Central Rockwood was identified as a sub-center of Gresham, second only to the downtown and Civic Center areas in terms of development density and activity levels. It was envisioned as a "live-work" district, where jobs, commercial services and a variety of housing would be encouraged. The organizing principle for the future was to consist of two basic elements: a new "community center" focal

point at the triangle formed by NE 181st, Burnside, and Stark, and a strong orientation to the existing MAX stations.

The primary purpose of the Central Rockwood Plan is to serve as the means by which the vision of Rockwood's future is made real. Over the next 25 years the image and character of Rockwood will change significantly as this process of bringing the vision to reality is carried out. The following policies and implementation strategies express the city's commitment to upgrading the image and character of Central Rockwood.

## CENTRAL ROCKWOOD IMAGE AND CHARACTER POLICY

The City will seek to build a positive, productive image for central Rockwood within Gresham and the larger metropolitan area, in accordance with the Gresham 2020 Vision and the Metro Regional 2040 Plan.

## IMPLEMENTATION STRATEGIES

1. Amend the Community Development Plan and Map to permit and encourage intensive, high-quality commercial, residential, and mixed-use development within the Central Rockwood area.

2. Require high-quality design and construction of all new developments through the use of site design review standards, criteria, and procedures.

3. Prepare and implement a formal redevelopment plan for the Town Center triangle, bounded by NE 181st, Burnside, and Stark. This plan shall include consideration of features and design elements as specified in the Proposed Redevelopment Program for the Rockwood Town Center Triangle, prepared as part of the Central Rockwood Plan.

4. Design and install public improvements that are attractive, pedestrian-friendly, transit-supportive, and responsive to the needs of the area.

5. Create networks of safe and comfortable pedestrian ways and streets that link Central Rockwood's neighborhoods, commercial areas, transit facilities, parks, and open spaces, and other important features.

6. Support and encourage the formation of Central Rockwood area neighborhood associations and a Central Rockwood business association.

7. Prepare and adopt a detailed action plan to ensure that actions called for in the Central Rockwood Plan are carried out (see Rockwood Action Plan Policy, below).

8. Support adoption of housing policies which require maintenance of existing and future residential developments.

## ROCKWOOD ACTION PLAN POLICY

It is the City's policy to implement the Central Rockwood Plan through a follow-up action plan.

**IMPLEMENTATION STRATEGIES:**

1. Immediately following adoption of the Central Rockwood Plan, an action plan for implementation of the plan will be prepared for adoption by the City Council.

2. The Rockwood Action Plan will include the following:

    - Identification of short-term tasks, programs, and actions needed to implement the Central Rockwood Plan
    - Identification of resources available to support implementation
    - Identification of agencies, organizations, and persons who will be responsible for taking specific actions to implement the plan
    - A schedule for undertaking and completing identified tasks, programs, and actions

3. An advisory task force will assist the City in formulation of the action plan and in its implementation.

**CENTRAL ROCKWOOD LAND USE POLICY**

The City will permit and encourage land use types and intensities of use which accommodate forecast growth, support creation of a pedestrian- friendly, transit-oriented live/work district, and are otherwise consistent with the Gresham 2020 Vision and the Metro Region 2040 Functional Plan.

**IMPLEMENTATION STRATEGIES**

1. Designate a Rockwood Town Center district which is centered on and around the triangle formed by NE 181$^{st}$ Ave., Stark, and Burnside. Make this the focal point for Central Rockwood, by permitting and encouraging a variety of residential, commercial, mixed-use, and civic uses.

2. Allow for the highest residential densities within the Rockwood Town Center district, and adjacent to other existing light rail stations.

3. Establish minimum floor area ratios for new commercial and mixed-use developments to ensure intensive development within the Rockwood Town Center and on sites near light rail stations.

4. Permit and encourage moderate density residential development along bus transit corridors. Limit commercial development in these corridors in order to minimize traffic and to direct most new commercial development to the Town Center and to MAX station centers. Allow for limited amounts of small, neighborhood-oriented commercial uses and mixed-use developments at key locations within these corridors.

5. Designate commercial nodes around the intersections of 181st Ave. and Glisan, at 162nd Ave. and Glisan, and at 162nd Ave. and Stark. Limit the size and scale of commercial development at the 162nd Ave. commercial nodes, so that all Central Rockwood commercial districts complement one another and support the status of the Town Center as the primary focus of major, new commercial uses. Permit multi-family residential development as an adjunct to commercial uses in these districts.

6. Permit and encourage owner-occupied housing throughout Central Rockwood.

7. Prohibit or strictly limit industrial and auto-oriented uses in order to promote a more intensive and pedestrian-friendly pattern of land uses. Permit smaller-scale industrial uses (excluding storage and warehousing) and auto-dependent uses within the Ruby Junction station center as interim uses, and so that light rail transit may serve as a convenience to employees and customers of these businesses.

8. Preserve the integrity of existing, single-family residential neighborhoods within the Central Rockwood area. Permit additional, small-lot single-family dwellings in these neighborhoods, and allow for modest, gradual increases in density through new attached single-family and two-unit attached dwellings. Commercial and mixed-use developments will not be permitted.

9. Ensure the thorough application of site design standards and criteria of Volumes 3 and 4 of the Community Development Plan to upgrade the appearance and function of all parts of the Central Rockwood area. Require the design and construction of all new commercial, multi-family residential, and mixed-use developments to be pedestrian-friendly, transit-supportive, and as compatible as possible with adjacent uses.

## CENTRAL ROCKWOOD TRANSPORTATION POLICY

Provide for transportation systems and options in central Rockwood which emphasize improved street connectivity, an enhanced pedestrian environment, and convenient access to transit service.

## IMPLEMENTATION STRATEGIES

1. The City will seek to extend public streets as shown on Figure 2 of Appendix 39 – Volume 1, through adoption of a future street plan.

2. Transit design standards of Sec. 3.1140(B) shall apply to new commercial, mixed-use, attached dwelling residential, light industrial, and community service uses throughout the Central Rockwood Plan area.

3. The City will work with Multnomah County to ensure that future street reconstruction projects affecting NE 181st Ave., Burnside, and SE Stark St. in the vicinity of the Town Center Triangle take into consideration design features for Regional Main Streets as recommended by Metro.

4. Public works design standards shall be prepared for new and reconstructed collector and local streets in Central Rockwood. These standards shall incorporate such features as wide sidewalks, street trees, pedestrian-scale lighting, and other features designed to create a safe and pleasant pedestrian environment.

## CENTRAL ROCKWOOD PARKS AND RECREATION POLICY

The City will seek to improve the community and quality of life of current and future residents including youth, seniors and families of the central Rockwood area by providing parks and recreation facilities and by supporting the creation of a high-quality pedestrian district.

Park and recreation facilities may include but are not limited to: urban plazas, pocket parks, recreations centers, joint use facilities, open space and pedestrian access ways.

## IMPLEMENTATION STRATEGIES

1. A variety of park and recreational facilities, as defined in the Parks, Recreation and Open Space Master Plan, will be pursued in the vicinities shown on Figure 3 of Appendix 39, Volume 1 of the Community Development Plan.

2. The highest priority for acquisition and development of future park and recreation facilities in the Central Rockwood Plan area shall be in the Town Center district and in the Station Centers.

3. Park and recreation facilities will be required as a part of the basic infrastructure to satisfy the needs of the community and specifically to support the proposed private development. Incentives will be promoted and provided to multifamily, residential, and commercial developments to provide and develop park and recreational sites.

4. Partnerships with business, other agencies, and organizations will be promoted in order to provide quality levels of Parks and Recreation service and facilities in Central Rockwood. Staff resources will be provided to research, develop and support additional funding opportunities and creative alternatives for providing park and recreation facilities and services.

5. The Parks, Recreation and Open Space Master Plan will be amended to acknowledge the need for and identification of additional parks and open space facilities in Central Rockwood and also in support of the creation of a successful pedestrian district.

6. Staff resources will be provided to develop criteria for site selection and to investigate, acquire and develop potential sites.

### CENTRAL ROCKWOOD SOCIAL ISSUES POLICY

The city will work with citizens and community groups of the central Rockwood area to identify social needs and issues, and will be supportive in developing strategies to address these needs and issues.

### IMPLEMENTATION STRATEGIES

1. The Rockwood Action Plan will support and encourage community-based efforts to identify and address critical social issues of Central Rockwood, including public safety.

2. As specific social needs of the citizens of Central Rockwood are identified, the city will consider amendments to the policies and implementation strategies of the Community Development Plan, and to the Rockwood Action Plan as appropriate in response to citizen-based initiatives.

(Added by Ordinance 1443, passed 5/5/98; effective 6/4/98)

## 10.319.1 TRANSIT CORRIDOR PLAN AREA

### SUMMARY OF FINDINGS

The City has designated transit streets in the Gresham Community Development Plan. Transit streets serve a significant function of carrying high volume transit service. The traffic carrying function is secondary to the transit service function. Ease of pedestrian movement, pedestrian safety and transit-supportive development are primary considerations of transit streets.

The Metro Council, in November 1996, adopted the Urban Growth Management (UGM) Functional Plan. This plan begins implementation of the 2040 Growth Concept Plan map and the Regional Urban Growth Goals and Objectives (RUGGOs). It requires Gresham to make changes to the Gresham Community Development Plan. The UGM Functional Plan and the 2040 Growth Concept map define corridors which, in Gresham, coincide with the City's transit streets.

Corridors are along good quality transit lines, feature a high-quality pedestrian environment and convenient access to transit. Typical new developments include rowhouses, duplexes, 1-3 story office and retail buildings and mixed commercial and residential use developments. Recommended average density is 25 persons per acre. The 2040 Growth Concept map generally

included parcels within (or partially within) 360 feet of the street right-of-way in the Corridor district.

TriMet's *Planning and Design for Transit Handbook* (January 1996), suggests land use and transportation guidelines for the purpose of assisting local jurisdictions in implementing the 2040 Growth Concept map. Its guidelines, as they relate to transit corridors, recommend that within 1/8 of a mile (660 feet) of a transit street (primary transit network) the average minimum density be a 0.5 commercial floor area ratio or 24 dwelling units per acre; recommend that employment and housing be concentrated on corridors; the land uses that generate pedestrian and transit ridership be encouraged; and that there be an increase in the mix of complementary land uses.

A number of benefits can result by designating land use districts along corridors, which are slightly denser, allow mixed uses and are designed for pedestrians. These include increased options for different modes of transportation; improved mobility of elderly, youth and disabled; reduced Urban Growth Boundary (UGB) expansion to protect farmland and open space**;** expanded mixed use housing and employment opportunities; promoting business and neighborhood revitalization as existing market bases increase in size and infill development is more feasible; supporting better transit service -- more off peak trips and increased ridership results in better transit service; and more efficient use of existing sewer, water, police and fire infrastructure; promoting neighborhood livability -- mixed use development means more choices so that residents walk more and increases neighborhood's safety and friendliness; increasing the capacity of the existing street system when vehicle trips are replaced by walking, cycling and transit; and enhancing the economic vitality of corridor businesses as mixed use development means services for employees during the day and for residents during the evening resulting in a steady flow of customers.

**POLICY 1**

The City will permit and encourage land use types and intensities of use which support creation of transit supportive development along the city's transit streets, accommodate forecast growth and are otherwise consistent with the urban growth management functional plan and the 2040 growth concept map.

**POLICY 2**

The City will seek to create a mix of complementary land uses within easy walking distance of mixed use districts and neighborhoods along the city's transit streets.

**IMPLEMENTATION STRATEGIES**

1. The City shall seek to identify commercial and residential parcels within or partially within 360 feet of transit corridors where corridor land use districts can be applied.

2. Corridor districts define minimum and maximum residential and commercial densities and may allow mixed uses. Corridor land use districts include the Transit Low Density Residential (TLDR), Corridor Multi-Family (CMF), Corridor Mixed Use (CMU),

Moderate Commercial (MC) and Community Commercial (CC) Districts. Within ¼ mile of a light rail station center the Station Center (SC) District can be included.

3. The City shall seek to identify areas along the transit corridors where there is a gap of more than ½ mile between commercial districts and where mixed use corridor land uses can be applied to fill in such gaps.

(Added by Ordinance 1467 passed 12/29/98; effective 2/4/99)

# 10.320 TRANSPORTATION SYSTEM

## SUMMARY OF FINDINGS

In the past four decades the City of Gresham has transformed from a small agricultural community into a bustling commercial and residential hub for the east side of the Portland metropolitan area. Gresham's transportation system likewise has evolved from a quiet two-lane rural road system into a busy multi-modal network of 5-lane arterials, an interstate freeway, a light rail transit trunk line, and major heavy rail service. With rapid urbanization, the transportation system has been hard pressed to keep up with the pace of growth. Because Gresham will continue to be a high growth part of the metropolitan area, it is critical to plan, maintain, and improve the area's major transportation system continuously and cooperatively, as area traffic and transit use inevitably increase.

A balanced transportation system provides alternative types of transportation services and facilities for area residents, travelers, and commerce. The city is involved in making decisions with respect to state, county, and city transportation improvements, public transportation, and heavy rail service. In planning the transportation system, environmental impacts and social consequences should be mitigated and cost, safety, and efficiency factors considered to support economic growth and to enhance aesthetic quality. The transportation projects described in this plan and shown on the functional classification map and the transit system map are consistent with the Comprehensive Plan and are needed to support land uses designated in the Comprehensive Plan.

The purpose of these goals, policies and action measures is to outline the processes the city will use in order to achieve its goal of a balanced, coordinated, safe and efficient transportation system.

This section provides goals, policies and action measures that together will guide transportation decisions in Gresham. This section does not contain specific project recommendations, but rather provides a basis for assessing the transportation needs of the community as it develops.

The goals, policies and action measures are grouped into a series of broad system categories: Transportation System, Street System, Transit System, Bicycle System, Pedestrian System, Travel Demand Management, Parking Management, Truck and Rail Freight System, Passenger Rail, Air Transportation System, and Pipeline System. All of the goals, policies and action

measures support one or more of the guiding principles and will ensure the vision is ultimately achieved. The transportation system goals and policies provide direction to the development of the overall transportation system and define how the various components of the system will be assembled. The goals and policies assembled under the individual system elements are generally founded on more specific needs.

**GOAL**

Develop and promote a balanced transportation system that provides a variety of travel choices and reduces reliance on automobiles.

**POLICIES**

1. The City shall adopt land use patterns that provide for a mix of land uses that supports alternative transportation modes.

2. The City shall provide and promote a range of viable transportation alternatives that respond to people's needs for mobility, safety, comfort, and convenience.

3. The City shall adopt and monitor 20 year modal share targets for the Gresham Regional Center (Downtown and Civic Neighborhood), Rockwood Town Center, station areas, and citywide. The 20-year modal share targets shall be updated on a five-year basis.

**ACTION MEASURES**

1. Promote commute trip reduction programs, ridesharing, carpooling, telecommuting, parking management, flexible work hours, and other travel demand management strategies aimed at reducing the number and length of single occupant vehicle trips.

2. Reduce subsidies for single-occupant automobile travel.

**GOAL**

Plan, implement, and maintain an efficient transportation system.

**POLICIES**

1. The City shall require new development to provide public facilities to serve the site and to extend public facilities to provide for the logical continuation of the city's utility and street systems. A development may be required to modify or replace off-site systems to provide adequate public facilities. The City Manager may require a development to provide a traffic analysis by a licensed traffic engineer that evaluates the traffic impacts and mitigation requirements.

2. The City shall coordinate transportation projects, programs, and investment strategies with land use planning, economic development, noise reduction, air quality, water quality, land

resource quality, and wetlands and stream corridor preservation to implement other Comprehensive Plan goals and policies.

3. The City shall promote the development of inter-modal transportation facilities that make passenger or freight transfers convenient and efficient.

4. The City shall allow facility operation, maintenance, repair, preservation, widening, or reconstruction without a development permit within rights-of-way designated in the Community Development Plan.

5. The City shall allow changes in alignment of proposed projects without plan amendments or future street plans, if such changes fall within a designated transportation corridor, route, or right-of-way in the Community Development Plan or a future street plan.

**ACTION MEASURES**

1. Coordinate transportation capital improvement plans, street design standards, the functional classification of streets, transportation system management actions, review of development with significant transportation impacts, and transportation planning activities with:

    a. affected agencies, jurisdictions, and special districts such as Oregon Department of Transportation (ODOT), Metro, Multnomah and Clackamas Counties, Portland, and the East Multnomah County cities;

    b. TriMet and other transportation service providers; and

    c. Local and regional transportation plans.

2. Adopt and update a 20-year transportation capital improvement plan every five years, as part of the City's Public Facility Plan and Capital Improvements Program.

3. Develop a Transportation Financing Plan that:

    a. gives top priority to safety and the preservation and maintenance of existing transportation facilities;

    b. prioritizes investments in the transportation system to best support community development goals;

    c. maximizes expenditures on pedestrian and bicycle capital improvements;

    d. considers the future operating and maintenance costs associated with improvements when making transportation capital investment decisions;

    e. includes funding from a variety of sources such as regional, state, and federal grant programs; state and federal gas taxes and vehicle registration fees; regional congestion pricing, user fees, and employer taxes; city bonds, Banroft bonds, Local Improvement Districts, benefiting property owners, development impacts fees, etc.;

    f. identifies creative, non-traditional funding sources; and

g. maintains the City's flexibility to take advantage of new funding opportunities, including public/private partnerships.

4. Promote the use of energy-efficient or low-and zero-emission vehicles and travel modes.

**GOAL**

Provide a transportation system that maximizes accessibility to and within regional centers, town centers, transit corridors, station areas, and employment centers.

**POLICIES**

1. The City shall protect existing and planned transportation corridors from conflicts with adjacent land uses by the adoption of:

   - future street plans;
   - design standards and classifications that reflect adjacent land use designations;
   - access management standards;
   - appropriate land use designations; and
   - development requirements including setbacks, buffering and landscaping standards, building orientation, density transfer provisions, easements, and right-of-way dedication.

2. The City shall ensure that the design and built character of transportation facilities are consistent with the scale and character of adjacent land uses.

**GOAL**

Provide a safe transportation system.

**POLICY**

1. The City shall protect local streets from through traffic, high volumes, and high speeds using neighborhood traffic control devices and strategies.

**ACTION MEASURE**

1. Monitor high accident locations and types and develop appropriate programs and projects to address problems.

(Amended by Ordinance No. 1610, passed 8/16/05; effective 9/15/05)
(Amended by Ordinance No. 1461, passed 12/1/98; effective 12/31/98)

## 10.320.1 STREET SYSTEM

### SUMMARY OF FINDINGS

A need exists to coordinate and implement the development of streets in Gresham. Congestion problems have resulted from the recent growth rate of the city, creating a need for major street improvement projects. The city has coordinated public street improvement projects with those of the private sector to achieve the most effective use of the limited dollars available for street improvements.

The street network in Gresham, from freeways to local streets, contains about 260 miles of roadway. Between 1995 and 2020 Gresham area vehicle traffic is expected to grow by over 100%. As this traffic growth occurs, congestion on the system will increase commensurately. Major street system improvements are needed between now and the year 2020 to address traffic growth and balance the system's capacity including the I-84 interchange improvements at 181st /257th; a plan for a new primary connector between I-84 and U.S. 26 (Mt. Hood Highway); and significant improvements to the Powell Boulevard corridor (signal coordination, access management, transit service and facilities, pedestrian and bicycle facilities, and widening) to facilitate travel between west Gresham and I-205. Additional needs which the city must address on the street system are development impacts, signal coordination, access management, economic development, underground utilities, street lighting, aesthetic quality, logical addressing, local circulation, bicycle and pedestrian facilities, and vehicular and pedestrian safety.

### GOAL

Provide a street system that accommodates a variety of travel options.

### POLICIES

1. The City shall ensure that its functional classification system and street design standards serve all modes of transportation and support regional and local land use plans more effectively.

2. The City shall designate Pedestrian Districts with special street design standards to support the Gresham Regional Center (Downtown and Civic Neighborhood), the Rockwood Town Center, transit corridors, and MAX station areas.

3. The City shall improve the pedestrian environment of the Street System by requiring coordinated street tree plantings, underground utilities, pedestrian amenities and safety enhancements, and coordinated street signs, light standards, and utility facilities within the public right-of-way.

4. The City shall, in the development of the Street System, and in all land development, provide:

    a. bus loading areas and shelters for transit riders;

b. safe and convenient pedestrian circulation;

c. off-street parking and maneuvering areas for bicycles and motor vehicles; and

d. loading areas for freight.

## ACTION MEASURES

1. Designate boulevard design along some major streets within the Regional Center, Rockwood Town Center, and on transit corridors.

2. Develop major street design standards that support land uses and reduce pedestrian barriers (e.g., reduce pavement width, limit the number of lanes, add pedestrian crossings).

3. Change land use and transportation standards to integrate major streets with adjacent neighborhoods.

## GOAL

Develop a street system that meets current needs and anticipated future population growth and development.

## POLICIES

1. The City shall adopt, implement, and maintain a functional classification plan for streets.

2. The City shall provide street design standards in its Public Works Standards.

3. The City shall review designs, approve plans, inspect construction, and recommend acceptance of public improvements to the City Council for ownership, operation, and maintenance by the City and establish administrative procedures for the above process in order to protect the life, safety, and welfare of the public.

4. The City shall favor system improvements that: first consider using existing roadway capacity, signals, and access more efficiently; then reduce and manage single occupant vehicle travel demand or control travel demand growth through transportation-efficient land use and pricing incentives prior to adding roadway capacity in lanes and new facilities. The City shall consider new roadway construction only where improvements to the existing street system are not feasible.

5. The City shall preserve and maximize the capacity of existing arterials and other major streets by applying access management techniques such as minimizing the number of curb cuts; controlling turn movements with raised medians; requiring adequate right-of-way and setbacks as part of the development process; signal coordination and synchronization; and other appropriate transportation system management actions.

## ACTION MEASURES

1. Work with affected local jurisdictions, Metro, and the Oregon Department of Transportation to adopt and maintain a coordinated and consistent functional classification plan for the arterial and collector street network.

2. Regularly maintain an adequate condition of street pavement on municipal streets by implementing a pavement management system and other cost-effective measures.

3. Work with the Oregon Department of Transportation, affected local jurisdictions, and citizens to identify, adopt and develop acceptable alternatives to address the following traffic corridor needs:

   a. an improved primary connection between I-84 and U.S. 26;

   b. the 201st – 202nd corridor;

   c. the Powell Boulevard corridor from southwest Gresham to I-205; and

   d. corridors between Gresham and future urban growth areas to the south.

4. Work with the Oregon Department of Transportation, affected local jurisdictions, and citizens to develop an acceptable plan for an improved I-84 to US 26 connector. The City's planning and decision making for this project will be guided by adopted community objectives. Adopt a specific alternative, if one is acceptable, using the City's Future Street Plan process. Concurrently, adopt any required plan amendments or goal exceptions, and applicable changes to the functional classification system.

## GOAL

Provide a street system that maximizes accessibility within the community.

## POLICIES

1. The City shall locate major activity centers in areas that are accessible by a variety of transportation modes.

2. The City shall develop solutions to special traffic problems created around major activity centers that minimize non-local traffic through residential neighborhoods.

3. The City shall ensure the development and completion of logical and continuous local street patterns within residential and mixed use areas as development occurs by adopting future street plans and street connectivity standards. New development must provide for the continuation and inter-connection of existing streets and must avoid long dead-end street patterns.

4. The City shall establish public street and land division standards that reinforce the public street system as the City's essential framework for safe, convenient, and efficient

neighborhood circulation, property access, emergency response, public facilities, and utilities for all properties.

5. The City shall develop a well-connected public street system while minimizing motor vehicle traffic impacts within residential areas.

6. The City shall ensure that all residential development will be served by a connected local public street system that provides street frontage and access for all residential parcels.

7. The City shall establish a hierarchy of connected collector and local streets.

8. The City shall require Neighborhood Circulation Plans that seek to balance local traffic among local streets, provide multi-directional access to the collector-arterial system, reduce non-local traffic, and ensure optimal emergency response.

## GOAL

Ensure a safe street system.

## POLICIES

1. The City shall adopt and implement a uniform street naming and addressing system and develop a logical and convenient process to resolve problems associated with the present dual address grids and multiple City postal service designations within Gresham. Addressing shall be consistent with the City of Gresham Street Naming and Property Addressing Guidelines, a document published and maintained separately.

   The following general policies shall apply:

   a. **Grid Selection Criteria**. Determination of grid system to use for address assignments may best be based on the accepted boundary between the two grid systems (likely Stark). However, in no case shall two grid systems be mixed on the same street segment within the City limits.

   b. **Grid Dividing Lines**. Where a street appears to serve as a grid dividing line, the dividing line shall be located behind the properties abutting the street rather than down the center of the street. Any streets (e.g. 217$^{th}$) with property numbering and street naming on one side of the street following the City Grid sequence and those on the other side of the street following the Metro Grid must be corrected to a single grid system.

   c. **City Grid Areas**. For community identity, the City Grid is generally preferred for all new development within the City Grid designation and for newly annexed areas adjacent to the City Grid designated quadrants of Gresham. All new development in the City Grid designated NE quadrant south of, but not including Stark Street, shall also conform to the City Grid. Development north of Stark and east of 223$^{rd}$ should be changed to the City Grid as part of an overall City address correction ordinance.

d. **Metro Grid Areas**. Except for properties east of 223rd, the Metro Grid shall generally be preferred for all new development within the Metro Grid area north of Stark until such time as the entire City may be converted to the City Grid or a new city-wide grid system.

e. **Modification of Existing Grid Boundary**. The City/Metro Grid boundary line should be corrected when any of the following circumstances exist:

1) Street naming and numbering that causes a potential delay in the delivery of emergency services.
2) Request from City emergency services or postal service to correct a confusing address area.
3) Formal request meeting approval criteria from the neighborhood association or petition representing the problem address area.
4) Isolated minor pockets of one grid surrounded by another.
5) Confusing intersections and directional designations that create potential traffic hazards.
6) Confusing changes of a grid system in the middle of a neighborhood.
7) Anticipation of new development in order to continue a grid system in a consistent manner.
8) Any other reason(s) that is in the public interest.

f. **Guidelines for Correcting Existing Conflicts**

1) Corrections and new assignments shall be consistent with the "City of Gresham Street Naming and Property Addressing Guidelines."
2) The Manager or designee shall maintain a log of known confusing grid areas and street names and of other potential address/street name/grid system problems as identified.
3) Through the year 2010, the Planning Division shall make an annual report and recommendation to the Planning Commission regarding street names that "in the best interest of the City" should be corrected. An annual "housekeeping" street-name/renaming ordinance shall resolve existing conflicts so that by 2010 the identified street name and address grid conflicts have been resolved, including those in any areas annexed to the City of Gresham through the year 2009.
4) As new areas are annexed, those properties abutting City Grid and/or being served by the Gresham Postmaster shall be assigned addresses conforming to the City Grid as the properties develop or redevelop. Within newly annexed areas, existing addresses and street names shall be converted to the City Grid as the City acquires jurisdiction over the streets or at the earliest possible time through intergovernmental agreement. However, historical street names shall be preserved to as great an extent as possible without conflicting with the "City of Gresham

Street Naming and Property Addressing Guidelines."

g. **Policies for Street Naming/Renaming and Property Numbering/Renumbering**
In evaluating potential street name or property numbering changes in Gresham, the City shall consider the following:

1) Emergency Response: Reduce delays or confusion in emergency calls and responses. Emergency response must always be the highest priority in street naming/renaming or property numbering/renumbering because of the potential loss of life and injury from emergency service delay.
2) Consistency with the City's adopted street grid and number system.
3) Logical for general public identification. Street names and numbers should follow a logical pattern and not be confused with similar names.
4) Postal and delivery service needs.
5) Retention or re-establishment of historic street names when not conflicting with other priorities.
6) Ability of the system to expand as growth occurs.
7) Any other reason(s) determined to be in the public interest.

2. The City shall develop and manage a multi-modal street system that meets vehicular emissions and noise level standards.

3. The City shall require adequate street lighting with street capital improvement projects and private development projects.

4. The City shall require that new street improvements be designed to meet or exceed minimum guidelines set forth in the AASHTO Policy on Geometric Design of Highways and Streets and Institute of Transportation Engineers recommended practice for urban streets. Traffic impact analysis shall utilize the Institute of Transportation Engineers Trip Generation Manual wherever applicable. Traffic calming devices shall be designed in accordance with accepted industry standards such as detailed in Institute of Transportation Engineers recommended practice for urban streets and Oregon State University Transportation Research Institute's Neighborhood Traffic Management guide.

## ACTION MEASURES

1. Develop a program to provide street lighting in areas where lighting is inadequate or non-existent.

2. Use traffic calming techniques in neighborhood traffic control projects and update street standards to include traffic calming devices.

3. Adopt specific access management strategies to separate vehicle conflicts (e.g., reduce the number of driveways, increase the spacing between driveways and intersections, and remove turning vehicles from through lanes) for each roadway classification: more access control for higher classification streets and less access control for lower classification streets.

(Amended by Ordinance No. 1610, passed 8/16/05; effective 9/15/05)
(Amended by Ordinance No. 1576, passed 7/29/03; effective 8/28/03)
(Amended by Ordinance No. 1461, passed 12/1/98; effective 12/31/98)

## 10.320.2 TRANSIT SYSTEM

### SUMMARY OF FINDINGS

As the population of Gresham has increased and costs associated with auto commuting have risen, there has developed a parallel need to increase public transit services. With increasing infill development occurring within all districts of the city, improved public transit has become more critical to serve the needs of all city residents.

In the past decade, Tri-Met has moved from a radial bus network focused on downtown Portland to a multi-directional bus-rail transit system which improves regional access for many parts of the Portland area, including Gresham. 1986 saw the opening of the 15 mile high-speed, high-capacity MAX light rail line between Gresham and Portland, the first link in a regional rail transit system. The light rail line is serving a wide range of trip purposes and has attracted a significant increase in transit riders within the Gresham area. Light rail service is supported by a system of park and ride lots, transit centers, and feeder buses.

Significant redevelopment is anticipated near the Rockwood and Regional Center stations. Gresham has the opportunity to attract intensive transit-supportive development to the MAX station areas, to use light rail as a central spine of development, and to create a more diverse, compact, and attractive urban center. The city will continue to develop and refine strategies to capture, to its fullest potential, the possibilities offered by mass transit. These strategies will define the leading role that the Regional Center and Rockwood Town Center will play in Gresham's future.

In conjunction with light rail, Tri-Met implemented a timed transfer and feeder bus system to create more efficient bus scheduling, transfers, and route coverage. Tri-Met needs to pursue flexible bus service strategies to improve the frequency of service, route coverage, and ridership on the feeder bus system (Sections 3.230 to 3.233).

### GOAL

Convenient, expanded transit service within Gresham and the East Multnomah area.

### POLICIES

1. The City shall work with affected jurisdictions and transit providers in the operation and improvement of the transit system serving Gresham.

2. The City shall advocate service enhancements such as peak hour express trains between the Rockwood-Central Area Stations and Gateway-Downtown Portland and off-peak discount tickets to encourage off-peak rider use and off-peak direction trips.

3. The City shall support adopted regional strategies and priorities for transit improvements.

4. The City shall establish pedestrian districts as intensive mixed-use districts within light rail and other transit corridor areas. Pedestrian-oriented development and transit-supportive uses shall be encouraged within pedestrian districts. Special transit design standards shall be applied to development within pedestrian districts and along mixed- use transit corridors.

**ACTION MEASURES**

1. Encourage Tri-Met to provide transit service for Gresham that meets or exceeds the service level criteria established by Tri-Met for:

   a. route coverage;

   b. frequency of service; and

   c. travel time.

2. Encourage the public to utilize mass transit so as to make effective use of the transit system investment while reducing single occupant automobile use. Communicate community needs to the agencies responsible for transit planning, programming, and funding.

3. Promote logical extensions of the light rail system such as a Gresham loop or line extension.

4. Cooperate with Tri-Met and other entities in the planning and implementation of light rail and bus service improvements, especially feeder bus service to MAX stations.

**GOAL**

Efficient transit services that meet the current and projected transportation needs of the citizens of Gresham.

## POLICY

1. The City shall advocate and support cost-effective and flexible transit service for the Gresham area, such as:

    a. small vehicle bus service on some feeder bus routes;

    b. paratransit and demand-responsive service (bus pools, shared-ride taxis, carpools, van pools) as an alternative to fixed route large bus service and single occupant automobile use; and

    c. contracted, demand responsive bus service by local providers using small vehicles where large bus, fixed route service is not yet justified by existing population and employment.

## GOAL

A transit system that maximizes accessibility.

## POLICIES

1. The City shall discourage development patterns that hinder access to transit services.

2. The City shall encourage intensive development in the transit corridors and transit station areas. Community Development Plan policies, land use patterns, standards, capital improvement plans, and specific strategies that support increased transit ridership and are compatible with light rail station area design shall be adopted.

3. The City shall plan for and promote population concentrations, intensive commercial and employment centers, senior or special needs housing, and public institutions and offices in areas that can be efficiently served by public transit, especially light rail.

## ACTION MEASURES

1. Encourage development of a local and regional transit system that benefits Gresham residents and businesses, improves Gresham's regional accessibility, and strengthens system ridership.

2. Work with transit providers to extend transit service to areas of the city that do not have transit service and to improve the route coverage, frequency of service, and ridership for feeder bus and cross-town bus lines. Give priority to transit corridors, Mixed-Use Districts, Plan Districts, employment centers, shopping centers, moderate density residential area, and routes or facilities that serve transit-dependent populations.

3. Work with transit providers to encourage transit service that addresses the special needs of the transit dependent (e.g., the elderly, the handicapped, and the low income).

4. Encourage intensive new uses and development within the light rail station areas that:

   a. create major destinations for transit riders;

   b. are compatible with and supportive of transit use;

   c. create high levels of pedestrian activity and provide safe, direct, and attractive pedestrian circulation between stations and adjacent commercial and residential areas;

   d. attract transit ridership, reduce the number and length of vehicular trips, and minimize the amount of land used for private off-street parking;

   e. utilize joint access, joint parking, and interior circulation between adjacent uses and parcels;

   f. create a more efficient land use pattern by land assembly, redevelopment of under-utilized parcels, or by infill within an existing developed area; and

   g. create a cohesive and attractive transition between station areas and adjacent existing commercial and residential areas.

5. Provide park-and-ride facilities near light rail stations to attract transit riders and minimize on-street parking in station areas. Support development of additional programmed park-and-ride facilities as needed at appropriate station locations. Work to monitor existing park-and-ride facilities and station area parking and seek to resolve transit rider parking problems that may develop.

### GOAL

A safe transit system.

### POLICY

1. The City shall coordinate with Tri-Met to identify and implement safety features at bus stop, transit centers, and MAX stations, including shelters, lighting, and emergency or pay telephones.

(Amended by Ordinance No. 1610, passed 8/16/05; effective 9/15/05)
(Amended by Ordinance No. 1461, passed 12/1/98; effective 12/31/98)

## 10.320.3 BICYCLE SYSTEM

### SUMMARY OF FINDINGS

Ensuring adequate bicycle circulation is an objective of the city's comprehensive plan. While motor vehicles represent the dominant form of transportation in the community accommodating bicycle circulation enhances the area's livability. Good access to activity centers such as the downtown commercial core and the light rail transit stations should increase bicycling in these areas which would increase both ridership on the light rail transit system and patronage of downtown businesses.

The 1995 Oregon Bicycle and Pedestrian Plan, Metro's Regional Bicycle Plan, and the 1995 Multnomah County Bicycle Master Plan contain routes that will be accommodated within the City of Gresham. The City of Gresham has taken an active role in the development of bicycle facilities. The 1996 Gresham Trails Master Plan contains a comprehensive review of topics such as the selection of trails and bikeways, ways to reduce accidents, and trail design guidelines. In addition, the Gresham Parks and Recreation Plan proposes a network of bicycle routes and trails through the city. The proposed 40-Mile Loop trail, traveling through Portland, Milwaukie, Gresham, Troutdale, and unincorporated portions of Multnomah County, comprises an element of this local network. These facilities provide an alternative to conventional, energy-consuming modes of transportation and also serve recreational functions. Much of the proposed trails and bikeways network will be located on existing rights-of-way. However, on-going development activities could interfere with continuous linkage of a system through the city unless means are available to obtain easements through segments of private property.

The city has scheduled a set of bicycle improvement projects that will be financed from the 1% state gas tax set aside revenues which are reserved for the development of bicycle and pedestrian facilities.

## GOAL

Develop a continuous and convenient bicycle network.

## POLICIES

1. The City shall require preferential parking and accessibility for bicycles for all muti-family, commercial, industrial, and community service uses.

2. The City shall require bicycle and mass transit accessibility within residential, commercial, industrial, and community service development proposals submitted to the city.

3. The City shall integrate on-street bikeways with multi-use paths and other bicycle facilities identified in the Trails Master Plan.

4. The City shall stripe planned bikeways with street resurfacing projects or improvements.

## ACTION MEASURES

1. Coordinate with Multnomah County, Metro, and Oregon Department of Transportation to:

    a. develop consistent design standards and classifications for bicycle facilities on multi-modal streets in Gresham to assure that bicycle facilities are appropriate to the traffic volume and speed;

    b. install detector loops that allow bicyclists to trigger traffic lights while traveling on the road; and

c. develop a destination-based sign code that identifies major destinations accessible to bicyclists from the bikeway.

2. Encourage the state to reconsider its restriction on the use of gas tax revenues for funding facilities outside public street rights-of-way.

3. Support regional efforts to establish the Metropolitan Greenspaces Master Plan, including the 40-Mile Loop trail system, and coordinate with state, regional and local agencies in planning and developing the regional trail and greenway segments within Gresham.

4. Acquire access easements along major power line corridors and abandoned railroad rights-of-way.

5. Promote TriMet's "Bikes on Transit" program and work to increase the number of bicyclists using transit.

6. Create and promote a City-owned bicycle fleet for official employee use.

7. Identify criteria and potential routes for bicycle boulevards.

8. Implement design options that reduce traffic speed, while providing bicycle facilities as part of the local street improvements and neighborhood traffic control projects.

**GOAL**

Improve bicycle safety and reduce the rate of bicycle-related accidents.

**POLICY**

1. The City shall work with appropriate jurisdictions to remove obstructions and hazards from bicycle facilities.

**ACTION MEASURES**

1. Support Bike Rodeos and other local events that promote bicycle safety.

2. Work with Multnomah County, other East County cities, City of Portland, and Metro to develop and participate in a bike promotion event or program during Bicycle Commute Week in May.

3. Establish a bicycle facility maintenance schedule and a procedure for quick response to bicycle facility maintenance and safety problems.

4. Create a bicycle education and safety program to present at schools and to the general public.

5. Develop and distribute an East Multnomah County bicycle map.

(Amended by Ordinance No. 1610, passed 8/16/05; effective 9/15/05)
(Amended by Ordinance No. 1461, passed 12/1/98; effective 12/31/98)

## 10.320.4 PEDESTRIAN SYSTEM

### SUMMARY OF FINDINGS

Ensuring adequate pedestrian circulation is an objective of the city's comprehensive plan. While motor vehicles represent the dominant form of transportation in the community accommodating pedestrian circulation enhances the area's livability. Good access to activity centers such as the downtown commercial core and the light rail transit stations will increase pedestrian activity in these areas which will increase both ridership on the light rail transit system and patronage of downtown businesses.

The 1995 Oregon Bicycle and Pedestrian Plan contains routes that will be accommodated within the City of Gresham. The City of Gresham has taken an active role in the development of pedestrian facilities. The 1996 Gresham Trails Master Plan contains a comprehensive review of topics including ways to reduce accidents and improving pedestrian circulation. This plan will be the primary tool to implement the pedestrian facilities within the City. In addition, the Gresham Parks and Recreation Plan proposes a network of pedestrian trails through the city. The proposed 40-Mile Loop trail, traveling through Portland, Milwaukie, Gresham, Troutdale, and unincorporated portions of Multnomah County, comprises an element of this local network. These facilities provide an alternative to conventional, energy-consuming modes of transportation and also serve recreational functions. Much of the proposed trails network will be located on existing rights-of-way. However, on-going development activities could interfere with continuous linkage of a system through the city unless means are available to obtain easements through segments of private property.

The city has scheduled a set of pedestrian improvement projects which will be financed from the 1% state gas tax set aside revenues which are reserved for the development of bicycle and pedestrian facilities.

### GOAL

Provide pedestrian facilities that are continuous, accessible, and adaptable to all users.

### POLICIES

1. The City shall observe the following priorities for pedestrian improvements: sidewalk infill, elimination of pedestrian barriers, transit station areas, and school walk routes. These projects shall be identified and prioritized in the capital improvement program.

2. The City shall require the construction of appropriate pedestrian facilities as part of all transportation capital improvement projects, including road construction, reconstruction,

traffic calming, and intersection improvement projects.

3. The City shall require internal pedestrian circulation within residential, commercial, industrial, and community service development proposals submitted to the city.

4. The City shall develop a program for interim pedestrian facilities on substandard arterial and collector streets not scheduled for construction in the adopted 5-year Capital Improvement Program.

5. The City shall identify project areas for comprehensive pedestrian improvements, including traffic calming, signal improvements, crossing treatments, and pedestrian amenities.

6. The City shall adopt a comprehensive set of design guidelines and standards for pedestrian facilities that are adapted to the anticipated level of pedestrian activity and identify the areas where specific standards apply.

**ACTION MEASURES**

1. Coordinate with Multnomah County and ODOT to develop consistent design standards for pedestrian facilities on arterial and collector streets in Gresham including sidewalks, pedestrian crossings, and pedestrian refuges.

2. Develop pedestrian facilities consistent with the City of Gresham Trails Master Plan and the City of Gresham Parks and Recreation Plan.

3. Incorporate in the trail and park system any special or unique sites for nature trails, scenic walkways, exercise circuits, or other special purpose trails.

4. Ensure that the needs of pedestrians are considered in the timing plans of all traffic signals.

5. Implement design options that reduce traffic speed, while providing pedestrian facilities as part of local street improvement and neighborhood traffic control projects.

**GOAL**

Improve pedestrian access to transit.

**POLICIES**

1. The City shall adopt site design and street standards supporting internal and external pedestrian circulation and transit accessibility for residential, commercial, industrial, and community service developments.

2. The City shall identify needed connections for direct walking routes and require dedication of right-of-way and improvement as pedestrian/bicycle accessways with development of adjoining property.

3. The City shall prioritize pedestrian projects that improve access to and within the Gresham Regional Center and Rockwood Town Center and that provide access to the Springwater Trail and the future Gresham-Fairview Trail from adjacent neighborhoods.

**ACTION MEASURES**

1. Require pedestrian connections and facilities in areas with planned high levels of pedestrian activity such as mixed-use, high-density districts, school zones, commercial districts, and areas adjacent to transit corridors.

2. Identify priority improvements for pedestrian access to transit in Pedestrian-to-MAX capital improvement projects. Priorities include completing the sidewalk network, providing adequate crossing opportunities, and adding pedestrian amenities near transit centers, stations, and stops.

**GOAL**

Develop safe pedestrian environments.

**POLICIES**

1. The City shall coordinate with school personnel and parent groups to identify and mitigate obstacles to walking to school through a School Walk Routes program.

2. The City shall coordinate with public and private utilities to remove obstacles from sidewalks and to provide an alternative location for utilities within the right-of-way or easements.

**ACTION MEASURES**

1. Increase traffic law awareness and enforcement in pedestrian districts.

2. Develop educational programs and events.

3. Sponsor volksmarches and other walking events in Gresham.

4. Develop neighborhood walking guides.

5. Coordinate with the Bicycle Education Program to promote safe pedestrian activities.

(Amended by Ordinance No. 1610, passed 8/16/05; effective 9/15/05)
(Added by Ordinance No. 1461, passed 12/1/98; effective 12/31/98)

## 10.320.5 TRANSPORTATION DEMAND MANAGEMENT

### SUMMARY OF FINDINGS

A Transportation Demand Management program is necessary to help the City of Gresham meet mobility, air quality, and livability goals, as well as the Vehicle Miles Traveled (VMT) per capita and parking per capita reduction requirements of the state's Transportation Planning Rule (TPR). The overall goal is to maximize the efficiency of the existing transportation system by reducing the number of single occupant vehicles using the road system. This reduction in travel can be accomplished through the provision of a wide variety of mobility options including transit, walking, biking, carpooling, and telecommuting.

Transportation Demand Management is not one action, but rather a set of actions or strategies that encourage drivers to not drive alone, especially during heavily congested peak periods of the day. TDM therefore encompasses measures and/or incentives to:

- reduce single occupant vehicle traffic with an emphasis on the peak period which may incorporate carpools, vanpools, express bus, park-and-ride lots, transit pass programs, etc;
- spread traffic volumes away from the peak period which may include compressed work weeks, flex-time, staggered work hours, trip reduction ordinances, impact fees, etc;
- improve traffic flow which may include signal optimization, one-way streets, reversible travel lanes, ramp metering, etc; and
- remove vehicle trips completely from the roadway, through programs such as telecommuting, conference calling, etc.

### GOAL

Reduce the need to travel, reduce single occupant vehicle (SOV) travel, and make the use of alternative modes more convenient for all trips throughout Gresham.

### POLICIES

1. The City shall adopt and monitor the effectiveness of appropriate minimum and maximum parking ratios and investigate other measures that reduce parking demand.

2. The City shall adopt transit supportive design standards for developments in districts near transit station areas and along designated transit corridors.

3. The City shall provide reduced traffic impact fees for new development in the Gresham Regional Center, Rockwood Town Center, and along designated transit corridors.

## ACTION MEASURES

1. Support public/private partnerships with transit service providers including the establishment of Transportation Management Associations.

2. Continue the City's employee commute reduction program.

3. Work with local employers to promote telecommuting, flexible work hours and compressed work weeks, the regional carpool matching database, and other demand management strategies.

4. Employ market-based strategies such as parking pricing, parking meters, and congestion pricing to promote more compact land use development, increase alternative mode share, reduce vehicle miles traveled (VMT), and encourage more efficient use of resources.

(Amended by Ordinance No. 1610, passed 8/16/05; effective 9/15/05)
(Added by Ordinance No. 1461, passed 12/1/98; effective 12/31/98)

# 10.320.6 PARKING MANAGEMENT

## SUMMARY OF FINDINGS

The State Transportation Planning Rule calls for reduction of vehicle miles traveled and per capita parking as a means of responding to the transportation and land use impacts of growth. The Metro 2040 Growth Concept calls for more compact development to encourage more efficient use of land, promote non-auto trips, and protect air quality. In addition, the federally mandated air quality plan relies on the 2040 Growth Concept fully achieving its transportation objectives. It relies upon reducing vehicle trips and related parking spaces per capita through minimum and maximum parking ratios. The proposed text amendments are intended to accomplish these objectives.

A compact urban form requires that each use of land is carefully considered and that more efficient forms are favored over less efficient ones. Excessive surface parking, especially that provided in new developments, can result in less efficient land usage and lower floor area ratios. Parking also has implications for transportation. In areas where transit is provided or other non-auto modes (walking, biking) are convenient, less parking can be provided and still allow accessibility and mobility for all modes, including autos. Reduction in auto trips when substituted by non-auto modes can reduce congestion and increase air quality.

Parking is an integral part of the transportation system. As such, on- and off-street parking management is key to meeting the City's goals to facilitate the movement of people and goods and foster economic development while reducing congestion, urban sprawl and air pollution. One way to accomplish this is to more effectively utilize existing roadway capacity by encouraging alternatives to single-occupant vehicle (SOV) travel -- carpooling, transit, walking, biking and telecommuting -- when feasible and appropriate.

The availability of abundant, free, trip-end parking makes SOV travel convenient and attractive, and, therefore acts as a disincentive to the use of alternative modes of transportation. Moreover, off-street parking supplies often exceed even peak demand in suburban settings, resulting in the waste of precious land resources.

On the other hand, if the parking supply is pinched too severely, it could put Gresham businesses and institutions at an economic disadvantage; drive Gresham residents to use goods and services outside the city, which in the long-run increases vehicle miles traveled (VMT); and/or result in spill-over parking into nearby residential areas. Therefore, the City should strive to develop a parking management program which encourages the provision of an adequate but not excessive supply of on- and off-street parking. Moreover, this must be tied to a program to aggressively develop alternative modes of transportation so that those who choose not to drive (and park) alone have reasonable, safe and convenient alternatives.

## GOAL

Ensure there is an adequate but not excessive amount of parking available for all land uses.

## POLICIES

1. The City shall consider parking strategies and programs in the Transportation System Plan that further City goals including:

    a. timed parking zones and parking meters to encourage parking turnover in high demand areas; and

    b. preferential on-street parking programs for residents and businesses adjacent to areas with high on-street parking demand.

2. The City shall continue working with Metro and other local jurisdictions to adopt regional strategies and policies to meet the per capital parking reduction mandated by the Transportation Planning Rule.

## ACTION MEASURES

1. Periodically review the Off Street Parking and Loading Requirements of the Community Development Standards document to:

    a. Review and update as necessary minimum and maximum parking ratios for all land uses;

    b. Develop incentives for new development to provide less than the minimum number of parking spaces required by code for existing development to convert existing parking to other uses;

    c. develop standards for structured parking including those related to ground-floor non-parking use, lay-out, landscaping, and other design, structural, and functional issues; and

d. undertake other revisions as necessary to simplify interpretation and administration of parking standards.

2. Encourage construction of structured parking in Transit Districts, Civic Neighborhood, Downtown, and Central Rockwood areas to support transit use and encourage high-density development. If feasible, provide incentives in other districts of the city to encourage developers to provide decked or underground parking to reduce land devoted to parking lots.

3. Develop and implement a master plan for public parking facilities in the Downtown and Rockwood areas to provide consolidated central parking for existing and future residences and businesses and facilitate more intensive development of these areas.

4. Encourage the development of joint-use parking agreements where one or more users share the same pool of parking. Identify existing sites with excess parking that could be shared with new users as an alternative to building new parking spaces. Ensure that Community Development Code regulations are sufficiently flexible to allow joint-use parking agreements.

5. Establish a cooperative transportation management association within the Downtown and Rockwood areas with business organizations, community associations, and employers to consider:

   a. parking and transit validation programs;

   b. one-stop shopping;

   c. alternative transportation modes for customers and employees;

   d. public parking marketing programs;

   e. intra- and inter-district shuttle service; and

   f. shared-parking agreements.

6. Provide encouragement and, where appropriate, technical support to large employers who will be required to reduce single-occupant vehicle (SOV) commute trips as part of the DEQ Employee Commute Option (ECO) Rule.

(Amended by Ordinance No. 1610, passed 8/16/05; effective 9/15/05)
(Amended by Ordinance No. 1461, passed 12/1/98; effective 12/31/98)

## 10.320.7 TRUCK AND RAIL FREIGHT SYSTEM

### SUMMARY OF FINDINGS

The Oregon Transportation Plan projects a 2.5% growth rate for both rail and truck freight traffic, which is a 60% total increase over 20 years. The 1994 Oregon Rail Freight Plan did not identify any rail capacity or facility improvements in Gresham, however significant needed investments were identified at the Port of Portland terminals.

Trucks must compete for limited space in the right-of-way along with cars buses, light rail, bicyclists, and pedestrians. Greater delay to through movement of freight is likely as the Town Center and Regional Center are built to the design densities needed to support the 2040 Growth Concept. High truck volumes are not always compatible with the street designs that support high pedestrian and transit use as planned in 2040 Centers. Frequent turn movements to the many commercial driveways along some routes also reduce the efficiency of the system to move freight. An important freight consideration to monitor will be the ability of the street system to provide for efficient commercial delivery, particularly in 2040 Centers where lower peak hour level-of-service may be accepted.

Gresham is served by one heavy rail line. The Union Pacific crosses the north side of the city. The Union Pacific directly serves several large manufacturing and distribution uses and industrial parks in the Rockwood industrial area.

With the abandonment of service on the Mt. Hood Railway spur (Linneman Junction to NE Hogan) due to MAX light rail, heavy rail service on the Portland Traction line within Gresham has been discontinued by the operator. However, the Portland Traction line right-of-way has been preserved in public ownership and converted to use as the Springwater Trail corridor, which is part of the 40-Mile Loop recreation trail.

The city will identify those businesses needing heavy rail service and work with the railroads to assure that needed services and rail shipping points are available.

### GOAL

Safe and efficient movement of truck and rail freight through and within Gresham.

### POLICIES

1. The City shall provide for efficient movement of truck freight when conducting traffic analyses and adopting multi-modal street design standards.

2. The City shall cooperate with railroads to provide an adequate level of rail freight service.

**ACTION MEASURES**

1. Allow on-street loading facilities in the Gresham Regional Center and the Rockwood Town Center.

2. Ensure adequate accessibility to regional freight routes from commercial and industrial districts.

3. Identify and correct safety problems on the freight network including roadway geometry and traffic control deficiencies, at-grade rail crossings, truck-infiltration into neighborhoods, congestion on grades, and the movement of hazardous materials.

4. Preserve the rails to trails conversion of the Portland Traction line to the Springwater Trail as a "railbanked corridor," in accordance with the Federal Rails to Trails Act, ensuring that the integrity of this corridor is maintained for possible return to rail use.

(Amended by Ordinance No. 1610, passed 8/16/05; effective 9/15/05)
(Amended by Ordinance No. 1461, passed 12/1/98; effective 12/31/98)

## 10.320.8 PASSENGER RAIL SUMMARY OF FINDINGS

The Union Pacific mainline is the only inter-city passenger rail corridor crossing through Gresham. No other future corridors crossing Gresham were identified in the 1992 Oregon Rail Passenger Policy and Plan. However, additional service options using the Union Pacific rail were evaluated. Until April, 1997, Amtrak provided service three days a week from Portland through Boise and Ogden to Denver. The Amtrak Pioneer service included stops in Oregon at Hood River, the Dalles, Hinkle-Hermiston, Pendleton, La Grande, Baker and Ontario. As a corridor of statewide significance, the restoration of this east/west rail service should be a high priority for the region and the state.

Assuming the return of the Pioneer, two other service concepts for the Union Pacific corridor that were identified in the Oregon Rail Passenger Policy and Plan. The Columbia Corridor concept would add a second Pioneer trip from Portland to Boise. However, even assuming equal ridership to the existing Pioneer, the cost per passenger would $539.70 versus a likely fare of $45. A Deschutes/Cascade Corridor concept was also evaluated. This service would supplement the Coast Starlight from Portland to Los Angeles except the northern segment would travel from Portland to the Dalles then south through Bend to Chemult where it would continue on the usual route. The population along this route is only 15% that of the Eugene route, so ridership volume sufficient to support the service is doubtful. The report concludes that costs outweigh the benefits in the foreseeable short term and that improvements to Willamette Valley service should receive priority.

## GOAL

Effective passenger rail service to the metropolitan area.

## POLICY

1. The City shall support connections that make commuter and inter-city service accessible to Gresham residents by a variety of modes.

## ACTION MEASURES

1. Support federal, state, regional, and private investments in passenger rail service to the metropolitan area.

2. Support cost-effective commuter and inter-city passenger rail projects that serve a demonstrated need.

(Amended by Ordinance No. 1610, passed 8/16/05; effective 9/15/05)
(Added by Ordinance No. 1461, passed 12/1/98; effective 12/31/98)

# 10.320.9 AIR TRANSPORTATION SYSTEM

## SUMMARY OF FINDINGS

Portland International Airport (PDX) is the major aviation facility serving the region. It was originally developed in the 1940s as a replacement for the Swan Island Airport and grew to its present size of about 3,200 acres to accommodate airfield expansion needs and to ensure that adjacent land uses were compatible with airport operations. In addition to aviation facilities and support uses (such as rental cars), present uses include airfield dependent uses (air cargo) at the Airtrans Center and a variety of commercial and industrial uses in the Portland International Center (PIC). PDX is operated by the Port of Portland. The Port of Portland also operates general aviation airports in Troutdale, Hillsboro, and Mulino which are becoming increasingly important for serving corporate aircraft and training flights and as "reliever" airports for PDX.

The number of passengers using PDX is expected to increase from 11 million in 1995 to 24 million by 2010. A 1997 study of passenger origins/destinations and travel modes revealed that 38.4% of passenger trips to the airport originate within the Portland Metro region including 1.9% from Gresham.

Maintaining and improving access to the airport by a variety of modes is important to Gresham and the region. The Port is developing a long-term strategy to preserve and enhance access to the terminal. Key goals are to: 1) maintain a good level-of-service for inbound trips on Airport Way to the terminal at all hours; 2) increase the use of public and private transit by passengers to 24% of all passenger trips; 3) reduce single-occupant vehicle trips by passengers and employees, particularly passenger drop-offs; and 4) reduce the rate of growth in parking demand.

There are cone-shaped safety areas identified at the end of each runway where land uses and building heights must be restricted to provide for safety of aircraft landing and taking off. No portions of Gresham are within the safety areas of either the Portland International or Troutdale Airports. There are no special design review requirements that would apply to proposed developments in Gresham. Each land use district has building height limits. State guidelines indicate that local jurisdictions should consider safety-related factors such as exhaust, smoke, building height, lighting, and disruption of radio communications or navigational aids in design review for industrial lands close enough to be affected by noise levels.

Two of the main landing approaches cross over large residential areas in Gresham. While aircraft noise under these flight paths may not be at levels that exceed regulations, some residents have reported disruption and annoyance from aircraft noise. Citizens have questioned the need for aircraft approaches over an urban residential area when the urban growth boundary is only a mile or two east of the flight path. While there may be operational constraints to moving these landing approaches further east, this issue should be discussed further with the Port. There is a Noise Abatement Advisory Committee to the Port Commission which is the most appropriate forum for addressing this issue.

### GOAL

Land uses in Gresham are compatible with aircraft noise exposure and aircraft safety.

### POLICY

1. The City shall work with PDX officials to identify and resolve land use compatibility issues.

### ACTION MEASURES

1. Participate in noise abatement activities with the Noise Abatement Advisory Committee and PDX staff.

2. Ensure that the location and use of helicopter landing facilities are compatible with surrounding land uses.

(Amended by Ordinance No. 1610, passed 8/16/05; effective 9/15/05)
(Added by Ordinance No. 1461, passed 12/1/98; effective 12/31/98)

## 10.320.10 PIPELINE SYSTEM

### SUMMARY OF FINDINGS

Pipelines serve an important transportation function in the transmission of large quantities of liquid and gas products. They are more safe and efficient than moving the same products by rail, truck or barge. There are currently six major pipelines crossing Gresham within four corridors.

Four major water pipelines (Bull Run Conduits) cross east/west through Gresham, with a fifth conduit planned. These pipelines and five metering facilities where water is transferred to the local reservoir storage and distribution system in Gresham are maintained by the Portland Water Bureau.

There are also two high-pressure natural gas pipelines crossing Gresham in north/south corridors: a 20" pipeline built in 1964 which is almost entirely within the Hogan Road right-of-way through Gresham, and a 30" pipeline, built in 1996 which generally follows the utility corridor through the eastern part of the city. These two pipelines, as well as two metering stations in Gresham where natural gas is transferred to the local distribution company, are operated by Northwest Pipeline Corporation. Both pipelines transport natural gas from the mainline at Washougal, Washington down the Willamette Valley and south to the terminus at Grants Pass via a series of large compressors. They provide over 90% of the natural gas used in Oregon west of the Cascades. Existing pipelines have sufficient capacity to accommodate the anticipated growth in demand over the next 20 years. If replacement of the 20" pipeline is needed due to significant changes in the Hogan corridor (i.e. construction of the Mt. Hood Parkway), there is adequate right-of-way or permanent easement in the eastern corridor for a second pipeline. No additional future corridors through Gresham have been identified.
Three ruptures of high-pressure natural gas pipelines in rural Washington in recent years have increased awareness and concern about the safety of pipelines passing through residential areas in Gresham. According to Department of Transportation statistics, the greatest risk to pipelines is from damage caused by third parties, primarily from excavation.

## GOAL

Land uses in Gresham are compatible with established and planned pipeline corridors.

## POLICY

1. The City shall protect established and planned pipeline corridors from conflicts with incompatible land use development.

## ACTION MEASURES

1. Identify and provide for appropriate inter-modal terminals along pipeline corridors.

2. Support the development of a regional pipeline system.

(Amended by Ordinance No. 1610, passed 8/16/05; effective 9/15/05)
(Added by Ordinance No. 1461, passed 12/1/98; effective 12/31/98)

# 10.330 PUBLIC FACILITIES AND SERVICES

## SUMMARY OF FINDINGS

Gresham has recently experienced the most dramatic growth rate of any city in the State of Oregon through mid-county annexation and development. The 1980 Plan stated that ... "public facilities systems and improvements are becoming overburdened, and in some instances, beginning to break down." Since then major public facilities improvements have been initiated that have reversed the trend. Sewer and water system improvements have kept pace with development and, in some instances, were constructed in advance of development.

The provision of adequate public facilities is one of the major development control tools available to the city. By keying development approvals to assurances of adequate facilities services, the city will be able to control the rate of growth so that it will not outpace provisions of necessary public facilities (Sections 3.200 to 3.274 and Sections 3.300 to 3.530 - Findings document).

## GENERAL POLICY

It is the City's policy that development will coincide with the provision of adequate public facilities and services including access, drainage, water and sewerage services.

## IMPLEMENTATION STRATEGIES

1. The city will be the principal provider and planner of the following services and facilities to Gresham residents, homes and businesses:
    a. Sanitary Sewage Collection and Treatment
    b. Water Distribution and Storage
    c. Drainage Management (i.e. Storm Drainage)
    d. Fire Protection
    e. Police Protection
    f. Land Use Control

2. The city will monitor, coordinate with and regulate, where appropriate, the activities of the following, as they affect existing and future residents and businesses:
    a. Solid Waste Collection
    b. Utilities (electricity, natural gas, telephone, etc.)

c. Health Services

d. Schools which serve Gresham residents

e. Other necessary Public Facilities located in Gresham

f. Transportation Facilities

3. The Community Development Standards document will require that adequate facilities and services exist or can be provided as part of a proposal prior to issuing development permits.

4. To meet the preceding strategy, a development shall be required to provide adequate public facilities to serve the site and to extend public facilities to provide for the logical continuation of the city's utility and street systems. A development may be required to modify or replace existing off-site systems to provide adequate public facilities.

5. The city shall develop, maintain and adhere to a Capital Improvements Plan which is designed to:

a. Protect the health, safety and welfare of Gresham residents;

b. Further the policies and implementation strategies of the Comprehensive Plan;

c. Provide and support the level of services required by urban-level development in a timely, orderly and efficient manner;

d. Equitably distribute the costs of capital improvements projects according to benefits received; and

e. If feasible, distribute the costs according to the benefit of capital improvements required to increase the level of services in areas previously served by other districts to city service levels.

6. The Capital Improvements Plan shall contain the following elements:

a. A Facilities Plan containing master plans for sanitary sewers and treatment facilities, water facilities, drainage facilities, park facilities, streets, parking facilities, and all other capital facilities the city anticipates it will need by the year 2005. The Facilities Plan shall also prescribe the timing for construction of the capital facilities during the planning period, bearing in mind the remaining capacities of existing facilities and giving priority to the needs of already developed areas.

The Facilities Plan may allow for the following modifications to projects without amendment to the plan:

(1) Administrative changes are those modifications to a public facility project which are minor in nature and do not significantly impact the project's general description, location, sizing, capacity, or other general characteristic of the project.

(2) Technical and environmental changes are those modifications to a public facility project which are made pursuant to "final engineering" on a project or those that result from the findings of an Environmental Assessment or Environmental

Impact Statement conducted under regulations implementing the procedural provisions of the National Environmental Policy Act of 1969 (40 CFI Parts 1500-1508) or any federal or State of Oregon agency project development regulations consistent with that Act and its regulations.

b. A Capital Improvements Program, describing the methods to be used to implement the Facilities Plan, including organizational, financial and regulatory techniques. The Capital Improvements Program (CIP) shall be adopted annually through a Type IV process and be included in the Gresham Community Development Plan as Volume V. Changes to the annually adopted CIP may be made with a simplified process where there is no significant impact on a public facility project. Outside of the annual Type IV CIP adoption process Council may approve, as non-significant CIP changes or additions, those CIP amendments which are necessary: to complete a project; to initiate a project for which unanticipated funding has been obtained; to adjust a project scope; to amend a project budget; or to utilize grant funds or donations in a timely and efficient way during a current fiscal year. These non-significant CIP changes outside the annual Type IV process, will go directly to the City Council and will only require City Council non-hearing review and approval, by resolution. All changes will be indicated in the annual CIP. Each CIP project is also subject to all other required public review and permit processes that apply.

7. The City Manager shall review designs, approve plans, inspect construction and recommend acceptance of public improvements to the City Council for ownership, operation and maintenance by the city. The City Manager may establish administrative procedures for the above process in order to protect the life, safety and welfare of the public.

**POLICY II**

It is the City's policy that services shall be provided in the most cost effective manner and the costs shall be equitably spread among all recipients of the services.

**IMPLEMENTATION STRATEGIES**

1. The city established an Urban Services Boundary in order to practically and responsibly plan for the financing and construction of additional facilities and services to residents, businesses and industries. The Gresham Urban Services Boundary includes the existing corporate limits of the City of Gresham, as well as unincorporated territory outside the city limits, but within the Portland Metropolitan Urban Growth Boundary, an area which can be most effectively served with all urban level services by the City of Gresham.

2. Upon annexation, the city shall provide all urban services except in the following situation:

   Where the territory is currently being served by a service provider, the city and the service provider shall negotiate a schedule for the transition of the territory from the service provider to the city.

3. The city shall provide sewer service to territory outside the Gresham Urban Service Boundary, but inside the Gresham sanitary sewer drainage basin where it is economically and technically feasible for the city to provide the service.

(Section 10.330 amended by Ordinance 1439 passed 3/17/98; effective 4/16/98)

## 10.331 WATER SERVICE

**PUBLIC FACILITIES AND SERVICES**
**WATER SERVICE BACKGROUND**

**BACKGROUND**

The City of Gresham provides drinking water to approximately two-thirds of the City's population while the Rockwood Water Peoples Utility District (PUD) serves the remaining one-third of the city. In 1998, Gresham adopted its most recent water system facility plan entitled the "Water System Master Plan – City of Gresham, Oregon" and Rockwood Water PUD adopted their latest facility plan entitled "Water Master Plan." Each plan deals with the storage and distribution of water within the respective area of the service provider. The plans assessed the adequacy of their existing systems and determined what improvements are needed to accommodate projected growth for the next 20 years. The information below is from the facility plans and the plans are incorporated by reference into the Comprehensive Plan.

Both service providers purchase their water from the City of Portland Water Bureau. The primary water sources are the reservoirs within the Bull Run watershed of the Mt. Hood National Forest, located approximately 35 miles to the east. Emergency "back-up" water is provided by a well system located along the south shore of the Columbia River in east Multnomah County. The water from Bull Run is very low in dissolved minerals and meets or exceeds all drinking water quality standards set by the U.S. Environmental Protection Agency and the Oregon State Health Division. Portland has the water periodically tested by independent laboratories that are certified by the state. The test results are sent to the above two agencies.

Both service providers rely on System Development Charges (SDCs) and water rate revenues for financing their activities. SDCs are charged to developers when building permits are issued and are used to finance future capital improvements to the system, such as new water transmission lines, pumps and reservoirs. SDCs represent the approximate cost to the water system of accommodating the additional demand placed on it from new development. Revenues derived from the sale of drinking water to retail customers are primarily used to cover the operations, maintenance and administration costs of each system.

Gresham Water System

The Gresham system has seven service (surface elevation) levels. Two of the levels are served by gravity flow and booster pump stations serve the remaining five levels. The system currently consists of seven reservoirs that contain about 28.4 million gallons of water, nine pump stations, approximately 253 miles of pipeline, and 33 miles of water service pipeline. A supervisory

control and data acquisition (SCADA) system monitors and controls water flows throughout the system, especially during peak demand periods. The Gresham system has emergency connections via normally closed valves to the water systems of Rockwood Water P.U.D., Powell Valley Road Water District, and the City of Troutdale. The existing average daily demand (ADD) on the system is 7 million gallons of water per day and the maximum daily demand (MDD) is 14 million gallons per day. The facility plan projects that by 2016 the ADD will be 12.8 million gallons per day and the MDD will be 25.4 million gallons per day.

The Gresham facility plan found that water sources and pumping capacities adequately serve existing development in all service levels. Existing water storage was found adequate in all seven service levels with the exception of the Lusted service level. The existing piping system is adequate in all service levels except for several low pressure areas in the Grant Butte service level. Also, there were several areas in the Grant Butte service level and the Intermediate service level that did not meet Insurance Services Office (ISO) fire flow requirements. All of the above described deficiencies in the existing system are scheduled to be corrected in the 1 to 5 year timeframe portion of the Capital Improvements Plan (CIP) schedule of the plan.

The facility plan includes an evaluation of the City's water system under Year 2016 "build-out" demand conditions. The plan discusses the improvements that would be needed to the existing system in order to meet the additional service demands. Future service demand was based on the housing and employment projections that were done by Metro for Gresham's transportation analysis zones (TAZ). Additional source (storage and pumping) capacity of 3,150 and 380 gallons per minute (g.p.m.) is needed in the South Hills and Lusted service levels, respectively. A new pump station would be needed to improve reliability in the Gabbert service level. Additional storage reservoirs are needed in the Grant Butte service level to serve 2016 demands. Finally, piping improvements are needed in the Grant Butte, Intermediate, and Lusted service levels in order to meet ISO fire flow requirements. All of the above described needed improvements and their costs are listed in the 20 year CIP schedule of the master plan. There are two CIP lists. One lists projects and corresponding costs for the area within the existing city limits. The other addresses the Springwater and Pleasant Valley areas which were outside the UGB and designated by Metro as Urban Reserve Areas at the time the facility plan was done.

In recent months, the City has initiated a study in regard to the City developing its own water supply. A new water source could supplement the water it purchases from the City of Portland. At the 1/21/03 City Council meeting, the Department of Environmental Services (DES) received approval to begin work on evaluating the feasibility of developing a well system that would use local groundwater as an alternative water supply. A consultant firm (Murray, Smith & Assoc. Inc.) was selected to undertake the first phase of the study. A feasibility report is anticipated by the spring of 2003. Another alternative source of drinking water that the city might explore in the future is the Clackamas River.

### Rockwood Water P.U.D. System

The Rockwood P.U.D. service area covers much of the westerly part of Gresham and extends into northeast Portland. The district can generally be described as located west of N.E. 223rd Ave. (Gresham) to N.E. 135th Ave. (Portland), and extending north of S.E. Division St. to the I-

84 freeway. The land uses within the district are primarily residential and commercial with some industrial uses. The topography is generally flat.

The district's distribution system consists of over 190 miles of pipe ranging from 4 to 24 inches in diameter. There are five existing pump stations, three of which pump water out of the reservoirs into the district's main pressure zone. The other two pump stations pump out of the main pressure zone into higher elevation systems. The district also has four active and one inactive storage reservoir. The average daily water demand from all customers within the district (Gresham and Portland areas) is 6.7 million gallons per day and the peak (maximum) daily demand is 11.4 million gallons per day. The district's facility plan projects that by 2018 the average daily demand will increase to 7.7 million gallons per day and the peak daily demand to 12.8 million gallons per day.

The Rockwood Water facility (master) plan identified some deficiencies in the existing distribution system. These were recommended for repair in the immediate future. They relate to various sections of older undersized pipes that need to be replaced with new and larger pipes. The CIP schedule of the plan calls for these pipes to be replaced within 5 years.

The Rockwood Water facility plan also modeled its distribution system in order to identify needed improvements over a 20 year period (to 2018). Their master plan lists improvements that are needed in the intermediate (5-10 yrs.) and long-term (10-20 yrs.) future. Most of them are located within the Gresham portion of the district's service area. They primarily consist of replacing older steel piping with ductile iron piping in order to reduce water loss, as well as replacing undersized pipes with larger pipes at certain locations in order to maintain adequate fire flows as the district's population increases. In addition, the Rockwood plan proposes a new 20 million gallon gravity service water reservoir. It would be located on Grant Butte next to the district's existing reservoir which is no longer operational. The above improvements and their costs are listed in the plan's CIP schedule for the 5 to 10 years and 10 to 20 years timeframes.

## MAJOR ISSUES/CHANGES

The following are some of the issues and changed conditions that have occurred since the last update of the comprehensive plan:

- The City of Gresham Water System Master Plan and the Rockwood Water P.U.D. Water Master Plan were completed in 1998.
- In order to economically meet future needs, both the City of Gresham and Rockwood Water P.U.D. will need to investigate other sources of drinking water as a supplement to the Bull Run system.
- The need for additional reservoir storage in the Rockwood Water P.U.D. system has been recognized by various planning studies that have been done for the district.
- The Gresham Water Division has identified six major existing and future development or redevelopment areas that will be substantial contributors to the system's growth in the coming years. These are: expansion of facilities on the LSI Inc. semi-conductor

manufacturing site, redevelopment of downtown Gresham, on-going development of the Civic Neighborhood, redevelopment of the Brick Works industrial area, and the development of the future communities of Pleasant Valley and Springwater.

- In recent years, both Gresham and the Rockwood Water P.U.D. have participated in discussions with the other 26 water providers in the region about how best to provide a dependable and high quality water supply for the Portland area. This cooperative effort culminated in the development of the Regional Water Supply Plan (RWSP). The RWSP provides a comprehensive and integrated framework of background information, strategies and implementation measures for the purpose of meeting the region's water supply needs to the year 2050.

## PUBLIC FACILITIES AND SERVICES, WATER SERVICE GOAL, POLICIES AND ACTION MEASURES

### GOAL

Provide and maintain a water system that will continue to provide an ample supply of high quality water to Gresham residents, businesses and institutions.

### POLICIES

1. Provide a sufficient supply of high quality water at adequate pressure to meet consumption and fire flow projections and emergency storage needs.

2. Provide public fire hydrants with adequate flows and water pressures for fire fighting purposes.

3. Gresham will continue to support and participate in regional water supply and conservation efforts.

4. In order to enhance the reliability of the water system during emergencies, the City will:

    a. Have multiple service connections with the adjoining water systems;

    b. Whenever possible, loop water distribution lines in order to minimize permanent dead end pipes; and

    c. Provide emergency back-up power to all pump stations.

5. The City will use standardized materials/equipment throughout the water system to improve efficiency and lower overhead costs.

6. In order to meet its long-term needs, the City will continue to assess the feasibility of acquiring additional water supplies that would supplement the Bull Run system.

7. If needed, the City will enter into intergovernmental agreements with other water service providers in order to provide an adequate water supply to the new communities of Pleasant Valley and Springwater.

8. New developments shall:

    a. Provide water service that meets the needs of the development project as well as applicable fire flow requirements;

    b. Install public fire hydrants as directed by the fire marshal;

    c. Pay a water systems development charge (SDC) and any other costs associated with extending water service to the project;

    d. Extend adequately sized water lines with sufficient pressure to the boundaries of the subject property where future extension of the water service is anticipated or required; and

    e. Provide unobstructed access to all public water lines and easements.

9. All improvements to the City water system shall meet the Water System Guidelines and Regulations and other applicable requirements.

10. The operation of Gresham's water system will be guided by local, state and federal guidelines/regulations. These include the American Water Works Association (AWWA) standards as well as the applicable requirements of: the Oregon Department of Environmental Quality (DEQ), the U.S. Environmental Protection Agency (EPA), the Oregon Water Resources Department (OWRD), the National Marine Fisheries Service (Endangered Species Act), and the Oregon Occupational Safety and Health Division (OR-OSHA) regulations pertinent to the water system operation.

**ACTION MEASURES**

1. Develop and periodically update piping, storage, and distribution plans to address current and future information and facility needs such as:

    a. Information from computer simulations to show how the distribution system will function under various operation scenarios;

    b. Pump station evaluation stations to assess need for repairs, upgrading and replacement;

    c. Resolution of storage deficiencies in the Grant Butte and Gabbert service levels, and

    d. Improvements to the piping system to meet ISO fire flow requirements in the grant Butte, Intermediate and Lusted Service levels.

2. Address the projected build-out demands in the Springwater and Pleasant Valley areas for water storage and pumping needs.

3. Continue to update the Capital Improvements Plan (CIP) and facility master plans in order to identify, prioritize and cost-out the water system improvements needed within the existing City area as well as for the future communities of Pleasant Valley and Springwater.

The current adopted Capital Improvements Plan (CIP) serves as the future projects list of the City's Public Facilities Plan (PFP). The CIP lists, describes, gives cost estimates, indicates funding sources, and shows the location of those major public facilities that are needed to support existing and projected development over the short term (1-5 years) and long term (6-20 years) time frames.

(Amended by Ordinance 1582 passed 12/16/03; effective 1/15/04)

## 10.332 WASTEWATER SYSTEM

### PUBLIC FACILITIES AND SERVICES
### WASTEWATER SYSTEM BACKGROUND

### BACKGROUND

The City of Gresham owns and operates its own sanitary sewerage (wastewater) system. The Wastewater Services Division of the Department of Environmental Services (DES) administers the system. The City's wastewater treatment plant is located near N.E. Sandy Blvd. in the northerly part of the City. It discharges treated effluent into the nearby Columbia River. Multiple state and federal regulations/permitting requirements govern the treatment of wastewater. Most of these requirements fall under the federal Clean Water Act and are enforced by the U.S. Environmental Protection Agency and the Oregon Department of Environmental Quality.

History of Wastewater Treatment in Gresham

Gresham's wastewater conveyance system began in 1916 when the City constructed an 18-inch sewer line that collected wastewater from businesses and homes and discharged untreated effluent into Johnson Creek. The first City treatment plant was constructed in 1936 to serve a population of 3,000 people. Although it provided some (primary) treatment of residential waste, it was not designed to handle industrial waste. In 1953, the state ordered Gresham to upgrade its treatment facilities in order to correct recurring pollution problems in Johnson Creek. A major sewer interceptor line was constructed and a new larger treatment plant was built at its current Sandy Blvd. location in 1954. The nearby cities of Fairview and Wood Village contracted with Gresham to treat their wastewater in 1958 and 1972 respectively.

During the 1970's the capacity of the treatment plant was expanded from 3 million gallons of wastewater per day to 6 million gallons per day (mgd). The plant was further expanded in 1980 from 6 mgd to 10 mgd and again in 1990 from 10 mgd to 15 mgd. The most recent expansion occurred in 2001 when the treatment capacity was increased to 20 mgd (average annual flow). This latest expansion is expected to serve the City's growing population until at least 2010.

## Existing Wastewater System

The City of Gresham provides regional wastewater collection and treatment services for wastewater generated in the Gresham Service Basin. The service basin, which is essentially a naturally draining watershed, encompasses an area of approximately 18,000 acres or 28 square miles. The system currently serves approximately 105,000 customers and collects and treats wastewater from the cities of Gresham, Fairview, Wood Village, and a small portion of Portland. Continuing residential, commercial, and industrial development in the above cities has resulted in a steady increase in demand for wastewater treatment during the recent decades.

The Gresham wastewater treatment plant is located on the north side of N.E. Sandy Blvd., directly west of 201st Ave. The plant is a secondary activated sludge facility, with an average annual flow (AAF) design capacity of 20 mgd.

The plant operates under a National Pollution Discharge Elimination System (NPDES) waste discharge permit issued by the Oregon Department of Environmental Quality. This permit is issued pursuant to state regulations (ORS 4688.050) and the federal Clean Water Act.

Effluent flows at the plant have increased from 8.4 mgd in 1992 to an average of 11.3 mgd in 2001, with a peak annual average of 12.65 mgd during 1996. The maximum day wet weather design capacity of the plant is 54 mgd with peak hour capacity of 75 mgd. Treated wastewater is discharged into the Columbia River through a discharge pipe that is located at river mile 117.5.

The plant generates about 3.3 million dry pounds of biosolids annually as a byproduct of the wastewater treatment process. This biosolid is nutrient rich organic material that can be used as fertilizer to improve and maintain productive soils and to stimulate plant growth. Consequently, the plant's biosolids are provided to local area farms where they are used (recycled) as organic fertilizer.

In addition to the treatment plant expansions, there has been a continuing increase in the miles of mainline sanitary sewers and other parts of the collection system. Currently there are 10 lift (pump) stations, 2 miles of force main sewers, approximately 300 miles of gravity sewer lines (laterals, trunks and interceptors), and 23 diversion structures. The diversion structures help to maintain a balanced flow throughout the system for maximum efficiency. They bypass flows from one line to another when the flow within a particular line reaches a certain level.

## Funding of Wastewater Services

Wastewater services are funded from the wastewater fund. It is comprised of a combination of moneys received primarily from sewer rates (rates charged to customers), System Development Charges (SDCs), and bond sales. The City annually reviews the sewer rates to assess operating needs against revenue forecasts. The review involves modeling, over the next 20 years, projected revenue and expenditure requirements. SDCs are charged to developers when building permits are issued and represent the approximate cost to the system of meeting the additional demand placed on it from development. Wastewater system improvements are financed with

SDCs and by using a portion of the revenues generated by the sewer rates that are charged to customers.

Wastewater Master Plans

On February 18, 1997, the Gresham City Council approved and adopted the "Wastewater Facilities Plan, Final Report." The plan addresses and updates wastewater treatment and plant capacity needs. It focuses on identifying improvements that are necessary to accommodate growth that is anticipated to occur over the next 20 years, and plans for the facilities that will be needed to serve growth within the 2040 planning period. With the completion of the most recent expansion, all of the Phase 1 improvements recommended by the plan for the treatment plant have now been completed. Additional projects called for by the plan for the plant include the ultraviolet disinfection improvements and the Phase II expansion projects.

Additionally, the Gresham City Council adopted the "Wastewater (Collection) System Master Plan" in 2001. This plan is an evaluation of the collection system capacity and, from a system analysis, provides a recommended Capital Improvement Program (CIP). It identifies near-term and long-term projects that can be incorporated into the City CIP to assure that adequate system capacity is provided.

The above wastewater collection system plan indicates that most capacity problems to the wastewater conveyance system become apparent under the year 2000 modeling which shows existing sewage flows. The capacity of a sewage conveyance system is not only affected by the actual sewage flows from development but also by inadvertent groundwater and surface water infiltration (called "I/I") into the system through pipe joints, cracks, etc. The improvements needed to prevent potential sewer overflows (surcharging) during "worst case" conditions consist of upgrading the Linneman and Rockwood pump stations in the Johnson Creek basin and replacing a number of manholes and undersized trunk sewers that are located in all 7 basins. Only a few additional improvements (excluding Pleasant Valley and Springwater) are needed under the 2020 flow conditions that reflect build-out conditions. All of the needed conveyance system improvements are listed with costs and implementation schedules in the plan's CIP.

The applicable parts of the "Wastewater Facilities Plan" and the "Wastewater System Master Plan" and subsequent updates are incorporated by reference into the comprehensive plan. The "Gresham Wastewater Treatment Plant Master Plan Update" will be completed in 2003, as will be the "Sanitary Sewer Evaluation Plan." A utility financial analysis will also be completed in 2003. These updates will provide detailed descriptions of the existing system, an evaluation of the existing and future systems, and address future funding sources.

## MAJOR ISSUES/CHANGES

The following are some of the issues and changed conditions that have occurred since the last update of the comprehensive plan:

- The "Wastewater Facilities Plan" was completed in 1997 and will be updated in 2003. The "Wastewater System Master Plan" was completed in 2001.

- Since 1990, the City's wastewater treatment plant has undergone substantial expansions and improvements. It is anticipated that the plant will provide adequate capacity until approximately 2010-2012, when the next evaluation will need to be completed.
- It is expected that most of the future expansion of the City's wastewater conveyance system will occur in the Pleasant Valley and Springwater areas.

PUBLIC FACILITIES AND SERVICES SANITARY SEWER SYSTEM

## GOAL, POLICIES AND RECOMMENDED ACTION MEASURES

### GOAL

Provide and maintain an efficient, reliable and cost effective sanitary sewage collection/treatment system, which meets all applicable state and federal environmental standards.

### POLICIES

1. The City will assess future demands on the wastewater system, project future needs and take measures that will allow it to continue to provide a high level of service to Gresham residents and contracting jurisdictions.

2. The City will seek to maximize the capacity of its wastewater system by continuing to control and minimize groundwater inflow and infiltration (I/I) into the sanitary sewer lines.

3. The operation of the wastewater system shall be done in a manner that complies with the Endangered Species Act (ESA), the anticipated Sanitary Sewer Overflow (SSO), the Capacity Management Operations and Maintenance (CMOM) requirements, the City's NPDES permits, and other regulations.

4. New development shall:

    a. Install sanitary sewer facilities in the manner prescribed by the Oregon Department of Environmental Quality and the City of Gresham.

    b. Extend adequately sized sanitary sewer lines to the boundaries of the subject property where future extension of the line is anticipated or required.

    c. Pay a wastewater systems development charge (SDC) and any other costs associated with extending sanitary sewer service to the project.

    d. Provide unobstructed access to all public sanitary sewer lines and easements.

5. Except to the extent allowed by the development code for a single-family residence on a lot of record, new development shall not be served by a subsurface sewage disposal system.

6. Sanitary sewer lines will normally be located within a public right-of-way. When physical, jurisdictional and/or topographic constraints prevent installation of these facilities within a public right-of-way, they may be located in a "public" easement that meets City standards.

**ACTION MEASURES**

1. Future wastewater flows will be analyzed for: (a) Sanitary flows, which is effluent from homes, businesses, small industries and schools; (b) Significant Industrial User (SIU) flows, which is effluent from firms that have industrial discharge permits issued by the City; and (c) infiltration and inflow (I/I), which consists of surface and groundwater that enters into the wastewater collection system.

2. The Wastewater System Master Plan, Wastewater Treatment Plant Master Plan, and CIP project schedules will continue to be updated in the future in order for the wastewater system to accommodate growth and redevelopment and to reflect changes in customer needs and/or regulatory requirements.

3. As identified in the Wastewater System Master Plan, upgrade the "185$^{th}$ Avenue", "Rockwood" and "Linneman" lift (pump) stations in order to meet projected 2020 flow conditions.

4. Complete the major sewer line replacement projects that are identified by the Wastewater System Master Plan for the Johnson Creek, East and Kelly Creek basins, and the smaller replacements identified for the Wilkes and Stark Street basins.

5. Provide future wastewater services to serve the Pleasant Valley and Springwater communities.

6. As identified in the treatment plant master plan, the treatment plant liquid chlorination system will be converted to ultraviolet light disinfection (if and when necessary) and the plant capacity will be expanded by 5 million gallons per day to 25 million gallons per day (anticipated to occur in the 2010-2012 timeframe).

The current adopted Capital Improvements Plan (CIP) serves as the future projects list of the City's Public Facilities Plan (PFP). The CIP lists, describes, gives cost estimates, indicates funding sources, and shows the location of those major public facilities that are needed to support existing and projected development over the short term (1-5 years) and long term (6-20 years) time frames.

(Amended by Ordinance 1582 passed 12/16/03; effective 1/15/04)

## 10.333 STORMWATER MANAGEMENT SYSTEM
## PUBLIC FACILITIES AND SERVICES
## BACKGROUND

### BACKGROUND

Overview of Gresham's Stormwater System

Gresham's Stormwater Program implements the DES Stormwater Division's stated mission, namely to improve flood protection and water quality. The Division accomplishes this through the construction and maintenance of the public stormwater system and the preservation and restoration of area waterways. The stormwater system includes roughly: 5,000 catch basins, 2,600 manholes, 600 drywells, 200 miles of drainage pipe, 100 detention facilities, 35 minor and 30 major outfalls, and 15 miles of roadside drainage ditches. Groundwater and surface waters such as canals, streams, and wetlands are important components of the stormwater infrastructure and serve as the receiving waters for urban runoff.

The Stormwater Division is responsible for the area within the City of Gresham Urban Services Boundary, which includes four major drainage basins. These overlay underground water-bearing layers, including a portion of the Troutdale Gravel Aquifer, which supplies water to the Columbia south shore wellfield. The four major surface drainage basins are the West Gresham Drainage area and the Fairview Creek basin which drain to the Columbia Slough; the Kelly/Burlingame system which drains to the Sandy River; and the Johnson Creek basin which drains to the Willamette River. Drywells located in the West Gresham and Fairview Creek basins feed the Troutdale Gravel Aquifer or an unnamed layer of unconsolidated sediments.

System Funding

During the 1990's, the City of Gresham established a drainage utility fund to finance its basic stormwater projects and maintenance activities. The monies in this fund come from a stormwater impact fee that is charged on a monthly basis to Gresham residents and businesses. Growth related projects are funded through a systems development charge (SDC) which is paid by developers as part of their building permit fees.

Master Plans

The City of Gresham is engaged in an effort to update the stormwater master plans for the four drainage basins in the city's urban growth boundary (UGB). Stormwater master plans for the West Gresham and Fairview Creek basins were recently completed in 2002 and 2003, respectively. A stormwater master plan is currently underway and will be completed this year for the Johnson Creek basin. The fourth master plan for the Kelly Creek basin will be completed in 2004.

There are two future development areas currently outside the City limits that are now inside the regional urban growth boundary (UGB), Pleasant Valley and Springwater. They will eventually be annexed into Gresham. Stormwater master plans for these areas will also be completed in 2004.

Stormwater Challenges

Urban development can have a detrimental effect on the area's drainage characteristics by reducing the amount of pervious land and inhibiting recharge of aquifers. If an adequate stormwater system is not in place, a number of problems may result**,** including flooding, landslides, erosion and sediment deposition, scouring of stream channels, poor water quality (both surface and groundwater), degraded aquatic habitat, low dry-weather stream flows, disappearing aquifers, and land subsidence. Many of these potential problems are regulated by federal, state, and regional governments. A summary of the requirements is provided below.

- Federal Emergency Management Agency (FEMA) and the National Flood Insurance Program (NFIP): Gresham participates in the NFIP. As a condition of participation, the City must adopt and enforce minimum floodplain management standards. The goal of these standards is to prevent new development from increasing the flood threat, and to protect new and existing buildings from anticipated flood events.
- National Pollutant Discharge Elimination System (NPDES) Permit for Municipal Separate Storm Sewer Systems (MS4s): DEQ administers this federally-mandated permit, which requires Gresham to develop and implement management practices that reduce the pollutants carried by stormwater into state waters. State waters include all natural waterbodies, plus those waters that connect to natural waterbodies.
- Water Quality Standards and Total Maximum Daily Loads (TMDLs): To comply with federal requirements, Oregon DEQ adopts standards of quality that protect beneficial uses such as drinking water, cold water fisheries, aesthetics, recreation, agriculture and other uses. DEQ's standards cover parameters such as bacteria, pH, turbidity, dissolved oxygen, temperature, total dissolved gas, certain toxic and carcinogenic compounds, habitat and flow modification, and aquatic weeds or algae. Gresham's stormwater must not cause a violation of these standards in state waters. If a waterbody doesn't meet the standards, DEQ is required to set a TMDL. A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. Because Gresham surface waters violate one or more water quality standards at some point during the year, DEQ will require further efforts by Gresham to clean up stormwater through the NPDES MS4 permit, in order to comply with the relevant TMDL.
- Wellhead Wellfield Protection Program: The 1986 federal Safe Drinking Water Act addresses non-point and point sources of pollution through a provision requiring states and local agencies to establish wellhead protection zones to safeguard groundwater for drinking. In Gresham, this area is based on a groundwater model simulation of the 30-year time of travel to the production wells of the Columbia South Shore Groundwater Resource Wellhead Protection Area. This area is subject to Best Management Practices (BMPs) that are aimed at providing appropriate levels of protection.
- Underground Injection Control (UIC) Rules: The DEQ administers the federal UIC Program in Oregon, pursuant to the federal Safe Drinking Water Act. The UIC Program manages injection of fluids into the ground. All stormwater infiltration sumps within the

City of Gresham are classified as UICs and must be registered and meet regulatory requirements set by DEQ.

- Endangered Species Act (ESA): The ESA prohibits the "taking" of a member of any species listed as 'threatened' or 'endangered,' and allows the U.S. Fish and Wildlife Service (USFWS) or National Oceanic Atmospheric Agency (NOAA)-Fisheries to impose some prohibitions for listed species. The ESA defines "take" to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." The requirement is of interest to Gresham because the City's surface waters are either current habitat for threatened species, or are upstream from such habitat, and loss or degradation of habitat resulting from land development can be considered a taking. The jurisdiction that permitted or allowed the offending development can be held liable.
- Oregon's Statewide Planning Goal 5 – Natural Resources, Scenic and Historic Areas and Open Spaces: This state planning goal requires local governments to inventory open spaces, corridors, wetlands, rivers and streams, groundwater and natural resources; and plan for the appropriate measures to be taken to protect and maintain the various resources and open spaces. The City of Gresham actively considers Goal 5 for the long-term development and maintenance of the livability of the community.
- Metro Urban Growth Boundary Functional Plan – Title 3: As a part of the Metro Urban Growth Management Functional Plan, Metro code 3.07.310-3.07.370, Title 3 requires Portland area jurisdictions to adopt the Water Quality Resource Area and Flood Management Performance Standards. The water quality standards are intended to provide vegetated buffers around streams and wetlands in order to protect them from urban development. The floodplain standards essentially require "balanced cut and fill." To comply with these requirements, Gresham has adopted the Water Quality Resource Area (WQRA) Overlay and amended its Floodplain Overlay District in the Community Development Code.

Existing Condition of Stormwater System

Most of Gresham and its stormwater system was developed before NPDES, TMDL, and ESA requirements were applied to municipal stormwater. Therefore, the prime focus of the system has been to protect people from slope collapse and their property from flooding. Historically, this goal was met by laying pipe and creating straight, hardened channels that moved runoff from where it was generated to its final destination as quickly as possible, resulting in high flow velocities. Wetlands and floodplains that were once hydrologically connected to the stream systems were filled in response to the demand for buildable land that accompanied urban growth.

In recent years, it has become apparent that hardened channels and pipes, including culverts, are poor habitat for aquatic species. High flow velocities scour gravel, downcut channels, and erode streambanks of vegetation that provides bank stability, shade, refuge, and food for fish and wildlife. Without the natural flora and fauna, and without the historic wetlands, the ability of the system to infiltrate and purify water has been seriously reduced. This has resulted in both flooding and water quality problems. To this degraded system, human activities have added metals such as zinc and copper that are toxic to fish, as well as fertilizers, pesticides, oils, soaps,

and other pollutants that drain into catch basins and streams. Sediment-laden waters from development and other earth-disturbing activities add their load of fine soil particles. These kill the insects that fish and other wildlife depend on and smother salmon eggs that require direct contact with a constant flow of water to supply the oxygen needed for their growth.

The habitat and water quality in the Columbia Slough, Fairview Creek, and Kelly Creek are all seriously impacted by urban development and its associated historic stormwater practices. Johnson Creek in Gresham is relatively less impacted and represents some of the best habitat for salmon in that basin. However, Johnson Creek borders steep hillsides that can send smothering sediment into the stream if human activities are not carefully conducted.

Although flooding was historically a problem throughout much of the City, improvements to the stormwater system and its maintenance have alleviated much of the flooding. However, some areas within Fairview Creek continue to flood, and Johnson Creek can overtop the sanitary sewer manholes that line the floodplain.

The table below provides a brief "basin by basin" overview that describes the basin area, land uses, major waterways, and additional issues specific to each basin.

**Gresham Drainage Basin Facts**

| Basin | Location within Gresham | Area in Gresham (Square Miles) | Land Use (%)* | Comments |
|---|---|---|---|---|
| **Johnson Creek** | Springwater Area (UGB Expansion Area) | 1.5 | To be determined | This area is planned to transition from primarily rural residential to industrial, with some limited housing and commercial services. New development will need to follow practices that protect Johnson Creek. |
| | Pleasant Valley (UGB Expansion Area) | 2.3 | To be determined | This area is planned to transition from primarily nurseries and rural residential to urban housing, commercial and industrial uses. New development is planned to follow "green practices" to protect Johnson Creek. |
| | Developed areas within UGB prior to 2003 expansion: South | 6.3 | Residential: 53%<br>Commercial: 3%<br>Industrial: 5%<br>Open: 38% | The City owns a significant portion of the land next to Johnson Creek in this area. Riparian revegetation projects and regional water storage/treatment facilities can be relatively easily accomplished. |
| **Columbia Slough, Aquifers** | West Gresham | 5.8 | Residential: 41%<br>Commercial: 16%<br>Industrial: 22%<br>Open: 21% | New and existing development must protect drywells from contamination. The Columbia south shore wellfield and Rockwood Water District wellhead |

| Basin | Location within Gresham | Area in Gresham (Square Miles) | Land Use (%)* | Comments |
|---|---|---|---|---|
| | | | | are located in this area. Runoff to the slough must meet Oregon DEQ TMDLs. |
| **Fairview Creek, Aquifers** | West-Central Gresham | 4.3 | Residential: 42%<br>Commercial: 14%<br>Industrial: 22%<br>Open: 22% | This area is comparatively built out, and experiences more flooding than the other areas of Gresham. There are also sumps in the area which must comply with the UIC rules. |
| **Kelly Creek** | East Gresham | 1.7 | Residential: 67%<br>Commercial: 9%<br>Industrial: 1%<br>Open: 22% | Existing development in the floodplain, combined with erosive soils has resulted in construction of private walls to prevent stream channel migration and erosion of backyards. Flows have downcut the channel by as much as 15 feet in some locations. |

*Along with the more obvious uses, the residential category includes community service areas such as schools. Parks are included as open space, along with agriculture, vacant, and open space uses.

The City's Approach to Stormwater Management

The City of Gresham's response to the need to protect human life, property, and environmental quality is threefold: minimize the amount of stormwater that flows away from developed areas; remove pollutants from stormwater; and ensure proper ecosystem function by restoring floodplains, riparian vegetation, and other areas that provide water quality treatment.

To minimize the amount of stormwater that leaves developed sites, the City's policy is to require on-site stormwater management wherever possible. To accommodate sites where this is not possible, the City plans to construct regional infiltration/treatment facilities. This policy will minimize peak runoff and flooding; protect habitat for at-risk salmon and trout, as well as other aquatic species that rely on vegetated banks and natural stream channels; provide flow to streams in the dry season; contribute to aquifer recharge; and reduce the amount of pollution that enters local streams.

To remove pollutants from stormwater, the City continually evaluates and modifies its practices to ensure that they are congruent with regulatory goals. It also encourages green practices from City residents and businesses through public education, and adopts and enforces codes related to the discharge and disposal of pollutants and other wastes. Requirements of the NPDES permit and ESA endangered species rules provide direction to ensure an effective program.

The City will undertake a range of activities to support a healthy ecosystem by restoring floodplains, riparian vegetation, and water quality treatment areas. It will continue to sponsor removal of invasive exotic plant species and replacement with native communities. Along with construction of regional infiltration/treatment facilities, it will also continue to require that new

development provide water-quality treatment for at least 80% of the rainfall that falls on a site—a requirement that has been in place since 1999. To restore floodplains, the City's stormwater policy is to continue to limit construction in floodplains, and to purchase streamside (riparian) lands in order to allow for the re-establishment of a natural or lateral channel movement, especially in areas where significant water infiltration is possible.

Impediments to Full Implementation of the City's Approach

Adequate funding to finance full implementation of the stormwater policies articulated above does not currently exist. In the urbanized areas of Gresham, there are many locations where basic stormwater infrastructure does not exist, or does not have adequate capacity to serve existing development. The Stormwater Division also does not have adequate revenue to achieve full compliance with anticipated regulatory requirements, provide an acceptable level of maintenance (which is required with more natural systems), and repair/replace the existing system that is in poor structural condition. Identification and provision of a stable, long-term, funding base that can meet these needs is critical to ensure the effectiveness of the stormwater program.

## SUMMARY OF MAJOR ISSUES/CHANGES

The following are some of the issues and changed conditions that have occurred since the last periodic review update (1988) of the comprehensive plan:

- During the last decade, protecting the water quality of surface and groundwater from pollutants that might otherwise be conveyed by surface drainage has become an essential element of Gresham's stormwater management program. In part, this is in response to a variety of state and federal regulations that require local jurisdictions to address water quality. These include the National Pollutant Discharge Elimination System (NPDES), the Total Maximum Daily Loads (TMDLs) standards, and the Endangered Species Act (ESA).
- It has become apparent that reliance on a totally piped stormwater system that discharges directly into streams in conjunction with the impacts of urban development has created erosion and water quality problems. This, in turn, has contributed to poor habitat for fish and other aquatic species. One of the challenges of the future is to create opportunities for stormwater to infiltrate into the soil where it can then be filtered and cooled before it enters streams and other surface waters.
- Although Gresham has established a stormwater utility fund in recent years, the City will need to acquire a stable and adequate funding source in the future in order to meet its long-term stormwater management needs and regulatory obligations.

## PUBLIC FACILITIES AND SERVICES, STORM DRAINAGE GOAL, POLICIES AND RECOMMENDED ACTION MEASURES

### GOAL

Improve flood protection and water quality through the construction and maintenance of the public stormwater system and preservation of natural resources, including area waterways, in compliance with applicable federal and state environmental regulations.

## POLICIES

1. Provide, maintain, preserve and restore the stormwater infrastructure in order to control both the quantity and quality of stormwater flows, and to provide for the safe passage of storm flood flows. The stormwater infrastructure includes the structural (piped) conveyance system as well as natural stream channels and wetlands, constructed wetlands/swales, regional and on-site stormwater detention systems.

2. Provide, maintain, preserve and restore the stormwater infrastructure in a cost effective manner that is consistent with the City's stormwater master plans and which meets state/federal regulatory requirements.

3. The following shall apply to new development and redevelopment:

### General Requirements

a. The City shall issue a development permit only where there is adequate capacity in the storm drainage system to accommodate runoff from the development site.

b. All stormwater from the site shall be conveyed to a point of disposal approved by the City.

c. The applicant shall be responsible for extension of the storm drainage system to the approved discharge point.

d. Storm drainage facilities shall be designed and constructed in conformance with the "City of Gresham Public Works Standards."

e. Stormwater management facilities shall be located on-site when possible.

f. All local, state and federal permit requirements related to the implementation of stormwater management facilities shall be met by the owner/operator prior to facility use.

g. Structures and other permanent improvements shall not encroach over public and private stormwater facilities nor within public stormwater easements, drainage ways, streams, wetlands, seasonal waterways, seeps and springs.

h. All stormwater infrastructure shall be maintained in accordance with the standards established within the City of Gresham's Water Quality Manual.

### Specific System Requirements

i. The preferred method to manage stormwater shall be through the use of facilities that rely on infiltration, bio-retention, and other processes that mimic the natural hydrologic regime. Examples of facilities that incorporate these concepts by integrating stormwater and vegetation are swales, trees, vegetated planters and wetlands.

j. Where it is not possible to use the preferred method of stormwater management, new development shall use existing natural drainage ways, in combination with any necessary mechanisms, to ensure that resulting flow quantities and velocities do not degrade the integrity of the stream channel.

k. Where there is no existing natural drainage way, new development shall use constructed open channel conveyance and other non-structural methods to manage stormwater. Structural systems (such as pipes) shall be used only when site characteristics do not allow for open drainage systems.

l. The quantity of stormwater runoff after project development shall be equal to or less than the quantity of stormwater runoff from the site before project development, in conformance with the City of Gresham design standards.

m. Projects/sites shall be developed in a manner that conforms to the water quality design criteria found in the City's Water Quality Manual.

4. The City shall develop and implement an equitable funding mechanism to address stormwater infrastructure maintenance needs, to resolve system deficiencies in developed areas, and to provide stormwater services to developing areas.

5. The City shall form partnerships to share costs with other jurisdictions in regard to stormwater and resource planning for basins that cross jurisdictional boundaries.

6. The City shall expand wellhead protection areas as new drinking water wells are developed and expanded and also to protect future sources of drinkable water

**ACTION MEASURES**

Projects

1. The City will develop stormwater infrastructure plans for the Pleasant Valley and Springwater areas.

2. The City shall update its stormwater master plans periodically to proactively manage the stormwater system and to promote economic development in the City, while meeting state and federal environmental requirements. The master plans should include modeling pollutant loads to comply with applicable requirements.

3. The City will plan and schedule needed stormwater system improvements for implementation as part of the City's Capital Improvement Program.

4. The City will regularly maintain and clean the public stormwater system to maximize the benefits of existing facilities and to meet regulatory water quality requirements.

5. The City will construct regional water quality facilities, as identified in the approved stormwater master plans, to improve water quality, prior to discharging stormwater into the receiving water bodies.

6. In order to comply with the federal Clean Water Act and Oregon's 303(d) list of water quality limited bodies of water, Gresham will prepare and implement TMDL implementation plans for applicable waterbodies.

7. The City will continue its NPDES Program and modify the program as necessary to continue meeting the program's permit requirements.

8. Gresham will implement the Wellhead Protection Program to safeguard groundwater drinking sources and meet the requirements of the federal Safe Drinking Water Act of 1986 (SDWA), as amended.

9. Implement an Underground Injection Control (UIC) Program and specific BMPs to meet the requirements of the Safe Drinking Water Act (SDWA) administered by Oregon DEQ. This may include the creation and adoption of a UIC best management practices manual.

10. Prepare a Stormwater Management Plan and appropriate BMPs to address the regulatory requirements of the federal Endangered Species Act (ESA) in regard to threatened salmonids and other at risk species that are affected by stormwater.

11. Continue to administer the National Flood Insurance program and meet Federal Emergency Management Agency (FEMA) requirements in order to restrict development in floodplains and to allow property owners to purchase flood insurance.

Intergovernmental Coordination & Cooperation

12. Coordinate with Multnomah and Clackamas Counties, neighboring cities, and Metro to ensure that future actions to expand the regional urban growth boundary (UGB) take into account stormwater management needs.

13. Coordinate stormwater master planning and capital expenditures strategies with other agencies and jurisdictions to enhance stormwater management and to make efficient use of Gresham's financial resources.

14. Ensure that private development occurs in a manner that is consistent with the Council approved stormwater master plans.

15. Develop and implement storm water management plans, in cooperation with affected jurisdictions, agencies and watershed interest groups, for the drainage basins of Johnson, West Gresham, Kelly, and Fairview Creeks and other watersheds within the City and its future urban growth areas.

The current adopted Capital Improvements Plan (CIP) serves as the future projects list of the City's Public Facilities Plan (PFP). The CIP lists, describes, gives cost estimates, indicates funding sources, and shows the location of those major public facilities that are needed to support existing and projected development over the short term (1-5 years) and long term (6-20 years) time frames.

(Amended by Ordinance 1464 passed 12/1/98; effective 1/1/99)
(Amended by Ordinance 1582 passed 12/16/03; effective 1/15/04)

## 10.334 SOLID WASTE MANAGEMENT

### SUMMARY OF FINDINGS

The City of Gresham will continue to monitor the quality of collection service through the process of awarding mutually-exclusive collection franchises. The city will rely on the Metropolitan Service District to plan for and regulate the operation of the disposal of solid wastes. (Section 2.441 - Findings document).

### POLICY

It is the policy of the City to periodically review, at least once every seven years, the solid waste collection licensing system to ensure it is operating effectively and to use the licensing application system to encourage recycling efforts by collectors. The City recognizes the metropolitan service district's responsibility to prepare and implement a solid waste management plan, supports the metropolitan service district's procedures for siting sanitary landfills and will participate in these procedures as appropriate.

### IMPLEMENTATION STRATEGY

1. The City will promote the recycling of solid waste. Such measures may include giving financial incentive to solid waste collectors who recycle, and the establishment of an internal paper recycling program in city hall and city maintenance facilities.

## 10.335 FIRE AND POLICE PROTECTION

### SUMMARY OF FINDINGS

The city maintains a high quality public safety program through its police and fire departments. Both departments have grown to accommodate the needs of an expanding city. The Fire Department is guided by a master plan developed in 1984. Both departments have been involved with review of development proposals to ensure public safety needs are met (Sections 3.700 to 3.710 - Findings document).

### POLICY

It is the policy of the City of Gresham to provide adequate and cost-effective fire and police protection which ensures a safe living environment and is responsive to the needs of the citizens of Gresham.

### IMPLEMENTATION STRATEGIES

1. The City Police and Fire Departments will be closely involved with land use decisions and will ensure that specific proposed development actions do not create unusual or excessive public safety risks.

2. Development which may create an unusual burden to public safety services or which may result in an excessive risk to public safety shall be responsible to provide the necessary safeguards to reduce the service demand or risk.

3. Prior to approving or supporting an annexation proposal, the city should make certain that the area in question can be served with an adequate level of fire and police protection.

4. Educational programs for fire and crime prevention should be continued to assist in ensuring a safe living environment.

# 10.400 THE SOCIAL ENVIRONMENT

## 10.410 GROWTH MANAGEMENT

### SUMMARY OF FINDINGS

The City of Gresham has grown from 10,000 people in 1970 to 55,000 in 1987 and population projections indicate a continued growth rate to over 95,000 by the year 2005.

The city has expanded from almost 5,000 acres in 1970 to almost 14,000 acres in 1987.

Gresham is the logical provider of public services within the Gresham Drainage Basins of Kelly and Fairview Creeks. Such basins extend west to 162nd Avenue, and North of Stark Street to the Columbia River where the city's treatment plant currently exists.

The agency with the ultimate service responsibilities should exercise the land use control system to assure consistency with that agency's standards and design specifications (Sections 4.100 to 4.180 - Findings document).

### POLICY I

It is the policy of the City to promote an orderly growth pattern within its financial capabilities to provide services and facilities while seeking to exercise land use controls in future service areas.

### IMPLEMENTATION STRATEGIES

1. The Community Development Code will establish criteria for the issuance of all development permits. Such criteria will consider:

    a. Consistency with the Comprehensive Plan;

    b. Adequate public services and facilities; and

    c. Consistency with the Community Development Standards.

2. The city shall develop a Capital Improvements Program that will promote the development of services and facilities in those areas which are most productive in the ability to provide needed housing, jobs and commercial service opportunities in conformance with the policies of the Comprehensive Plan. The Capital Improvements Program shall emphasize the provision of needed services in established areas and those areas passed over by urban development.

(Amended by Ordinance 1605 passed 5/3/05; effective 6/2/05)

## 10.410.1 URBAN SERVICES BOUNDARY AND GENERAL ANNEXATION

### BACKGROUND

The geographic boundaries of the city establish a host of important factors. It determines the taxes and rates the City will collect and where it will provide urban services. To ensure the effective delivery of services and to respond to changes in population, it may become necessary to alter boundaries as a region evolves.

One of the most efficient ways for a city to logically address these issues is to proceed with an annexation. Sound economic development, enhancement of property values, and high service levels at minimum costs result from total comprehensive planning that includes annexation as a tool. By means of annexations, the City's Development Plan can be extended to adjacent areas in a logical manner, helping to assure orderly growth.

In the past the City has established relationships with other agencies, primarily Multnomah County, who would be affected by annexation of territory to Gresham. These relationships have generally established what lands that Gresham would, in the future, annex and provide urban services, and what Gresham's role would be in planning for those lands' future urban development.

In 1979 the City and Multnomah County adopted an Urban Planning Area Agreement (UPPA) that established those unincorporated lands in which the County and the City have mutual planning interest. The territory included in this agreement included the then existing city limits, unincorporated mid-Multnomah County lands that were required by the Oregon Department of Environmental Quality to be connected to a public wastewater system in agreement with the City of Portland, and other lands in unincorporated Multnomah County within the Urban Growth Boundary and adjacent to the city.

In 1983 the City adopted an Urban Services Boundary (USB) that identifies the area the City agreed to eventually annex and extend services (Ordinance 983). The area covered by the USB boundary coincided with the 1979 UPPA. Ordinance 983 also amended the Community Development Plan by adopting the current Growth Management Policy 2 and Implementation Strategies.

In 1987 the City amended the Development Plan to allow for minor adjustment to the Urban Services Boundary. To make an amendment, the land must be within 400 feet of the Urban Services Boundary and can occur to recognize ownership patterns and to deal with a public health, safety, and welfare issue. The adjustment is ministerial and must be approved by the Gresham, Portland, and Multnomah County planning managers. Amendments under this process also amended territory covered by UPPA.

In 1986 the City entered into an IGA with the County that established the transition of planning and development services as lands were annexed into Gresham. The City engaged in an annexation program during the 1980s, and most of the lands within the USB were annexed to the City. In 1989 the IGA was amended to let the City have planning responsibility for those lands

not yet annexed, with the expectation that the City's Development Plan Map and Code would apply upon annexation. A small number of parcels subject to these agreements have not yet been annexed.

The 1986 IGA was amended in 1998. This amendment addressed what were then called Metro-designated urban reserves (areas designated as future UGB expansion areas) and identified a procedure to be used when considering amendments to the City's Urban Planning Area boundary and/or Urban Services Boundary for designated Urban Reserve areas, and phasing of planning responsibilities from the County to the City when boundary amendments occur.

The procedures outlined provided amending the City's Urban Planning Area boundary and/or Urban Services Boundary after Metro designated an urban reserve, and after there was agreement among existing affected cities regarding appropriate planning authority and/or general service provider. It then provided that the City would be responsible for the Urban Reserve Plan for land within the amended Urban Planning Area.

Currently, these UGB expansion areas are subject to the planning requirements of Title 11 – Planning for New Urban Areas, of Metro Urban Growth Management Functional Plan (UGMFP). Three such areas have affected the city: Pleasant Valley, Springwater, and UGB Expansion Area #13. [See Goal 10.414.1 – Annexation and New Communities concerning these three areas.] The IGA provided that once agreements were made as to what areas the City would provide future governance for that the Urban Services/Urban Planning Agreement boundaries should be amended. In those areas the City would be responsible for preparing the plan and the City and the County would adopt the comprehensive plan amendments and land use regulations that would comply with the plan.

A Gresham and Portland IGA for Pleasant Valley was done in 12/98 and updated in 4/04. It establishes an agreement regarding planning, future annexation, and urban service delivery. There are no other affected cities. The City and the County entered into IGA for Springwater 10/02 to develop a coordinated urbanization plan. Gresham is the only city in Multnomah County contiguous to Springwater and is thus the only affected city. Gresham has agreement with Metro and Clackamas County to include UGB Area #13 for analysis purposes in the Damascus/Boring Concept planning with an agreement that Gresham would be responsible for plan implementation and future annexations. UGB Area #13 is in the same Kelley Creek watershed basin that characterizes Pleasant Valley. Gresham is the only city in Multnomah County contiguous to UGB Area #13 (and will ultimately surround it on three sides) and thus is the only affected city.

The USB has not been updated to include any of the new urban planning areas.

## Annexation Procedures

There are many methods by which the City is able to pursue annexations. All of the annexation procedures are outlined in four different chapters of State of Oregon Revised Statues, ORS 195, 198, 199, and 222.

The Gresham Charter does not require an election in the entire existing territory of the city to approve an annexation. The means that the Council generally will hold a public hearing with appropriate notice, and may annex the territory if consent from the affected territory is given in any of the following ways: If the majority of the electors in the territory to be annexed vote for annexation (ORS 222.120(4)); written consent by 100% of property owners and more than 50% of the registered electors in the territory (ORS 222.125); or written consent by owners of more than 50% of the land in the territory and 50% of the registered electors in the territory (ORS 222.170(2)).

The annexation process is initiated by the Council, or owners of real property in the proposed territory to be annexed petition to the City Council. After consent is obtained, the Council generally must hold a hearing on the annexation request. The hearing must be noticed consistent with state and Metro requirements. The Council, after the hearing, could act to approve the annexation by resolution or ordinance. The action of the Council is subject to referendum. Current state and Metro annexation code provide for an expedited annexation procedure that, in certain circumstances, can be approved without a hearing.

Metro provides a "contested case" appeals process to a Metro "Boundary Appeals Commission" after a final annexation decision is adopted. It allows a "necessary party" to appeal an annexation decision to Metro. Necessary parties include any district or other entity that provides an "urban service" within the annexed territory to contest the annexation.

As part of the annexation procedures, staff must review the annexation request and complete a report. The report needs to address annexation criteria in the Gresham Community Development Plan. The report also must address Metro approval criteria. Under the Metro Code an annexation action is a "Minor Boundary Change." Metro has established uniform procedural and approval criteria for annexations. Approval criteria are numerous. A couple of the more important are: Is the timely, orderly, and economic provision of public facilities and services promoted and, if there is no urban services agreement applicable, an extensive analysis of the details of choosing between alternate urban services providers is required.

There are two types of annexations that do not require consent by property owners and electors. One is an island annexation (ORS 222.750). A city may annex a territory that is surrounded by the corporate boundaries of the city, or by the corporate boundaries of the city and a body of water, without consent of any residents or property owners within the territory or electors of the affected territory. The annexation is by ordinance or resolution and is subject to referendum. Island annexations might be a needed tool in the new urban areas if, for example, an island prevented the necessary extension of public services such as a wastewater collector line.

The second is health hazard abatement (ORS 222.840). A city may annex a territory within its urban growth boundary without consent from city electors or residents of the affected territory if the Department of Health Services declares that affected territory to be a danger to public health. Dangers to public health could include impure or inadequate water systems that expose the public to "communicable or contagious disease-producing organisms: that present a "clear possibility that the public is being exposed to physical suffering or illness".

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues to consider in developing annexation goals, policies, actions measures, and approval procedures and criteria for annexing lands to Gresham.

### 1983 Urban Services Boundary Lands

There are a small number of parcels that where included in the 1983 ordinance establishing the USB that have not been annexed. Those parcels that are between Gresham and Portland, and were included because of having to connect to a public wastewater line (such as along 162nd Avenue), are kind of in a "no man's land" until they are annexed. The lots in southeast (near Persimmon golf course) do not appear to be an issue in the foreseeable future. Current annexation procedures anticipate that the zoning of these lands, upon annexation, will be compatible with the land use designation closest to its current Multnomah County designation. However, the Multnomah County designations do not necessarily reflect changes to the City's Development Plan that have occurred over the past decade. Additionally, the lands near Persimmon have rural Multnomah County zoning for which there is no compatible city zoning.

### Metro Minor Boundary Adjustments

State law directs Metro to provide for annexations. In 1997, the Oregon Legislature directed Metro to establish criteria that must be used by all cities within the Metro boundary for boundary changes. Metro has done so through the adoption of Metro Code Section 3.09, Local Government Boundary Changes. It sets out requirements for petitions, notices, hearings, findings, and appeals. A minor boundary change includes annexation from a county to a city. Included in this section are the provisions that allow a local government to establish an expedited review process. The City's current procedures and criteria where established in 1983 and are out of date.

### Expedited Review of Uncontested Minor Boundary Changes

The Metro Code Section 3.09.045 (as directed by the state) allows local governments to establish an expedited review to process uncontested minor boundary changes. Features of the recommended expedited review process include:

- Annexation applications must be uncontested. The requests must have consent of 100% of property owners and 50% of the electors, if any, within the affected territory. If a necessary party objects in writing, the expedited process cannot be used. Necessary parties are affected governments or urban service providers.

- A shorter notice period to interested parties of 20 days is allowed instead of the 45-day notice required for non-expedited annexations.
- The report of the boundary change has to be made available at least 7 days prior to date of decision rather than 15 days that is required for non-expedited annexations.
- No public hearing is required. Under expedited review, annexations could be placed on the Council's consent agenda rather than requiring a staff report and hearing.

### Urban Services Boundary Map and Goals and Policies

The City of Gresham anticipates future annexation and providing urban services to three new urban areas that have been added to the Urban Growth Boundary in Multnomah County. Those areas are: 1) Pleasant Valley (area per IGA with City of Portland) [1998 UGB expansion], 2) Springwater [2002 UGB expansion] and 3) Area 13 [2002 UGB expansion]. To provide for annexations the City will need to amend its Urban Services Boundary (USB). Amending the USB will require City Council adoption of an ordinance amending the Gresham Community Development Plan. This would require a Type IV legislative process. The current USB map and policies were put into place in 1983 and do not reflect these new areas.

### URBAN SERVICES BOUNDARY GOALS, POLICIES AND ACTION MEASURES

### GOAL

The City shall maintain a City of Gresham Urban Services Boundary that defines the geographical limits of where the City provides, or will provide after annexation, city-supplied urban services.

### POLICIES

1. The Urban Services Boundary will be updated to include Urban Growth Boundary expansions adjacent to the city limits if consistent with governance, urban services and planning agreements for the expansion areas.

### ACTION MEASURES

1. Amend the City's Urban Services Boundary to include Pleasant Valley, Springwater and Area #13.

### GENERAL ANNEXATION GOALS, POLICIES AND ACTION MEASURES

### GOAL

The City shall provide for clear and objective annexation processes and criteria consistent with Metro requirements and state law to ensure the opportunity for annexation of territory within the City of Gresham Urban Services Boundary.

## POLICIES

1. Ensure the annexation of remaining unincorporated land within the City of Gresham Urban Services Boundary (prior to 1998 and 2002 UGB expansions) and for subsequent Urban Services Boundary amendments.

## ACTION MEASURES

1. Identify and adopt "comparable" city land use designations for those parcels within the City's Urban Services Boundary (prior to 1998 and 2002 UGB expansions).

2. Create annexation application forms packet to simplify and expedite annexation process for applicant and City staff.

(Section 10.410.1 added by Ordinance 1605 passed 5/3/05; effective 6/2/05)

# 10.410.2 ANNEXATION AND NEW COMMUNITIES

## BACKGROUND

The Metro Council is mandated to manage and expand, as necessary, the region's Urban Growth Boundary (UGB) in order to accommodate forecasted population for the region. When land is brought into the UGB, Title 11 of the Metro Urban Growth Management Functional Plan (UGMFP) requires that the added territory be brought into a city's comprehensive plan prior to urbanization, with the intent to promote the integration of the new land into an existing community.

The UGMFP is intended to carry out the Metro 2040 Growth Concept, the Greenspaces Master Plan, and the Regional Transportation Plan. The planning efforts and subsequent comprehensive plan amendments required under Title 11 include "Provision for annexation to a city … prior to urbanization of the territory … to provide all required urban services."

There have been three UGB expansions of lands adjacent to the current Gresham city limits:

1. **Pleasant Valley**. This area was brought into the Urban Growth Boundary (UGB) in December 1998. It is 1,532 acres located south and east of the current city limits for Gresham and Portland. It was primarily expected to provide for housing opportunities and was designated with a town center.

   In December 1999, Gresham and Portland entered into an intergovernmental agreement (IGA). The purpose of the IGA was to address future governance and a cooperative master planning process for Pleasant Valley. In part, this IGA was done to help ensure that Pleasant Valley would provide for a sufficient mix of housing, commercial services, amenities and jobs, with adequate infrastructure, streets, parks, schools, and other urban

services. Past experience has been that, without careful planning, the annexation of urban fringe unincorporated areas has resulted in inefficient community development.

This IGA was updated in March 2004. This IGA identifies a boundary between Gresham and Portland that results in about 1,004 acres in Multnomah County being Gresham's annexation area. Additionally, the IGA recommends a boundary in the Clackamas County portion of Pleasant Valley that would add 197 acres of Gresham annexation area. However, there are no agreements with Clackamas County that provide for a future transfer of services from Clackamas County to Gresham.

In summer 2000 the City of Gresham, in partnership with Metro, the City of Portland, Clackamas and Multnomah Counties, and others, began the planning of Pleasant Valley. This initial planning phase resulted in the Pleasant Valley Concept Plan that was adopted by the Pleasant Valley Steering Committee in May 2002, and subsequently accepted by the respective councils and commissions by the adoption of a resolution. The Pleasant Valley Concept Plan did not directly address annexation issues. However, it did plan that Pleasant Valley would be a complete community. The plan provides for a wide range of housing and jobs, commercial services and amenities, protection and restoration of its natural resources, and full urban services. Full urban services include transportation, water, stormwater, wastewater, fire and police services, parks, open spaces and trails, and schools.

Beginning in October 2002 Gresham, in partnership with Portland, led the Pleasant Valley Implementation project. This project utilized the outcome of the Pleasant Valley Concept Plan to create a series of implementing regulations and other actions. Included in this work was an annexation strategy report. The annexation strategy report examined issues related to projected costs and revenue for constructing and maintaining public infrastructure, services, and phased annexations. The specific services that were most closely analyzed were transportation, water, wastewater, stormwater, and parks. A report was completed in December 2003.

During the first half of 2004, an update of the Master Facility Plans (water, wastewater, stormwater, transportation, and parks) was initiated to do more precise engineering to address costs and phasing of construction, and to use that information more precisely to identify funding options including system development charges and utility rates.

The Council adopted the Pleasant Valley Plan District on December 7, 2004 with an effective date of January 6, 2005, following a series of public hearings of the Planning Commission and Council.

2. **Springwater.** This area was brought into the UGB in December 2002. It is 1,275 acres located south of the current city limits all within Multnomah County. It was primarily expected to provide for industrial job opportunities (about 80% of the project area) with the rest of area providing housing and related commercial opportunities. Springwater also includes (within the same Johnson Creek watershed) about 150 acres in Clackamas County also intended for industrial or employment opportunities.

Gresham and Multnomah County entered into an IGA in April 2004 agreeing to a joint planning effort for Springwater. There is no IGA with Clackamas County.

The City is engaged with developing a Springwater Community Plan. Its completion is expected in 2005. The Springwater Community Plan is expected to address land use polices, zoning and development code, natural resources, provisions for urban services and infrastructure, and the phasing of capital improvement plans. It is also expected to include a marketing strategy for early economic development in Springwater. A companion project is a study to determine access management along Highway 26 to serve future urbanization in Springwater.

Inclusion of Springwater into the UGB was part of a large 18,700-acre expansion that is immediately south of Springwater in Clackamas County. This area, known as the Damascus/Boring Concept Plan Area, is being planned in an effort led by Clackamas County and Metro. Gresham is participating at advisory committee and work team levels. The Damascus/Boring Concept Plan area overlaps the part of Springwater located in Clackamas County. Additionally, there are approximately 2,000 acres of land in the Damascus/Boring Concept Plan Area that are part of the Johnson Creek drainage basin and, as such, Gresham might provide some services. The Springwater Community Plan will analyze that area from an infrastructure viewpoint.

The lands within Clackamas County included in the Springwater planning analysis and in the adjacent Damascus/Boring Concept Plan were incorporated into the new city of Damascus as approved by a vote in November 2004.

3. **Area 13**. This area was brought into the UGB in December 2002 as part of the same Metro action that included Springwater and Damascus/Boring. The Metro map and ordinance identified this as Area 13. It was brought into the UGB primarily to avoid having an unincorporated rural island surrounded by urban development. Some of the area is planned to be a Metro greenspace, with other areas suited only for urban housing. It is about 215 acres within Multnomah County and is adjacent to the Pleasant Valley plan area on the east, the Gresham city limits on the north and west, and Clackamas County (and the city of Damascus) limits on the south. It is part of the Kelley Creek watershed basin that characterizes Pleasant Valley. It has been included, for analysis purposes, in the Damascus/Boring Concept Plan efforts. Gresham, as the only abutting city in Multnomah County, will ultimately annex and provide services to the area.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues to consider in an urban plan for annexations in new communities. Many of these issues were identified in the annexation strategy and analysis completed as part of the Pleasant Valley implementation plan. This analysis was intended to help guide policy making for annexation. It included:

- A description of the methodology for analyzing infrastructure costs and revenues;

- An analysis of the net fiscal position (i.e. surplus or shortfall) of sub-areas of Pleasant Valley;
- Potential additional revenue sources, and amounts required, to close project funding gaps for capital projects and operations and maintenance;
- Preliminary conclusions regarding strategies and for annexation; and
- An appendix of the spreadsheet analysis and maps.

Subsequently a master utility update for water, wastewater and stormwater in Pleasant Valley updated this analysis.

## Annexation Approaches

Annexation is an essential step in the future development of Pleasant Valley, Springwater and any subsequent new community lands. The process of annexation is governed by a complex set of regulations at the city, regional and state level. Under Oregon law, there are generally four approaches used to annex contiguous land area into a city:

1. Through the city legislative action to expand their boundary, per ORS 222.111 to ORS 222.183. A vote or a petition among the majority of landowners in the proposed annexation area to be considered for annexation typically precedes this action.

2. Through the creation of a Special District and required city/county and service provider agreements, per ORS 190.003 to OR 190.130. Utility service providers typically initiated this action.

3. Through the creation of an Annexation Plan (after utility service provider agreements are formed), and subsequent to city judicial action, per ORS 195.205 to ORS 195.220.

4. Through the declaration of a Health Hazard Abatement, per ORS 222.840 to ORS 222.915.

Method 1 is the most commonly used procedure for annexations and is most consistent with current Gresham policies. Options for this type of annexation are summarized in 10.410. Methods 2 and 3 can be considered, but are less favorable in light of the high number of potentially affected property owners, and the outstanding unknown issues regarding the timing of providing adequate public facilities. Method 4 is not a viable option for large areas unless there is a widespread health hazard.

## Capital Costs And Revenue

An analysis of projected capital costs for water, wastewater, stormwater, transportation and parks, compared to revenue using current rates (principally System Development Charges (SDC) and utility rates), show a gap, and that additional funds will be needed. This is not surprising for new communities areas. In the past decades most of the development in the metropolitan area has been able to tap into existing trunk-line facilities for water, wastewater, stormwater and transportation. However, new expansion areas, such as Pleasant Valley and Springwater, need to create completely (or nearly completely as transportation system often does have some existing right-of-way) new systems. Additionally, thirty years ago cities, counties, and the state provided most services as part of their general duties, and financed them with general taxes and federal government grants. Now the grants are largely gone and there are tax limitations in place so that it is mostly user fees that pay for infrastructure.

## Additional Capital Funding Options

There are other options (in addition to SDC and utility rate increases) that could be considered to "close the gap." These should be carefully analyzed to consider issues such as equity, ease of administering, and citywide policy issues.

- Special District Bond Levy. Requires the city to annex the area and then create a redevelopment area to be able to issue revenue bonds for infrastructure financing.
- Bond Levy for Parks and Open Spaces.
- Grants (regional, state and federal). Best grant opportunities appear to be for regional streets and trails, but other areas such as for green streets/stormwater should be looked for.
- New utility fees for facilities such as parks that currently do not assess a utility rate.
- Encourage the region and the state to find "regional" revenues for infrastructure, recognizing that planning and development of new communities address regional needs and desires.

## Development Timing And Annexation Order

The feasibility of funding infrastructure depends, in part, on the timing of the infrastructure improvements and the pace of residential and non-residential development. Development of wastewater improvements is a necessary first step in determining a phasing schedule. Wastewater systems (and to a lesser extent stormwater and water systems) are gravity systems. This means that these systems are logically tied to sub-watersheds (drainage basins within the larger watershed) geographic units.

## Phased Annexations

Build-out will not occur all at one time, nor does the City have the capacity to build all infrastructures at one time. The City will need to balance CIP needs between the existing city and new communities areas such as Pleasant Valley and Springwater. It is likely, then, that

development will occur incrementally. Each phase needs to address a balance of uses and the capacity to extend and complete infrastructure and services. A strategy for CIP for all the utilities and city services needs to be carefully crafted and coordinated.

**Timing Of Development Of The Town Center, Mixed-Use Employment, Employment And Industrial Districts**

Non-residential land uses have positive fiscal contributions. For example, in Pleasant Valley, from a fiscal standpoint, it would be highly desirable if the town center, mixed-use employment, and employment districts could annex earlier rather than later. However, based on historical development patterns and input from the development community during the Pleasant Valley planning process, it appears highly unlikely that this will happen. Rather, the market will more likely wait for substantial residential development to occur, along with some basic urban infrastructure, before coming forward with a significant retail, mixed-use, or employment development in Pleasant Valley. In Springwater the desire is to have early economic development activity. The City will need to consider to what extent they may want to "push" economic development through marketing and infrastructure strategies.

**Timing And Location Of Development**

Annexation strategies need to take into account areas where the market might want to go first. First development in the new communities may set the tone for future development. Flexibility in responding to new development opportunities will be important.

**Master Plans**

In Pleasant Valley a master plan requirement concurrent with annexations or as a condition of annexations would help ensure that the Pleasant Valley Plan District map is implemented consistent with the adopted goals and policies, and in a way that allows for cohesive and livable neighborhoods and the provision for public infrastructure and services. A master plan, submitted by an annexation petitioner, would address zoning designations, neighborhood design, housing variety and transitions, circulation, parks, open spaces and natural areas, stormwater and green practices, and water and wastewater systems. A 40-acre master plan would encompass roughly 25-50% of most neighborhoods, providing a relatively large and cohesive area. Smaller master plans (such as 20 acres) would be more flexible and provide some of the master planning benefits.

**Adjacency To Existing City Boundaries And Annexation Criteria**

Land being considered for annexation must have a connection to existing city boundaries. Current City code criteria for annexations were created mainly for the mid-Multnomah County annexations of the 1980s and do not address new communities annexations. Additionally, new state and regional annexation processes, such as an expedited process, have not been included in the City Community Development Code.

## ANNEXATION AND NEW COMMUNITIES GOALS, POLICIES AND ACTION MEASURES

### GOAL

Provide for the orderly and efficient annexation of Pleasant Valley, Springwater and subsequently planned new community urban areas.

### POLICIES

1. Annexation shall result in providing a complete range of urban services (transportation, stormwater, water, wastewater, public safety, parks and open spaces) within the City's Urban Services Boundary.

2. Annexation shall support a balanced and efficient mix of urban jobs, housing, commercial services, community amenities, infrastructure, and urban services for adjacent new communities. Areas to be annexed shall be planned and developed as complete new communities and integrated into the existing city consistent with City and regional plans.

3. Place top priority upon watershed areas and urban service delivery feasibility when planning and proceeding with the logical annexation of new communities.

4. Work in cooperation with affected citizens, businesses, property owners, community groups, local governments and other partners in planning, annexation, and development of new communities.

5. Development of new communities will be balanced with, and complementary to, the ongoing revitalization of existing regional and town centers, and existing employment areas.

6. Plan for the development of new communities so that the growth has desirable social, economic, and environmental impacts upon existing residents of these areas, and upon the city as a whole.

7. Planning for annexation of new communities shall include strategies for a phased annexation approach. Principles for phased annexation may include:

    a. Maximizing the overall goals and policies for development in the new community.
    b. Master planning of neighborhoods prior or upon or as a condition of annexation to ensure elements such as street connectivity, proper stormwater management, and neighborhood parks.
    c. Sequencing of annexation gives preference to neighborhoods that integrate with existing city neighborhoods.
    d. Maximizing logical and efficient delivery of public services.

e. Identifying subwatersheds as logical organizing element for wastewater and stormwater services.

f. Market readiness and City capability to respond to "targeted" developer and property owner interests.

g. Ensuring that mechanisms are in place to fully fund the costs of providing services to new development.

8. As annexation occurs, the City shall continue to provide viable urban services to its residents. Provisions for providing infrastructure for new communities shall be established by creating a Public Facility Plan (consistent with state planning rules) for the new community. The Public Facility Plan would include an analysis of current system development charges and utility fees to determine the necessity of additional funding mechanisms. As necessary, facility master plans will be updated consistent with the Public Facility Plan.

**ACTION MEASURES**

1. Develop and adopt master/concept plans for new communities that satisfy state, regional, and City policies.

2. Develop and adopt Intergovernmental Agreements (IGAs), and/or Urban Planning Area Agreements for new communities with affected jurisdictions and urban service providers.

3. Determine adequate facilities needs for annexation to occur through development of Public Facility Plan and updated facility master plans. Adopt revised system development charges and/or utility rates as appropriate for implementing the facility plans.

4. Identify a local first phase for annexation consistent with adequate public facilities and plan policies. Identify strategies to obtain properties needed for public infrastructure such as street rights-of-way, parks and trails, and stormwater regional detention facilities.

5. Annex new community areas consistent with the provisions of an adopted land use Concept Plan under Metro Title 11, and subsequent comprehensive plan amendments.

6. Develop a program of annexation agreements and incentives for property owners and other private partners (such as development agreements, partnerships, infrastructure finance tools) to assure an orderly phasing of annexation and development of lands.

   a. Create an "annexation tool kit" for interested parties. Prepare a notebook that answers typical questions pertaining to when, where, how and why annexation occurs. This could include identifying annexation regulations and permit requirements; providing sample annexation petitions and development agreements; and interested/affected property owner contacts to help property owners get organized.

   b. Designate a City staff representative as point of contact for new communities inquiries.

7. Continue to conduct periodic neighborhood meetings to discuss implementation strategies and to allow for a constructive interchange of thoughts and ideas. This can also be an opportunity for developers to meet with local property owners to address specific questions about investment risks and rewards.

8. Apply urban land use designations concurrent with annexation to the city.

9. Adopt simplified City procedures for annexation that reflect revised Metro Code 3.09 and applicable sections of ORS.

(Section 10.410.2 added by Ordinance 1605 passed 5/3/05; effective 6/2/05)

## 10.411 SCHOOL SERVICES

### POLICY

It is the policy of the City to give the districts the opportunity to review and comment on land use actions which would have an impact on enrollment, student safety, or other school related concerns.

### IMPLEMENTATION STRATEGY

1. The city shall consider when reviewing requests for development permits, the availability of school services.

2. The city shall continue to work out an administrative process with the school districts whereby each party is regularly informed of the other's activities. Regular meetings should be held to discuss short and long run school facilities planning, public use of adjacent school/park facilities, financing and managing the adjacent school/park facilities, and all other topics of mutual interest to the city and the school districts.

3. The city shall cooperate with the school districts in their efforts to select new school sites, in order to help assure that educational services are made available to existing and future residents and to assure that locational choices and other school districts activities do not conflict with the Comprehensive Plan.

4. The city shall support education and occupational training programs and when appropriate make selective resources of the city available to public agencies and private programs.

## 10.412 CITY OF GRESHAM PARKS, RECREATION, OPEN SPACES AND TRAILS BACKGROUND

### INTRODUCTION

The City of Gresham provides recreation services consisting of public parks, trails, open space, and some recreation programs. These public lands and facilities are essential quality of life elements for Gresham's residents. This is especially important in consideration of the City's rapid population growth - from about 30,000 people in 1978 to more than 90,000 in 2003.

In addition to parks and open spaces, Gresham, along with its regional partners, has developed a successful trail program. These trails provide both recreation opportunities and transportation links throughout the community.

Over the years, the City of Gresham has strived to expand its community parks and open space system to meet the growing community's needs. As of spring 2003, the City had 1,111.27 acres of parks, trails and open space land. Gresham has a total of 27 parks, comprised of 18 neighborhood parks, seven community parks and two linear parks. However, several of these facilities remain undeveloped or are significantly underdeveloped. Included in the City's total parkland acreage is 796 acres of open space. Much of this land was obtained through an open space acquisition program funded in 1990 by a $10.3 million bond measure.

In the last 35 years, Gresham has undertaken three parks and recreation master planning processes. The first plan was completed in 1968, the second in 1988 and the third, most recent, in 1995.[1]

This overview is based on the findings and recommendations of the 1999 City of Gresham Community Indicators for Parks and Recreation. The ten indicators provide the City Council and its Parks and Recreation Citizen Advisory Committee with a long context to plan for and evaluate recreation services and policies. When possible, and as necessary, more recent information is referenced.

The Parks, Recreation and Open Space Overview consists of several sections which are presented as follows; a) Park lands; b) Open Space; c) Trails; d) Recreation Programs; e) Maintenance; f) Other Parks, Open Spaces and Recreation Facilities; g) Coordination with other Local and Regional Initiatives; h) Funding, and i) Summary of Major issues.

### PARK LANDS

Parks lands in Gresham are classified as neighborhood, community or linear parks. Neighborhood parks are defined as small parks within walking and biking distance of users. Community parks are larger facilities that provide active and passive recreational opportunities

[1] The 1996 Gresham Community Indicators for Parks and Recreation and the 1996 Gresham Parks, Open Space and Recreation and Trails Master Plans are incorporated into this update of the Comprehensive Plan as resource documents. They may be acquired at the City of Gresham, Parks and Recreation Division, Department of Environmental Services 1333 NW Eastman Parkway, Gresham, OR 97030, 503-618-2485.

for all city residents. They are the most capable of accommodating large groups and community events. Linear parks are off-street, 10-14 foot wide multi-use paths.

Gresham, has a shortage of developed community and neighborhood park facilities. New park development and renovation of existing facilities is in order needed to meet both existing and expected future park needs. Specific recommended improvements for neighborhood and community parks and trails are listed in the 1995 Gresham, Parks, Recreation and Open Space and Trails Master Plans. Also the 1999 Gresham Community Indicators for Parks and Recreation provides guidelines for future service standards.

### Neighborhood Parks

Gresham has 18 neighborhood parks, which altogether total 117.50 acres as shown in the following table. Fourteen of these facilities, or 86.96 acres, are either fully or partially developed.

| Neighborhood Park | Acreage |
|---|---|
| Aspen Highlands | 4.00 |
| Bella Vista | 8.07 |
| Butler Creek | 3.97 |
| Cedar Park | .35 |
| Columbia View Park | 7.48 |
| Davis Park | 2.65 |
| East Gresham Park | 5.53 |
| Hall Park | 3.96 |
| Hollybrook Park | 2.46 |
| Jenne Butte Park | 11.00 |
| Kane Road Park | 9.99 |
| Kirk Park | 7.00 |
| North Gresham | 13.47 |
| Rockwood Central | 9.39 |
| Southeast Neighborhood Park | 6.53 |
| Thom Park | 5.45 |
| Yamhill Neighborhood Park | .67 |
| Vance Park | 15.53 |
| Total | 117.50 |

The City's level of service for neighborhood parks in 1995, was 1.04 acres per 1,000 population (1.04 ac/1,000). Three new neighborhood parks have been developed since 1995. However, the City's population has grown. Even with the new facilities, Gresham's level of neighborhood park service has declined slightly to 1.01 ac/1,000. Thus, Gresham needs more developed neighborhood parks to meet the Community Indicator's standard of 1.3 ac/1,000.

Most residential development in Gresham is within one-half mile of a public park or useable open space. However, the level of developed facilities provided varies widely. Some neighborhood park sites are developed, partially developed or not developed at all. However,

the 1995 Parks, Recreation and Open Space Master Plan identified the following common issues that affect all neighborhood parks:

- Aging facilities that require replacement such as children's play areas and site furnishings;
- Safety issues, such as designs that may encourage vandalism, crime and safety hazards in children's play areas; and
- Accessibility improvements needed to meet Americans with Disabilities Act (ADA) requirements.

### Community Parks

The purpose of community parks is to accommodate a wide range of recreation needs from that of local neighborhoods to the whole community.

Community Parks often include such features as natural areas with interpretive trails, historically significant areas, performance spaces, competitive sports fields, and group picnic areas. The design of each community park is based upon unique features of each site and its context.

Gresham has seven Community Parks, which total 137.17 acres as shown by the following table:

| Community Park | Acreage |
|---|---|
| Gradin Community Sports Park | 32.05 |
| Main City Park | 17.48 |
| Pat Pfeifer Barrier-Free Park | 13.39 |
| Red Sunset Park | 14.18 |
| Southeast Community Park | 16.12 |
| Southwest Community Park | 37.98 |
| Zimmerman Historic Park | 5.97 |
| Total | 137.17 |

As with Neighborhood Parks, the level of facilities and development of Gresham's Community Parks vary widely. For example, the award winning Red Sunset Park is in very good condition and represents the highest standards found in the parks system. In contrast, Pat Pfeifer Park is in very poor condition and is far below the City's standards.

Gresham also has a shortage of developed Community Parks. The City's 45.05 acres of developed parks represents a level of service of .60 ac/1,000. In contrast the City's 1999 Community Indicators for Parks and Recreation is 1.7 ac/1,000. This indicates that Gresham has a 2003 community park acreage deficit of almost 108 acres.

## SPECIAL COMMUNITY RECREATION INITIATIVES

In 2003 Gresham has three noteworthy community recreation initiatives. They were undertaken in partnership with citizens and / or depend upon volunteers and donations.

### Gradin Community Sports Park

Construction by volunteers of a community sports park in the southwest part of Gresham is a significant community initiative. This effort is being undertaken through private contributions of funds, labor and equipment. The 32.05-acre Gradin Community Sports Park will address part of Gresham's existing and future need for organized sports play.

### Downtown Performing Arts Center

The Community is engaged in an effort to build a theater/performing arts center on two acres of donated land in Gresham's historic downtown. This effort is the result of the City's acceptance in 1999 of a $375,000 donation from the Elkington Trust. A master plan has been completed and fund-raising efforts have targeted a 2005 Grand Opening to coincide with Gresham's Centennial.

### Trails

In 1996 the City completed the Gresham Trails Master Plan. The Trails Master Plan is a blueprint for an interconnected network of trails to link together neighborhoods, parks, open space and downtown Gresham. The Parks Master Plan recommends an additional nine miles of multi-use trails and 18 miles of hiking trails in the City. It lays out a citywide trail system as part of a larger and interconnected regional trail network. For example, trails in Gresham are planned to connect Gresham to the Columbia River regional parks and the region's "40-Mile Loop" trail system.[2]

The backbone of Gresham's existing trail system is a 4.5 mile section of the 22 mile long Springwater Trail Corridor (STC). Many of the trails recommended by the 1996 Gresham Trails Master Plan are proposed to tie into the STC to provide linkages and loop connections within the Gresham community and also with the surrounding regional trail systems. The Springwater Trail Corridor is also part of the 40 Mile Loop.

The Springwater Trail is also an integral element of the region-wide Metropolitan Greenspaces Program. Much of the Springwater Trail runs adjacent to the Johnson Creek Natural Resource Area.

Other Gresham segments of the 40-mile Loop include the eastern loop that runs north to the City of Troutdale and a portion of the Columbia River Trail along Marine Drive. These trail segments also connect residents with other nearby regional trails, including those in the Columbia River Gorge National Scenic Area; the Sandy River Gorge Trail; the Pacific Crest Trail; the Chinook Trail and the Mt. Hood National Forest Trail System.

[2] The "40-Mile Loop" concept is the framework of the region's integrated trail system. The Olmstead Brothers originally conceived it in 1905. The Olmsteads were brought to Portland to propose a park system as part of the planning for the 1905 Lewis and Clark Exposition. The "40 Mile Loop" was envisaged as a 40-mile ring of connected parks and greenways surrounding the City of Portland. Today the 40-Mile Loop Land Trust, a non-profit organization, has expanded the 40-mile greenway concept to over 140 miles which includes all of Multnomah County.

In 2003 the City is engaged in planning and design for a major addition to its trail system. The Gresham/Fairview Trail will be a 10 – 14 foot wide multi-use path approximately 5.2 miles in length. Much of the trail will be within the Fairview Creek Greenway. When complete, it will be a major north/south connector between the Springwater Trail Corridor, the 40-Mile Loop at Marine Drive and Blue Lake Regional Park. The Gresham 2003 – 08 Five-Year Capital Improvement Program budgeted funds from a combination of City and Federal sources to complete a major segment of the Gresham/Fairview trail from Burnside to Halsey in the next few years.

An interconnected trail system is also important because it provides alternative transportation options. A well-developed multi-use path and trail system can reduce reliance on the automobile as a primary transportation mode.

The following table lists the location of trail improvements identified in the 1996 Gresham Trails Master Plan. Maps of the proposed projects and more detailed descriptions can be found in the Master Plan.

**1996 Gresham Trails Master Plan - Recommended Future Trail Improvements**

| **Project Name** | **Location** |
|---|---|
| Gresham Butte Trails | Gresham Butte Open Space |
| Jenne Butte Trails | Jenne Butte Open Space |
| Grant Butte Trails | Grant Butte Open Space and Water Reservoir Sites |
| Butler Creek Greenway Trails | Butler Creek Greenway |
| Kelly Creek Greenway Trails | Kelly Creek Greenway |
| Gresham/Fairview Trail | North from the Springwater Trail Corridor along Birdsdale Avenue and the Fairview Creek Greenway to connect to the 40-Mile Loop Trail on Marine Drive |
| Nadaka Open Space Trail | Nadaka Open Space |
| Springwater Trail Corridor (STC) Improvements | Length of the Springwater Trail |

**Other Multi-Use Paths and Trails Proposed by the 1996 Gresham Trails Master Plan**

Ped-to-Max Improvement Program: This program will improve pedestrian access to Max stations within Gresham.

Hogan Butte Connection: A walking-hiking trail is proposed as a neighborhood connector to access public open space on Hogan Butte in Southeast Gresham. The project is in the schematic stage and subject to future discussion with property owners.

Future Opportunities: In the future, opportunities may arise which require modification to the City's Trails Master Plan. New trails may be added as Gresham grows and additional open space lands are acquired.

### Police Activities League

Greshams's youth benefit from the activities and programs provided by the Police Activities League (PAL). PAL is a non-profit organization that provides educational and recreational programs to the youth of the Portland/Gresham area. PAL strives to connect law enforcement and youth in a positive way. The local PAL Center is located in the Rockwood Neighborhood next to Pat Pfeifer Barrier-Free Park on NE 172nd Avenue. The organization has invested more than $500,000 to renovate a gym and several rooms that were once part of an elementary school to make them suitable for recreation and educational uses.

The Gresham PAL Center has a membership of about 500 youth. It serves between 75 and 125 young people a day. Members may take advantage of a wide range of educational, athletic, and arts and crafts programs. The Center also includes a learning center. Educational programs are conducted in cooperation with the Reynold's school district.

## OPEN SPACE

Open space is important for Gresham's quality of life and livability. This is particularly so in light of Metro's 1998 and 2002 expansions of the Urban Growth Boundary (UGB) in the Gresham vicinity. In the future, several thousand acres of new urban lands will be part of Gresham.

Within the Gresham area, there are diverse natural features, including wetlands, riparian areas, forested uplands, and buttes. In addition, there are many stream corridors in the new UGB area. These areas include the upper reaches of Johnson Creek and Kelly Creek, as well as several buttes that provide unique landmarks and scenic views of the Cascade Mountains.

There are many natural features inside the City limits that are important to both local residents and to the whole region. The City, through the 1990 open space bond measure, acquired several of these important natural resources such as wetlands, riparian areas, forested uplands and buttes. Greenways, such as Butler Creek, Kelly Creek, Johnson Creek, and Fairview Creek, are also locally protected. These greenways provide habitat for a variety of native plants and wildlife.

The steep wooded buttes within Gresham are unique geologic features. These volcanic remnants include Gresham Butte, Towle Butte, Hogan Butte, Butler Ridge, Grant Butte and Jenne Butte. These buttes rise to about 1,000 feet in elevation and are Gresham's primary natural landmarks.

Metro funds have been a significant contributor to securing open space in Gresham. These funds were derived through a 1995 bond measure approved by voters within the Portland Metropolitan Region. The regional bond secured $135.6 million to fund open space acquisition, trail development and local park development projects.

The following table summarizes open space lands inside Gresham and those recently purchased by Metro within contiguous UGB expansion areas.

**Existing Gresham Area Open Space Lands**

| Open Space Area | Acreage |
|---|---|
| Butler Creek Greenway | 31.10 |
| NW Open Space | 10.00 |
| Grant Butte | 22.18 |
| Gresham Butte | 300.60 |
| (**Existing Open Space Lands Continued)** | |
| Jenne Butte | 120.36 |
| Johnson Creek | 172.63 |
| Kelly Creek Greenway | 47.79 |
| Fairview Creek | 71.12 |
| Miscellaneous Parcels | 20.79 |
| **Gresham Sub-Total** | **796.57** |
| Lands Acquired by Metro within ½ mi. of the Gresham City Limits | **356.66** |
| **Total** | **1,153.23** |

Per the 1999 Community Indicators for Parks and Recreation, the City's standard of open space is 8.3 ac/1,000. The combined Gresham and Metro open space total of 12.81 acres per 1,000 population significantly exceeds the City's standard.

## RECREATION PROGRAMS

Without adequate funding, the City cannot be a major provider of recreation programs. To partially fulfill the need for programs, the City serves as a facilitator by providing marketing and/or facilities in partnership with other agencies that provide recreation programs accessible to Gresham residents.

The 1995 Park, Recreation and Open Space Master Plan identified 26 other Metro area agencies as primary providers of key recreation and/or human service agencies. Another 18 agencies were identified as secondary providers. Most primary providers offer youth-sports and educational programs. Secondary providers primarily deliver related human services. The full roster of these agencies and organizations is contained in the 1995 Gresham Park, Recreation and Open Space Master Plan.

In 1995 most of these agencies each served over 500 participants annually. About one-half of primary providers provided year-round programs. The other half provided seasonal programs. Among secondary providers, most programs are year-round offering educational or community service programs.

The 1995 Gresham's Park, Recreation and Open Space Master Plan compared the City's level of recreation services to those provided by similar cities in Washington and Oregon. Major findings were:

- The Gresham Parks and Recreation Division was understaffed in comparison to the agencies surveyed.
- Gresham provided far fewer recreation services than other cities of similar size. Besides youth sports few programs are available to Gresham residents.
- Through partnerships, the City's Parks and Recreation Division reached a large number of residents with minimum expenditures.
- Most comparable cities provide comprehensive recreation services serving all ages and abilities. Gresham does not.
- Most cities use funds from property taxes, user fees, grants and partnerships as funding sources for their recreation programs. Most cities also provide scholarships or sliding-scale fees to low-income residents.

In addition, from community surveys and assessments of community needs, the Park Recreation and Open Space Master Plan found that:

- Based on evaluations of community need and demand, the Parks and Recreation Division should expand recreations services.
- Gradual recreation program development should include information and referral services, partnership efforts to expand programs, and the development of programs operated or co-administered by the City.
- Program priorities should include programs for children and youth of all ages, senior programs and programs serving residents with disabilities.
- An incremental increase in staffing for programs is necessary to expand services.
- To some extent, recreation programs can be revenue generating.

## PARKS MAINTENANCE

Due to insufficient funding, parks maintenance services in Gresham are provided at lower levels than other comparable northwest cities. The 1995 Park, Recreation and Open Space Master Plan states that maintenance staffing did not increased commensurately with the expansion and improvement of parklands and increased park use. In 1995, each full-time employee was responsible for maintaining twice the amount of parkland acreage than in 1988.

A commensurate commitment to maintenance services will be needed if Gresham seeks to grow its parks, recreation and open space system to meet existing and future community need. In this regard, the Parks and Recreation Master Plan found:

- As new types of parklands, such as open space, linear parks and greenways are acquired and developed the maintenance needs of these areas should be defined.
- Damage due to vandalism has greatly increased maintenance workloads.
- With population growth and increased use, progressively higher levels of maintenance may be required for all parklands and facilities.
- Policies need periodic updating and procedures require evaluation to stay in line with recommended park management practices.
- Maintenance management should be fully automated to increase efficiency.
- Policies for the use of volunteers and the development of joint use agreements should be created and periodically updated to make the best use of these resources.

## OTHER PARKS, OPEN SPACES AND RECREATION FACILITIES

In addition to lands and facilities inside the City, Gresham's residents have access to other public open spaces. Even though it is necessary to travel to these sites, they provide important recreation opportunities. These include Metro parks, US Forest Service lands, Oregon State Parks, school district facilities and parks owned by other cities.

Within a two-mile vicinity of Gresham City limits is Powell Butte Nature Park and Blue Lake Regional Park. Oxbow Regional Park, Dabney and Lewis and Clark State Parks are also in the vicinity. Gresham is also fortunate to have access to nearby US Forest Service lands and facilities. The most prominent, and closest, is the Sandy River Delta. This publicly accessible wetland and riparian area is right off Interstate 84 and encompasses about 1,400 acres. Overall, these nearby public lands provide more than 3,700 acres of open space.

These public lands provide approximately 23 miles of self-service recreation trails and pathways and numerous picnicking facilities and fishing and boating opportunities.

The City's many schools provide softball and soccer fields, basketball courts, tennis courts, and playgrounds for use by Gresham residents when schools are not in session There are also other numerous recreation and human service providers that serve Gresham residents such as the Police Activities League (PAL), the Boys and Girls Clubs of Portland, Eastside United Youth

Soccer; Gresham Little League and Babe Ruth Baseball, Mt. Hood Community College, and the US Forest Service.

## COORDINATION WITH OTHER LOCAL AND REGIONAL INITIATIVES

The Gresham parks, recreation and open space system exists within a larger regional and statewide context. There are many agencies, public initiatives and plans, which the City must take into account and coordinate with. This is essential to maximize the benefit of public expenditures on parks and recreation services. The following lists these plans, initiatives and programs.[3]

- Gresham Transportation System Plan (2002)
- Gresham's Missing Links: Pedestrian and Bicycle System Inventory and Analysis (1993)
- Gresham Historic Landmarks Inventory (1988 and 1990 and 1993 Updates)
- Gresham Downtown Plan (1995)
- Rockwood Action Plan (1995)
- Metro Greenspaces Program (1992)
- Metro 2040 Plan (1991) and the Regional Framework Plan (1997)
- 40-Mile Loop Master Plan (1983), and
- Oregon Statewide Comprehensive Outdoor Recreation Plan (2003 – 2007)
- Pleasant Valley Concept and Implementation Plans (2002 and 2003)
- Metro 2002 Damascus Area UGB Expansion
- City of Gresham Strategic Plan (2002)

One of the most significant coordination issues is planning for parks, open space and recreation for new urban areas. Metro's expansions of the UGB will ultimately mean thousands of acres of new urban land will be added to the City. In 1998 Metro added 1,500 acres to the UGB in the Pleasant Valley area south of Gresham. In 2002, the City and its regional partners completed the Pleasant Valley Concept Plan. The Plan proposes that Pleasant Valley accommodate 5,000 new dwelling units, a town center, and employment land sufficient for about 5,000 jobs. The concept plan also identified the full range of other urban uses, such as schools, parks, neighborhood centers, etc., necessary to create a "complete community." Shortly thereafter the City initiated the Pleasant Valley Implementation Plan to put in place the land use planning, transportation, public facilities, annexation and natural resources protection measures required for urbanization.

[3] Reports associated with these initiatives and the Pleasant Valley and Springwater "New Community Plans" are incorporated by reference into the update of the Comprehensive Plan as Resource documents. They may be acquired at the City of Gresham Community and Economic Development Department, 1333 NW Eastman Parkway, Gresham, OR 97030, 503-618-2760.

In 2002, Metro added another 18,700 acres to the UGB. The majority of these lands are in the vicinity of Gresham and the communities of Boring and Damascus. Within five years, the City expects urbanization to begin on about 1,300 acres immediately south of the City along Highway 26. It is expected that these lands will accommodate primarily economic development, large lot housing and a small (80 + acre) neighborhood center.

Land use goals, policies and action measures for Pleasant Valley and Springwater are part of a another Comprehensive Plan Chapter (Urbanization, Annexation and New Communities). These "New Community Plans" have specific sections, which address the future provision to these areas of park, open space and recreation services.

## FUNDING

Gresham will need to develop and implement long term funding strategies to provide City residents with adequate recreation opportunities. The Gresham Parks, Recreation and Open Space Master Plan emphasizes that more funding is needed to:

- Renovate existing parks and their facilities;
- Improve accessibility for persons with disabilities;
- Develop new parks and renovate others to address existing and future needs;
- Provide community park facilities capable of accommodating larger groups;
- Acquire special natural areas and open spaces;
- Expand Gresham's multi-use trail system to accommodate growing use;
- Offer comprehensive recreation programs on par with other comparably sized northwest cities; and
- Provide for adequate management and maintenance services.

## SUMMARY OF MAJOR ISSUES

### Parks, Open Space, Trails and Recreation Programs

1. The City's population grew by more than 60,000 people between 1980 and 2000. Unless population growth is matched with new investments in the parks, open space and recreation system, the City's deficiency in recreation services will widen further.

2. The City's cultural and ethnic composition has changed significantly in the last twenty years. The continuing trend of a growing Hispanic and immigrant population requires the City to be responsive to new cultures and languages.

3. Gresham provides fewer parks and recreation services than other northwest communities of comparable size. Many of the City's existing parks require renovation or redevelopment.

4. Multi-use trails, particularly the Springwater Trail Corridor, have become a significant recreation resource. Trails are used by a large segment of the City's population. However, trail development and maintenance, like parks, has not kept pace with population growth and increased usage.

5. Increases in residential densities will mean higher intensity development in many of Gresham's neighborhoods. As land inside the current City limits is developed, sufficient land for neighborhood and community parks may disappear. Alternatives to neighborhood parks may be other public spaces such as plazas, pocket parks and community centers. Also, it may be necessary for the City to acquire land for larger community parks in new urban growth boundary areas.

**Management and Maintenance**

6. Several hundred acres of open space lands have been added to the City's public lands inventory since 1990 through the expenditure of publicly approved bond funds. The acquisition of these lands has placed additional responsibility on the City to properly plan for, develop, manage and maintain these lands.

**Coordination and Participation with Others**

7. Significant new territory has been and will continue to be added to the City through annexations and expansion of the Portland Metropolitan Area Urban Growth Boundary. The City and its regional partners must work together to ensure adequate parks, open spaces and related facilities are provided to these new urban areas

8. Metro is a major provider of park and open space lands in East Multnomah County as are the Oregon State Parks and US Forest Service. Positive coordination with these agencies is important to ensure Gresham's residents fully benefit from these recreational resources.

9. The school districts are important providers of joint use facilities and programs. Many other agencies and organizations provide other recreation opportunities and human services. The City should continue to coordinate and partner with these entities to make the most of public expenditures and to facilitate citizens' access to services.

**Funding**

10. Gresham needs to develop and implement long term funding strategies to provide the community with adequate parks, trails, open spaces and recreation programs. The involvement of citizens, the business community, regional and state partners will be necessary to raise the necessary funding to provide an acceptable level of parks and recreation services.

## PARKS, OPEN SPACE, TRAILS AND RECREATION GOAL, POLICIES AND ACTION MEASURES

### GOAL

Develop and maintain a neighborhood-oriented parks, open space and recreation system to enhance Gresham's quality of life.

### POLICIES

#### Parks, Open Space, Trails and Recreation Programs

1. Gresham shall acquire, develop and maintain a diverse system of parks, trails, open space and recreation facilities that are safe, functional and accessible to all segments of its population.

2. The City's Parks, Open Space and Recreation System shall:

    a. Provide sufficient facilities and programs to meet the needs of its existing and future population.

    b. Interconnect its parks, open spaces, and trails to maximize the public's access to programs and facilities.

    c. Provide for the equitable distribution, when possible, of recreation resources throughout Gresham.

    d. Provide access to diverse recreational opportunities for all residents.

    e. Protect and preserve natural resources and open spaces.

3. The City shall develop community parks located throughout the community to provide active and passive recreational opportunities for all City residents and to accommodate large groups and community events.

4. The City shall develop neighborhood parks located throughout the community provide access to basic recreation opportunities for nearby residents of all ages.

5. The City shall acquire and manage open spaces to provide protection of natural resources, nature-oriented outdoor recreation and trail related activities.

6. The City shall develop an integrated trail system that links together neighborhoods, parks, open spaces, major urban activity centers, the "40-Mile Loop," and other regional recreation opportunities.

7. The City shall ensure that planning and development of its trail system are coordinated with other transportation planning efforts to ensure trails and multi-use paths serve both as recreation resources and viable transportation alternatives.

8. The City shall consider the following when making investments in its Parks, Open Space and Recreation System:

    a. Maximizing benefits to Gresham residents;

    b. Resolving safety and chronic maintenance problems;

    c. Supporting the goals of the Gresham Community Development Plan and other important City, state, and regional planning efforts;

    d. Providing facilities and services to underserved neighborhoods and renovating existing ones;

    e. Addressing high resident demand for facility improvements;

    f. Addressing need in areas where there is limited access to trails and open spaces; and

    g. Providing needed Americans with Disabilities Act (ADA) improvements.

9. The City shall, as its resources allow, provide recreation programs and also facilitate their provision by others.

10. The City shall use public safety and potential liability concerns as major principles in the planning, development and management of parks, open spaces and trails.

11. The City shall develop, maintain and manage parks, open spaces and trails in ways that minimize impacts on environmental resources.

12. The City shall require residential and non-residential development to pay an appropriate parks and recreation system development charge.

13. The City shall require new urban development in the Pleasant Valley and Springwater urban growth areas to provide the means to acquire and develop needed parks, trails and open space.

14. Annexations of new UGB areas shall be of sufficient size to fund acquisition and development of suitable parks, trails and open space necessary.

15. The City shall require annexation and related development plans for new UGB areas to show how and where needed parks, trails and open space will be provided.

16. The City shall require recreation services, including parks, trails and open space, be provided to residents / users of development in new urban growth areas per its adopted community wide indicators.

### Maintenance and Management Services

17. The City shall maintain and manage its parks, open space and trail system to:

    a. Enhance public safety;

    b. Promote increased park use by the community as a means to reduce vandalism and criminal activity;

    c. Contribute to the protection of the natural environment;

    d. Protect the community's investment in parks, open space, trails and facilities;

    e. Promote community pride; and

    f. Provide opportunities for community service and stewardship of parks, open space and natural resources.

### Administration, Planning, Coordination and Communication

18. The City shall provide an adequate level of park planning, design and administrative services to ensure:

    a. Its citizens have continued access to parks, recreation services and open space;

    b. The public's investment in parks and open space is protected and enhanced;

    c. Planning occurs to identify Gresham's future parks, recreation and open space needs;

    d. Parks, recreation facilities and open space are planned and managed to promote public safety; and

    e. The community at large is adequately informed of recreation opportunities and programs; issues affecting the parks, open space and recreation system, and volunteer opportunities.

19. The City shall maintain and manage its parks and open space resources in ways that preserve and, where possible, enhance natural resources.

20. The City shall involve its residents and businesses as active participants and partners in all aspects of providing recreation services and environmental stewardship**.**

21. The City shall build and maintain partnerships with other governmental and private agencies and organizations to optimize funding and facility resources, and improve recreational opportunities.

22. The City shall ensure public safety is a major consideration in the planning, design and management of parks, open space and trails.

23. The City shall, either directly or in coordination with other stakeholders and agencies, seek opportunities to acquire public open space.

## ACTION MEASURES

### Parks, Open Space, Trails and Recreation Programs

1. Develop funding strategies to implement the recommendations of the Gresham Parks, Recreation, Open Space and Trails Master Plans and the five-year Parks Capital Improvement Program.

2. Incorporate Gresham's natural resources and features, such as buttes, wetlands, forested areas, and stream corridors into public parks and open space areas.

3. Develop and periodically update local parks, recreation and open space standards as guides to providing Gresham's adequate recreation opportunities and open space.

4. Maximize trail development opportunities in conjunction with open space acquisition and development.

5. Locate trails to promote opportunities for environmental education, and interpretation of historic, cultural, scenic and wildlife resources.

6. Consider the use of utility service and maintenance access roads for recreation trails whenever feasible, and when agreed to by the utility provider.

7. Facilitate public recreation opportunities through joint use agreements with schools and other public and private agencies

8. When it is to the mutual benefit of the City and school districts, develop neighborhood parks adjacent to middle and elementary schools.

9. Utilize a variety of means to acquire public open space and protect valuable natural resources such as direct land acquisition, conservation easements, joint protection agreements, donations, life-estates, and purchase of development rights.

10. Provide public access to public open space in ways that protect sensitive natural resources**.**

11. Develop strategies to enhance Gresham's trail, parks and open space connection to the Columbia River area, either directly or in coordination with other communities and agencies.

12. Coordinate trail development with public storm water management transportation projects.

13. Consider the issues posed by future higher population densities when planning, acquiring and developing new parks, trails, open space and other recreation services.

14. Assess and be sensitive to the character of local geography and adjacent developed areas when developing new parks and improving existing ones.

15. Consider Gresham's social – economic and demographic characteristics when planning for and investing in new parks, trails, open spaces and recreation programs

**Maintenance and Management Services**

16. Develop and implement specific management plans and maintenance programs for all of the City's park and open space lands including greenways and open space.

17. Periodically evaluate and update maintenance policies and procedures to stay in line with contemporary park management practices.

18. Automate site management and maintenance systems whenever possible.

19. Maintain and manage the City's public parks, open space and trail system to:

    a. Preserve their appearance and functional use;
    b. Support public safety and eliminate hazards;
    c. Support the functions and character of natural resource areas; and
    d. Provide fire mitigation.

20. Identify funding for required maintenance and management activities when considering acquisition of new park land and open space.

21. When feasible, utilize alternative methods to acquire and develop open space, parks and trails including local improvement districts; purchase of easements and development rights, life estates, etc.

22. Provide adequate staffing levels to assure the ability to maintain and manage the City's parks and open space resources

23. Develop and apply administrative policies and procedures for use of volunteer resources.

24. Identify and prioritize appropriate volunteer projects as a means to maximize the benefits of volunteers and community partnerships.

25. Identify maintenance tasks that could be performed more cost effectively by contractors.

26. Inform the public about maintenance and management requirements for the City's various types of parks, recreation facilities, trails and open space.

27. Protect the public parks, open spaces and trails from negative off-site impacts by establishing development and maintenance requirements for private developments adjacent to these resources.

28. Include natural resources studies and monitoring in the City's management of public open spaces and related natural resources.

**Administration, Planning, Coordination and Communication**

29. Coordinate with and support Metro Greenspaces, US Forest Service, Oregon State Parks and other agencies that make recreation programs, parks and open space resources accessible to Gresham residents.

30. Promote a safe environment in the City's parks and open spaces through actions such as:

    a. Ongoing contact and coordination with public safety officials;

    b. Specific programs and activities intended to increase recreation activity; and

    c. Site planning and facility design, which incorporates public safety, measures such as providing for appropriate emergency vehicle access and nighttime lighting.

31. Maintain a current park and recreation management and planning program that:

    a. Provides opportunities for meaningful citizen involvement and volunteerism;

    b. Coordinates with other City and regional planning efforts and with those of other agencies;

    c. Plans for sufficient parks and facilities maintenance;

    d. Addresses public safety needs in the design and planning of facilities; and

    e. Considers current and evolving community needs.

32. Update the City's parks, recreation, open space and trails master plans every 10 to 12 years as resources allow.

33. Build a sense of community and stewardship through volunteer opportunities, public information, environmental and leisure oriented education and outdoor experiences.

34. Promote partnerships and coordination with other communities and agencies to develop a connected recreational and commuter trails system. Joint actions may include:

    a. Acquisition of easements and rights-of-way, including those abandoned by railroads;

    b. Maintenance and management agreements for trail facilities that cross jurisdictional boundaries;

    c. Coordination with local and regional transportation planning and funding efforts; and

    d. Support for trail connections to regional destination / attractions such as Blue Lake Park, Oxbow Park, 40-Mile Loop and the Sandy River Delta.

35. Develop public support for long-term stable funding to provide a sufficient level of open space, trails and park and recreation services to Gresham's citizens.

36. Work with neighboring communities, utility districts, businesses and other public agencies to obtain connecting trail easements.

(Amended by Ord. 1581 passed 12/16/03; effective 1/15/04)

## 10.413 COMMUNITY DESIGN

### SUMMARY OF FINDINGS

Visual resources are an important aspect of Gresham's living environment and economy; the effect of signs is critical in protecting this resource, since sign clutter presents a visual eyesore, and detracts from an otherwise healthy, orderly business image. In addition, signs that exceed the purpose of identifying sites and activities not only detract from the visual quality of the city, but can also present physical hazards, or unsafe situations to residents of the community (Section 2.331 - Findings document).

### POLICIES

It is the City's policy to protect the public interest by promoting signs which:

1. Protect the public health and safety.

2. Assist in preserving natural resources.

3. Maintain a balance between the need to identify sites and activities, and the negative impact on community image created by visual clutter.

### IMPLEMENTATION STRATEGIES

1. Signs for new developments will be subject to design review in order to promote coordination of signs with other site elements, such as architecture, landscaping, access, and parking. Design elements identified during design review will govern future changes in copy or sign faces.

2. Signs will be designed in a manner which reflects the intent and scale of the land use district in which they are constructed.

3. Signs that distract or endanger motorists and pedestrians will be prohibited.

4. Signs that present physical hazards to safety will be prohibited; signs will be maintained in good condition, both structurally, and in their appearance.

5. Free-standing signs will be constructed with limitations placed on number, size and height, so that their cumulative effect projects an orderly, positive community image.

6. Signs attached to structures will be constructed in a way which protects the visual or architectural value of the structure, and will be limited in number, size, and height.

7. Temporary signs will be limited to sites where permanent signs are inappropriate or not feasible. Temporary signs will be limited in size, number, and duration.

(Added by Ordinance 1135 passed 6/27/89; effective 7/1/89)

## 10.413.1 DESIGN STANDARDS FOR SINGLE FAMILY ATTACHED DWELLINGS

### BACKGROUND

The popularity of single family attached dwellings (i.e. townhouse/rowhouse) has increased within recent years, offering a measure of affordable home ownership in a slightly higher density than exists for traditional single family detached housing. In the City of Gresham alone, 25 different developments in the 5 year period between 2002-2007 have created 438 single family attached units (per City of Gresham GIS data). This shows a growing demand for single family attached unit ownership. However, development standards for these unit types are currently minimal, focusing more on siting rather than architectural factors and appearances. The result has been a hodge-podge of designs which vary from very attractive to very simple.

Discussions by citizen groups, the Planning Commission and the City Council have determined that the quality of residential development directly affects livability and aesthetic values for Gresham residents. Improving the quality of single family attached dwelling development can be achieved through the introduction of site design and architectural standards. Since single family attached dwellings are one of the housing types identified as “needed housing” by the City of Gresham Comprehensive Plan (per ORS 197.303 and 197.307), design standards for these dwellings will need to be clear and objective. A discretionary review process (i.e. by a design review body) could be established for developer proposed deviations from clear and objective standards as part of a 2 tier review process.

As current standards for single family attached dwellings are different within the different residential and mixed-use districts, new architectural and design standards can also provide a measure of design consistency for single family attached housing projects throughout the City.

Although such standards should be applied in all land use districts where single family attached dwellings are allowed, they may be modified in the City's various Plan districts (Downtown, Civic Neighborhood, Pleasant Valley, and Springwater) in order to meet the purposes and objectives of those particular areas.

Design principles provide a connection between general planning goals and policies and implementing regulations and standards. The main purpose of design principles is to convey a

sense of preferred quality for a place. The design principles are the basis for clear and objective design standards. If a 2 tier review process is ultimately established, the design principles would provide the decision body the direction to make determinations in regards to proposed developments that desire a discretionary review. Design principles set forth key issues which can sharpen the scopes and concentrate the attentions of reviewers, designers and decision makers. Design principles are normally described by several sentences. Written information is usually amplified with graphics such as diagrams, sketches, illustrations, photographs or combinations of these elements.

Staff, in working with citizen groups and the Planning Commission, has identified a number of design principles that are appropriate for single family attached dwellings. These include:

- **Relationship to Street System**
  New single family attached dwellings should be accessible to the public street system. Public streets delineate individual lots and blocks in the City landscape. They provide a setting for social interaction and for public safety.

- **Common Setback Standards and Private Open Space**
  Standards should be consistent for districts with similar densities. Each unit should have a private space such as a deck or patio so as to maintain feelings of individuality and home.

- **Shared Open Space Standards for Complexes**
  Larger single family attached complexes are similar in scale and bulk to multi-family complexes and, therefore, should provide similar open space amenities. Open space areas promote a sense of place and tend to reduce the feel of density for residents.

- **Driveway Access**
  Driveway access should be from alleys where feasible so as to reduce conflicts with the street. Driveway access points should be staggered to allow for on street parking.

- **Pedestrian Walkways**
  Pedestrian walkways should provide on site access to open space areas and to the streetscape.

- **Building Design and Architectural Standards**
  Building design and architectural standards shall provide for flexibility in design and improved quality. Standards applicable to all single family attached dwellings should provide measures of consistency and certainty to designers, developers and decision makers.

- **Landscaping**
  Landscaping is to be provided to soften the bulk and scale of developments. Landscaping shall include the use and maintenance of living plant materials to add visual accents and color.

- **Service and Utility Areas**
  Service and utility areas should be to the rear of the project and be screened from the street or other public view.

- **Building Heights and Grade**
  Common building heights relative to allowed densities shall result in consistent application of height standards. Building heights shall consider site and street grades so as to maintain a relationship and similar scale to adjacent residential uses.

- **Light, View and Privacy**
  Building separations shall consider height transitions and orientation so as to maintain unit privacy areas, access to sunlight, and reductions in the intensity of scale and density.

**GOAL**

Promote quality in designs for single family attached dwelling projects which benefits the physical environment and aesthetic values of Gresham residents.

**POLICIES**

1. Single family attached dwelling development should be designed and constructed to produce high quality living environments.

2. Single family attached dwellings should fit into the context of existing neighborhoods, especially in terms of scale and existing land use patterns; especially important is to create residential neighborhoods with multi-modal transportation connections and opportunities for social interaction.
3. New single family attached dwellings should appropriately relate to their surroundings especially public streets, open spaces and recreation areas.

4. New single family attached dwellings should minimize shadow, blocked views and the potential for "overlook" onto or from adjacent properties, especially existing neighborhoods.

5. New single family attached dwellings should protect and enhance natural features such as mature vegetation, watercourses and wetlands, and provide adequate, usable, safe and high quality common open space.

6. The design of new single family attached dwellings should minimize the impacts of service areas (parking, loading and garbage service) on public streets, residents and existing properties.

7. New single family attached dwellings should be thoughtfully and aesthetically designed both in terms of building architecture and site development and landscaping.

8. Larger sized single family attached dwelling complexes should provide like amenities to multi-family complexes due to their similarity in bulk, scale and utilization.

## DESIGN PRINCIPLES

### 1. Relationship to the Street System

a. Avoid developing single family attached (SFA) projects that are isolated and not connected to the community.
b. Single family attached (SFA) development shall be accessible from the public street system.
c. Within land use districts that allow SFA development, housing units should face the non-arterial public street system.
d. Enhance and extend the local street network and pedestrian walkways to serve new SFA development.
e. All streets fronting SFA development shall be designed to allow on-street parking and adequate emergency vehicle access while considering other public safety and access needs.
f. Street design and site planning for new SFA development shall result in a logical and efficient development pattern that ensures resident privacy and public and private open space opportunities.

### 2. Common Setback Standards and Private Open Space

a. Adequate building setbacks shall be provided to ensure light access and privacy. Minimum setbacks allow for the creation of private open spaces in the form of front, side and rear yards.
b. Locate main façades of single family attached developments parallel to adjacent streets.
c. Each unit of a single family attached development shall be provided with a useable private open space area, such as a rear patio or rear yard. It should offer seclusion, as much as possible, from other residents, common open space areas, street traffic and pedestrians.
d. Each unit shall have adequate setback and space for landscaping between the public sidewalk and private home, a front porch or stoop, and an entryway.
e. Provide adequate front yard space to allow an entry, front stoop or porch and landscaping between the public sidewalk and the private dwelling.
f. Provide adequate separation between buildings both on the same site and in relation to those on adjacent properties so that crowding and shadowing do not occur. Unit privacy should not be negated by inadequate building separation.
g. Consistent setbacks for single family attached dwellings should be allowed City-wide except in those areas where higher densities are permitted (such as the Downtown Plan Districts and Civic Neighborhood Plan Districts).

### 3. Shared Open Space Standards for Complexes

a. Provide useable common open space to create accessible and safe on-site opportunities for passive and active recreation for all ages.
b. Incorporate attractive landscaping and site amenities throughout the development site to enhance development quality and livability.
c. Enhance opportunities for social interaction by providing opportunities for group gatherings and social recreation.
d. Create open space areas and landscaping to soften the urban environment, provide shade, buffering and screening and create pleasant places to rest and recreate.
e. Single family attached dwellings that are adjacent to public parks and open space areas may be planned to incorporate the use of and access to these public amenities into their design.
f. For single family attached dwelling developments adjacent to public parks or public open space (i.e. school yards, public trails), where the adjacent streetscape will not be negatively impacted (i.e. units with their side or backs to the street), units may be oriented toward the park or open space to allow views from residential units and to promote informal surveillance of the open space. This should not be permitted if the backs or sides of units would face the street.
g. Common Open Space Requirements should not be waived for protection of Water Quality Resource Areas or other Natural Areas. However, a reasonable amount of density may be transferred to the buildable portion of the project.

### 4. Driveway Access

a. New single family attached dwellings shall create an attractive and pedestrian oriented streetscape.
b. Garages and driveways shall not dominate the streetscape.
c. If driveways are located at the front of dwelling units, enough space between individual driveways should be provided to allow for adequate on-street parking.
d. If common, rather than individual parking areas are proposed, the General Design Standards for Surface Parking Lots (GDC Section 9.0800) shall be followed.
e. Single alleyways and private drives shall be screened from adjacent properties.

### 5. Pedestrian Walkways

a. Walkways need to provide residents with comfortable access to neighborhood streets and amenities. If a single family attached development is large enough to warrant common areas, a network of common walkways should link these areas.
b. Walkways shall be provided throughout the development so that easy, barrier-free access is provided to adjacent public streets, adjacent public uses and parking areas.
c. Walkways shall be designed to be easy to access, barrier-free, and with clear-sight lines.
d. Walkways shall be designed to consider the pedestrian's safety.
e. Walkways shall be visible from buildings to promote safety.
f. Design and locate adjacent buildings so that sunlight can access pedestrian walkways during midday.

g. Areas adjacent to walkways should be landscaped where feasible.

### 6. Building Design and Architectural Standards

a. Buildings should be architecturally interesting and attractive so as to create a sense of pride in ownership and provide a neighborhood identity.
b. Basic architectural standards shall be provided to ensure that elements which generate visual interest will be incorporated into building design.
c. A variety of architectural choices should be offered as a means to discourage dull and monotonous development while encouraging flexibility in design.
d. Reinforce the human scale of development and avoid buildings with long, monotonous exterior walls.
e. Accentuate the entryway of single family attached units to provide a transition zone from the private interior space to the exterior public streetscape and incorporate weather protection into its design.
f. Unless an alternative roof design is shown to be compatible with the surrounding neighborhood, dwellings shall have sufficiently pitched roofs in order to convey a residential character.
g. Balance expression of individuality of ownership with consistency along the streetscape
h. Corner buildings that have a façade facing each street shall reinforce or architecturally emphasize the prominence of the corner.

### 7. Landscaping

a. Provide adequate overall site landscaping to soften and balance the “hardscape” features of the development (streets, driveways, buildings, etc.).
b. Provide enough landscaping to create an attractive and comfortable front yard. Front yards serve as a semi-public transition between the street right-of-way and the private residence.
c. Use trees and other landscaping to provide shade and weather protection.
d. Provide vertical and horizontal landscape elements along all exterior walls to soften the visual impact of the building and promote the residential character of the site.
e. Coordinate space for tree planting with utility locations and other City infrastructure. Show utility locations on the landscape plan.
f. Include landscaping in common open spaces and along walkways so as to make pleasant places for children to play and create opportunities for social interaction.
g. Utilize landscaped yards, when feasible, to infiltrate stormwater, reducing the load on the public storm system during heavy storms and throughout the winter.

### 8. Service and Utility Areas

a. Solid waste collection areas and heating, ventilation, air conditioning (HVAC) and other electro-mechanical equipment should be designed into the building or screened such that they are not visible from the street or adjacent development.
b. Commonly shared loading, garbage/recycling and other services should be located so they do not negatively affect adjacent residences; screen with fencing and/or landscaping or integrate into the design of the building so they are not visible from the street, adjacent open spaces and neighboring residences.
c. Locate transformers, and heating, ventilation and air conditioning (HVAC) equipment at the rear of buildings when possible or ensure they are not visible from the street or other public space.

### 9. Building Heights and Grade

a. Building height and site grade should consider the relationship a development has with the street and adjoining property. High retaining walls should be avoided as they do not enhance the pedestrian environment.
b. Doorways should not be excessively elevated above or below the adjacent street grade so they lose their relationship to the street.
c. Buildings should attempt to use the existing or natural grade (ground level) in order to prevent them from being inordinately higher than adjacent dwellings.
d. Building height should take the context of surrounding developments into consideration and be of a scale so they can fit within residential neighborhoods without imposing a feeling of crowding.

### 10. Light, View and Privacy

a. Attention to the relationship between buildings that are situated on two sides of a street is important so that a long, tunnel-like streetscape isn't created.
b. Where lines of townhouses face each other, ensure adequate distance between the front facades to allow sunlight, views and room for private open spaces.
c. Orient and/or design buildings in a way that maintains the privacy of the rear yards of the units considering abutting residential properties, streets, alleys or open spaces.
d. Ensure that there is an adequate height transition or separation between new townhouse dwellings and adjacent development that may be of a reduced scale or density.

## ACTION MEASURES

1. Identify and assess methods that could be utilized to implement the design principles.

2. Provide an administrative development review process using clear and objective standards to implement the design principles identified above.

3. Create an illustrated design guide, to be used as a handout, to assist developers, designers, decision makers, and the general public, to understand the design review process and the

architectural and design standards for single family attached dwelling development proposals.

(Added by Ordinance 1648 passed 10/16/07; effective 11/15/07)

## 10.414 ECONOMIC DEVELOPMENT

### COMMERCIAL AND INDUSTRIAL GROWTH

### SUMMARY OF FINDINGS

The City of Gresham has been known as a "bedroom community" because the proportion of the region's labor force which resides in the community is 50% greater than the area's share of the region's job base. The city is unlikely to shed this relationship unless it is successful in recruiting target industries which have been identified as having growth potential in the Portland metropolitan area.

The city has many positive attributes which make the community a good location for new and expanding businesses. The area has a large, technically skilled labor force, a diversity of industrial and commercial sites, relatively low land costs, airport and light rail proximity, access to Mt. Hood Community College, and diverse recreational opportunities. The city, however, also exhibits weaknesses which include its location away from major markets in the eastern United States and Europe, negative development perceptions, limited transportation access to 1-84, and lack of community consensus for development.

In order to promote business retention and expansion and recruitment of new industries, the city must market its strengths and solve those weaknesses which can be resolved or reduced (Sections 4.700 to 4.743 - Findings document).

### POLICY I

### IT IS THE POLICY OF THE CITY TO PROMOTE DIVERSIFICATION OF THE COMMUNITY'S ECONOMIC BASE BY PROMOTING BUSINESS RETENTION AND EXPANSION, BUSINESS RECRUITMENT AND MARKETING.

IMPLEMENTATION STRATEGIES

1. The city will work with the community leaders, private firms, non-profit organizations, and other governmental bodies to develop a long range coordinated economic development plan which identifies the economic development objectives of the community and will:

    a. aid in the creation and maintenance of new employment opportunities;

    b. strive to improve, diversify and stabilize the economic base of the community; and,

c. aid in the effective utilization of the land, energy and human resources;

2. The city will maintain a set of development procedures that do not create barriers to economic development.

3. The city will provide pertinent socio-economic data to prospective developers.

# 10.500 THE POLITICAL ENVIRONMENT

## 10.510 INTERGOVERNMENTAL COORDINATION

### SUMMARY OF FINDINGS

Intergovernmental coordination is necessary to resolve urban problems which transcend local political boundaries and which require the application of the expertise of affected state and federal agencies. Air and water pollution, drainage management, solid waste management, public facilities and services programs and mass transit planning are examples of areas of municipal concern which necessitate intergovernmental coordination. Neighboring jurisdictions, state agencies such as the Department of Environmental Quality, the Metropolitan Service District, water districts and school districts are examples of governmental units with whom the city must coordinate to resolve common problems. (Section 5.300 - Findings Document).

### POLICY

It is the policy of the City to maintain effective coordination with local, state and federal governments and agencies, special districts and regional governments.

### IMPLEMENTATION STRATEGIES

1. The city shall coordinate its plans and programs with affected governmental units in the solutions to environmental quality problems, hazardous physical conditions problems, natural resource management programs, public facilities and services programming, transportation planning, annexation proceedings and other municipal concerns with intergovernmental dimensions.

2. Affected agencies will be provided an opportunity to review and comment on the city's community development plans and programs and, likewise, the city will seek to review and comment on similar plans and programs which affect the city.

3. In accord with the Urban Planning Area Agreement with Multnomah County, the city will notify the county of significant land use changes which affect the county's responsibilities.

4. The city will solicit input from service providers as to service availability and adequacy prior to issuance of Development Permits.

# 10.600 HOUSING

## Statewide Planning Goal 10: Housing

### BACKGROUND

#### Population, Housing Growth and Jobs / Housing Balance

The City of Gresham is the second largest city in the Portland Metropolitan Region. It has grown from a small rural community to a mid-sized city. In 1960 Gresham's population was about 4,000 persons. Today it is a city occupying about 12,165 acres of land with about 95,000 residents.

In the past both rapid in-migration and annexations of unincorporated Multnomah County lands in the late 1980's contributed to Gresham's rapid growth. Future residential growth will occur from development of remaining vacant land inside the City and redevelopment, primarily in the City's Regional and Town Centers and along major transportation corridors. Also new residential growth will occur on new lands Metro has added to the regional Urban Growth Boundary (UGB). This includes approximately 1,500 acres added to the UGB in 2000 directly south of Gresham. This area, called Pleasant Valley is expected to accommodate a future 5,000 residential units and about 5,000 jobs. Also, in 2004, the Springwater area, about 1,350 acres southeast of Gresham along Highway 26, was included in the UGB. Springwater is expected to mainly accommodate the City's employment needs through future industrial and ancillary office development. Up to 17,000 additional jobs are expected at build-out.

Even though Springwater is expected to be mainly a jobs center, several hundred residential units are planned on lands not suited for industrial/employment purposes due to topography and natural resource constraints. Housing in Springwater will provide residential opportunities for future workers and managers of area businesses**.** Build out of both Pleasant Valley and Springwater is anticipated by 2030.

Over the years, Gresham has developed primarily as a residential community. Compared to other jurisdictions and the Portland Metro region as a whole, Gresham has fewer jobs in proportion to its households. This is evidenced by the City's jobs to household ratio of 1.17 to 1 compared to a regional average of 1.7 jobs per household.

A low job to household ratio raises several issues. For example, many Gresham residents have to travel elsewhere to work. Gresham workers average one of the longest commutes in the region. This increases traffic congestion and air-pollution. Also, compared to other Metro area cities, Gresham's total, taxable, assessed property value per capita is one of the lowest in the region. Reliance on property taxes from a largely residential land use base limits Gresham's ability to provide needed municipal services. Other cities in the region have more diversified tax bases because they have proportionately more industrial and other employment related land uses.

Gresham is making a major effort to address its jobs and housing imbalance by planning Springwater area for industrial and other employment related development. Future development

in these two areas figures prominently in the City's future household and employment growth. The City estimates that future employment growth will increase faster than households. Therefore, in 2030 it is projected that Gresham will have 10,894 new households and 49,232 new jobs (all employment sectors). Total Gresham population in 2030 is expected to be about 130,000 people with an employment base of 88,000 jobs. If realized, this would result in a Gresham's jobs to household ratio of 1.86 to 1.

More detailed information of Gresham's residential land use characteristics can be found in Gresham's Residential Land Use Inventory, Appendix 6 – Volume 2, 2003 Periodic Review.

### Residential Land Use Characteristics[1]

Residential development is Gresham's primary land use. Within the City there are about 39,000 housing units that occupy over half (57%) of all developed land. Furthermore, the vast majority of tax lots in Gresham are occupied by residential land uses. The City is currently comprised of 26,012 separate tax lots that total about 12,200 acres. Tax lots currently zoned for residential and mixed-use development that allows residential development account for 25,531 tax lots (98% of total tax lots) and approximately 9,649 acres, or about 80% of the city's acreage.

One of the most striking trends of Gresham's residential growth has been the increasing growth of multi-family units. For example, in 2005 there were about 21,000 single-family and 18,000 multi-family units in the city - a ratio of about 54% to 46%. Comparatively this ratio was 63% single-family to 37% multi-family units in 1986. This has occurred even though lands designated for multi-family and mixed-use development comprise a very small portion, 10%, or 1,156 acres of the city's total residential land.

Most of the residential land inside Gresham has been developed. There are about 1,100 acres of vacant residential land currently remaining inside the City limits. However, less than half, about 450 acres, is considered buildable. Lands are considered unbuildable when they are constrained by environmental factors and ownership, such as land owned by school districts, churches, fraternal organizations, etc. Most of the vacant residential land is found in the Low Density Residential (LDR) District. This currently comprises about 300 acres. The mixed-use districts and a small amount of multi-family (apartment) designated land account for the remainder.

In addition to the vacant and unconstrained residential land some future residential development might occur on about 116 acres of underutilized land. These are parcels that are developed, but have an undeveloped portion of one-half-acre or more in size. This makes it possible for these parcels to accommodate further development.

Furthermore, there is considerable nonconforming development within residential districts. These properties could be redeveloped for their allowed residential uses. For example there are currently 690 parcels accounting for approximately 238 acres of land that are zoned for multi-

[1] The numbers and percentages presented in this overview are estimates of current conditions. A detailed inventory of residential land and its characteristics was completed in 2003, but substantial single and multi-family development has occurred since then. It is expected as time goes on that developable land will become scarcer inside Gresham and the numbers quoted in this report will change.

family uses but currently have a single-family dwelling on them. This makes it possible, when market conditions are right, to consolidate tax lots and redevelop them at higher densities. Also, approximately 2,500 acres, about 26% of the city's residential and mixed-use land, is occupied by other kinds of nonconforming land uses. Redevelopment to residential uses could occur when market conditions are right. These nonconforming uses include commercial and community service land uses, open space and some under-utilized public rights of way.

As mentioned previously, a significant trend has been the growing proportion of multi-family[2] units compared to single-family homes. Multi-family units/apartments have increased substantially in Gresham over the last 15 years.

Today because of this rapid growth, there is a relatively small amount of vacant multi-family land in the city compared to a decade ago. Currently, less than 100 acres of designated multi-family land remains undeveloped. This comprises about 115 parcels. Once environmental constraints are considered, the total number of developable acres declines to about 65 developable acres. This includes very few large parcels, which could accommodate larger multi-family only projects.

The above factors, lack of large developable parcels, underutilized properties, non-conforming uses, etc will likely result in a greater amount of residential infill and redevelopment than has been experienced in the past. Typically, infill development and redevelopment are more complex and have more planning and design issues than developing greenfields. The exception will be in Pleasant Valley and portions of Springwater where large–scale greenfield developments will be subject to specific annexation and master-planning requirements.

### The City's Land Use Planning Program and Affordable Housing

The City of Gresham and other Metro jurisdictions are subject to Title 7 of the Metro Regional Functional Plan (adopted 2001). Title 7 requires jurisdictions to voluntarily attempt to achieve regional affordable housing goals. Each of the region's 27 jurisdictions accepted a Regional Affordable Housing Strategy (RAHS), which they committed of their own accord to implement. For example, each jurisdiction was to consider several land use strategies intended to reduce barriers to the production of affordable housing. This included tools such as allowing accessory dwelling units, reducing permit and utility fees charges, system development charge abatements, adopting inclusionary zoning, etc. The City of Gresham has complied with Metro's requirements by "considering all the required land use strategies". Some, but not all, of these measures have been adopted.

Gresham's housing stock is generally more affordable than that of many jurisdictions in the region. From this perspective, it is important to note that the median price for single-family homes in Gresham in 2005 was about $165,000. At current interest rates, homes beginning at this price and lower are affordable to families making 51% to 80% of median family income.[3]

[2] Multifamily housing units are defined as apartments and manufactured homes in parks and a small percentage of "other" housing types. The defining characteristic of multifamily housing is more than one unit on a single tax lot. Single-family units include attached single-family row houses built on their own lots.
[3] Based on 80% of 2005 FHA Mortgage Limits

Apartments in Gresham are also generally more affordable than elsewhere in the region. A survey was conducted in 2005 of the average rents of both new and older apartments. This study found that average rents were, per HUD limits, "affordable" to persons at 60% of median-family income. In view of the large number of apartments in Gresham, it was found that the city exceeds its Regional Affordable Housing Share benchmarks in the 51 – 80 % median family income categories.

However, like many other Cities, Gresham has not kept pace with its RAHS five-year "production goal" of 556 units for persons below 51% of MFI. The reason is the amount of public subsidy required. The total cost of this amount of housing is probably in excess of $30 million.[4] Even though the City of Gresham is a Federal Entitlement Jurisdiction, and receives CDBG and Home Funds, it does not have the resources to address the scope of need.
Per state and federal law, Gresham's land use program places no barriers to the development of affordable housing of all types. Those who administer the City's land use policy and development program work directly with the City's Community Revitalization Section, the Housing Authority of Portland and private providers, to ensure Gresham residents have access to affordable housing opportunities

However, it is likely that Gresham will have to consider several land use related affordable and special needs housing issues in the future. Among these is the need to promote the rehabilitation/ redevelopment of the City's aging apartments and single-family homes.

### State and Metro Housing Requirements

Metro and Statewide Planning Goal 10 and its Metro Housing Rule establish the statutory framework within which Gresham implements the housing element of its land use-planning program.

**Statewide Planning Goal 10:** Statewide Planning Goal 10 directs jurisdictions, "to provide for the housing needs of the citizens of the state." The Goal states that, "*buildable lands shall be inventoried and Plans shall encourage the availability of adequate numbers of needed housing units at price ranges and rent levels, which are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type and density.*"

Gresham completed Periodic Review of its Comprehensive Plan and implementing land use program in 2004. At that time, the state acknowledged that the City's plan and implementing measures were consistent with the requirements of the Statewide Planning Goal and administrative rules.

**Goal 10 Metropolitan Housing Rule**: In addition to the general requirements of the Goal, the City must be in compliance with state administrative rules pertaining to housing. The applicable administrative rule is OAR 660--007--0000, Division 7, Metropolitan Housing. The rule requires that larger Portland area and jurisdictions such as Gresham:

[4] Andree Tremoulet; First and Second City of Gresham Annual Reports to Metro – Concerning Implementation of Title 7, Functional Plan Requirements

- Provide the opportunity for a net density of 10 units an acre with the opportunity for a 50-50 mix of attached and detached units[5].
- Provide clear and objective approval standards for needed housing. These standards must not have the effect of discouraging needed housing through unreasonable cost or delay[6].
- Apply specific land use plan designations for residential uses.
- Not impose any restrictions on housing tenure that restricts the construction of either rental or owner occupied housing, unless such restriction is justified by an analysis of housing need according to tenure or otherwise demonstrate that such restrictions comply with ORS 197.303 (a) and ORS 197.490.
- Conduct a buildable residential lands inventory that documents the amount of buildable land in each residential plan designation.

**The Metro Regional Functional Plan (Title 1):** Title 1 of the Metro Functional Plan requires Metro area jurisdictions to provide the opportunity for a specific number of new housing units to be developed within their boundaries. In 1996-97 following an extensive redesignation of land to higher densities, Gresham agreed with Metro to provide a target of 16,817 new units within its existing boundaries for the period 1994-2017 Another 5,000 units, for total of 21,817, was added latter to take into account the future development of Pleasant Valley. The timeframe was extended to 2020.

Metro has also established several "design types" for the region. Metro requires general conformance to the design types designation to achieve the urban form goals of the Region 2040 Plan. Design type designations require the opportunity for specific number of residential units, population or job numbers to be accommodated in areas such as transit corridors, single-family residential neighborhoods, employment areas, regional centers, neighborhood centers, etc.

Gresham has accommodated more than one half of its housing targets for land inside the City. Much of this development occurred on vacant residential land. The assumption when the City's Housing Capacity Report was developed in 1998–99 was that mixed-use housing, both new construction and redevelopment within corridors, regional and town centers would accommodate a significant amount of the housing target. However, this housing type has not yet developed to the extent that it contributes significantly to Gresham's overall housing stock.

### Future Issues Population and Housing Growth

[5] In Gresham's case, its land use program provides the opportunity for development to occur at a density of 14.5 units per acre and with a 62.5—37.5% mix of attached versus detached units.

[6] Needed Housing is defined by the rule as those housing types determined to meet the need for housing within an urban growth boundary and a particular price range or rent levels. Types of housing included by the definition include attached and detached single-family housing and multiple family housing for both owner and renter occupancy; government assisted housing; mobile home or manufactured dwelling parks; manufactured homes on individual lots in addition to those within designated manufactured dwelling subdivisions.

In 1998 the City established the basis to achieve its impressive housing target numbers by changing land use designations, particularly single-family residential, to higher densities. After this, Gresham agreed with Metro on its 1994 – 2017 housing target numbers. This and other related land use policy actions have caused significant concern among many in Gresham. Many are concerned with issues such as the design quality and character of new development, land use compatibility problems with existing single-family residential neighborhoods, traffic congestion and safety issues, and the view that City services cannot keep up with growth.

In March 2004, the City Council appointed an ad-hoc Community Land Use Task to focus on Land Use Issues of broad community concern. Council directed the Task Force to present recommendations to address its findings. After meeting for several months the Task Force presented Council with several proposals to address land use related issues.

The City is now engaged in a long term planning effort to implement the following and other recommendations intended to improve the City's quality of life:

- Greater choice for those seeking single-family residential housing including larger single-family lots;
- Site and building design standards, especially for infill development, and other measures to ensure compatibility between existing neighborhoods and dissimilar residential and other land uses;
- Improved tree protection, landscape and streetscapes standards;
- Habitability standards to improve the quality of existing rental housing;
- Improved design standards for multi-family and attached single-family housing;
- Actions to ensure more cohesive and livable residential neighborhoods.

## SUMMARY OF MAJOR ISSUES

- There has been rapid residential growth in Gresham during the past twenty years. The City has grown from a small rural community to a mid-sized suburban City. A significant characteristic of residential growth has been the substantial increase in the growth of multi-family housing.
- Gresham has developed as primarily a residential City. Many residents commute to jobs elsewhere in the region. Consequently, the City has much lower jobs to household ratio than the region's overall average and other Metro area jurisdictions.
- Most easily developable residential land within the City limits has been built on. There are very few large single and multi-family parcels remaining. There will be more residential development on harder to develop infill properties and underutilized land. The most significant large-scale residential development will be in the Pleasant Valley and Springwater urban growth areas.
- Gresham complies with Metro Functional Plan Title 1 and Statewide Planning Goal 10, Housing Requirements. However, mixed-use housing, a substantial part of the City's

projected housing growth has not materialized. Progress in meeting the City's Metro Housing target has occurred primarily through development of more easily developed, vacant residential land.

- Gresham exceeds the state requirements to provide the opportunity for development to occur at a 50-50 mix of attached and detached dwelling units and at a density of 10 units an acre. Gresham provides the opportunity for density to occur at 14.5 units an acre and at a 62.5 -37.5 mix of attached / detached units.
- Gresham provides substantial low and moderate-income market rate housing. However, like other jurisdictions, the largest assisted housing need is for those persons with incomes below 51% of median-family income. This type of housing requires a very high level of public subsidy, much beyond the capacity of the City.
- Gresham's land use program provides opportunities to develop the full range of assisted and community service housing to meet the needs of persons with low incomes and special needs.
- Many citizens have expressed concerns about residential land use. Many of these issues focus on land use changes that occurred in the mid and late 1990s that increased density. The City Council has received several recommendations from its Community Land Use Task Force regarding ways to promote quality development and preserve neighborhood quality. Council has directed staff to bring it land use policy and code amendments that address these matters.

## GOAL, POLICIES AND ACTION MEASURES

### GOAL

Ensure adequate quality housing for existing and future Gresham residents.

### POLICIES

1. The City shall protect and enhance the quality and integrity of its residential neighborhoods.

2. The City shall designate adequate lands, and make available land use processes to provide opportunities to develop a variety of housing types in locations and at densities consistent with its goals.

3. The City shall encourage housing development opportunities by promoting the development of quality, low-density single-family residential development.

4. The City shall promote housing development and design innovation and quality through methods such as planned residential development and master planning standards.

5. The City shall require multi-family and other attached housing development to conform to community design and development standards.

6. The City shall provide for high and medium density housing in areas such as Centers and Corridors, where public and private services and economic activity necessary to support higher population densities, are either present or planned for in the future. Public and private services and activities include but are not limited to transportation, employment, commercial services, entertainment, and recreation.

7. The City shall seek to disperse high-density housing by focusing on areas where services, jobs and transportation facilities are present or planned to support high population densities, with an emphasis on new centers.

8. The City shall ensure that residential densities are appropriately related to locational characteristics and site conditions, including existing land use patterns, topography, transportation and public facilities, natural hazards and natural resources.

9. The City shall require measures to mitigate adverse impacts from differing adjacent land uses (noise, traffic, visual aesthetics and glare from outdoor lighting, etc.) on residents of new residential development. The City shall require measures to mitigate negative impacts of more intense residential projects on less dense neighborhoods and established residential development through means such as:

    a. Orderly transitions from one residential density to another such as lot-size compatibility standards,

    b. Protection of existing vegetation and natural resources, provision of open space, and

    c. Installation of effective buffering and screening.

10. The City shall require infill development to incorporate features that make it compatible with existing neighborhoods.

11. The City shall regulate home occupations to prevent adverse impacts on residential areas.

12. The City shall allow accessory dwelling units within appropriate residential districts, but will also ensure through appropriate standards that these uses do not change the character and quality of residential neighborhoods.

13. The City's land use program shall provide development opportunities to meet the needs of persons requiring specialized housing such as the aged and those requiring care for disabilities. The scale, design, intensity and operation of this kind of housing shall be compatible with other land uses and located in proximity to supportive community services and activities.

14. The City's land use program shall be consistent with applicable state and federal laws pertaining to housing.

## ACTION MEASURES

1. Ensure the City's housing and employment policy objectives are addressed at the regional level by working with Metro and other agencies and jurisdictions in development and allocation of regional housing and employment projections and subsequent changes in the regional urban growth boundary.

2. Work with property owners to develop viable economic uses of deteriorated, vacant or underdeveloped high-density residential properties.

3. Evaluate existing single-family residential development that has been designated for future high and medium density land uses to determine the reasonableness of its future conversion to these uses. If determined that redevelopment is unlikely, consider applying residential land use designations that fits the existing residential development pattern.

4. Promote the habitability and quality of existing housing stock through means such as effective code enforcement and code violation follow-through, habitability standards, rental licensing, inspection, etc.

5. Provide for logical and aesthetic transitions in land use patterns between new development and existing residential lands.

6. Encourage the use of site and building design considerations for housing development adjacent to differing land uses such as use of construction methods and building materials to reduce noise; visual screening and buffering, modulation of building bulk and scale, building placement and orientation, tree preservation, landscaping, lighting, etc.

7. Encourage use of site planning and building design methods for residential developments proposed adjacent to major streets to enhance livability, such as appropriate setbacks, buffering and screening, noise mitigation, building orientation, landscaping etc.

8. Reduce compatibility problems between different residential densities by utilizing methods such as buffering and screening, increased setbacks, landscaping and modulating building bulk and scale.

9. Develop regulations, standards, educational tools and incentives to induce property owners to maintain residential property to prevent blight and promote safe and healthy living environments.

10. Support the integrity of the City’s land use program by developing and enforcing codes and regulations to abate public health and safety problems associated with residential dwellings being used for unlawful purposes.

11. Develop land use regulations for non-traditional housing such as homeless housing, transitional housing, shelters, convalescent care, hospice, etc.

12. Develop standards, regulations and incentives to induce property owners to redevelop deteriorated, marginally habitable residential properties to more viable economic uses.

13. When updating City fees, charges, regulations and procedures, consider ways to promote housing affordability including ways to reduce costs for special needs housing.
14. The City will work with housing providers to promote ownership housing opportunities in areas where there is the need to support community stability.

15. The City will work with housing providers to assure its land use regulations facilitate the rehabilitation and redevelopment of deteriorated residential properties.

16. The City will continue to support housing affordability, special needs housing, ownership opportunities and housing rehabilitation through its CDBG and HOME program and in conjunction with neighboring jurisdictions and agencies such as Multnomah County Housing Consortium and its Consolidated Plan.

(Amended by Ordinance No. 1620 passed 2/21/06; effective 3/23/06)
(Added by Ordinance No. 1442 passed 5/5/98; effective 6/4/98)

# 10.700 PLEASANT VALLEY PLAN DISTRICT

## STATEWIDE PLANNING GOAL 14: URBANIZATION

*"To provide for orderly and efficient transition from rural to urban land use."*

### INTRODUCTION

In summer, 2000, the City of Gresham in partnership with Metro, the City of Portland, Clackamas and Multnomah Counties, and others, embarked in planning for a new urban area – Pleasant Valley. Pleasant Valley was added to the region's urban growth boundary (UGB) in December 1998 to accommodate forecasted population for the region. It is 1,532 acres located south and east of the current city limits for Gresham and Portland.

Agricultural and rural residential are the most widespread existing uses in Pleasant Valley. There were 226 dwellings and a population of 800 in 2000. Other uses include a grade school, a grange building, a small convenience store, and a church. The site encompasses the Kelley Creek Basin, an extensive system of creeks and wetlands and a major tributary to Johnson Creek. Johnson Creek is a free-flowing creek in the metropolitan region with natural, historical, and cultural significance. The existing transportation system was designed primarily to serve the farm-to-market needs of the agricultural uses that once occupied the valley. There are no public water, wastewater, or stormwater facilities. There are no public parks or trails.

New urban areas must be brought into a City's comprehensive plan prior to urbanization with the intent to promote integration of the new land into existing communities. Planning efforts began with the Pleasant Valley Concept Plan (PVCP) project.

In May 2002, the PVCP Steering Committee endorsed the Concept Plan and a set of implementation strategies. The central theme of the Plan is to create an urban community through the integration of land use, transportation, and natural resource elements. Gresham, Portland, and Metro councils, and Multnomah and Clackamas county commissions, by adopting a resolution at a public meeting, accepted the Concept Plan and resolved to use it as the basis for developing implementing regulations and actions.

In the fall of 2002, Gresham and Portland started the Pleasant Valley Implementation Plan (PVIP) project with a purpose to draft a report document as a "bridge" between the PVCP and final ordinances and intergovernmental agreements that may be adopted by Gresham and Portland in 2004. In February 2004, the Advisory Group endorsed the PVIP report as being consistent with and carrying out the PVCP.

Gresham and Portland adopted a revised Intergovernmental Agreement in March 2004. The cities have agreed to adopt similar policies and code and have reached an agreement that Gresham will eventually serve 1,242 acres and Portland 290 acres.

An extensive planning process has resulted in the Pleasant Valley Plan District. The Pleasant Valley Plan District will fulfill the goal that resulted from the planning process to create a quality living environment, with a sense of place that is unique to Pleasant Valley. To achieve this goal,

the Plan District will implement compact mixed-use neighborhoods, a town center, neighborhood edges and centers, a variety of housing options, transportation alternatives, pedestrian friendly urban design and the integration of the natural environment into the design of the community. Critical to the sense of place in Pleasant Valley is the valley's natural resources and extensive network of streams and wetlands. The Plan District will allow the valley to develop in such a way that minimizes impact on these natural features, while allowing these features to enhance the built environment.

What follows are goals, policies and action measures for each of the major land use elements that make up the Pleasant Valley Plan District. Endorsed by the Steering Committee and refined during the Implementation Plan phase, these statements focus on the key concepts and policy directions for subsequent regulations and implementation efforts to realize the Plan District to provide for an orderly transition of Pleasant Valley from rural to urban uses.

## 10.701 URBANIZATION STRATEGY AND LAND USE PLANNING

### BACKGROUND

The Metro Council brought the Pleasant Valley area into the Urban Growth Boundary (UGB) in December 1998. When land is brought into the UGB Title 11 of the Metro Urban Growth Management Functional Plan requires that the added territory be brought into a city's comprehensive plan prior to urbanization with the intent to promote the integration of the new land into existing communities.

Title 11 requires a series of comprehensive plan amendments including maps that address provisions for annexation; housing, commercial and industrial development; transportation; natural resource protection and restoration; public facilities and services including parks and open spaces; and schools.

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary planning goals was developed as part of this process. The goals addressed a town center, housing, transportation, natural resources, neighborhoods and schools. The introductory paragraph stated:

> *The Pleasant Valley Urban Reserve area is a beautiful valley surrounded by lava domes in the southeast portion of the Metro region. It has slowly evolved into a rural residential area over the last 30 years, largely displacing the agricultural uses that once occupied the valley. Now urban development has reached the borders of this community, and rapid and substantial change is in this area's immediate future. As the area is planned for urbanization, the primary goal is to create a place rather than a carpet of subdivisions. To accomplish this, the unique attributes of this area need to be identified and protected, and the limits to development in the area respected. Importantly, the future town center needs to be sized and located in a manner appropriate to the area, and help define the emerging community that will evolve in this area.*

In December 1998, Gresham and Portland jointly adopted an Intergovernmental Agreement (IGA) regarding Pleasant Valley. The IGA concerns provisions for creating a plan, future annexations and future provisions for urban services. The IGA provides the Gresham and Portland coordination in creating an urban plan. The goals mentioned above were attached to the IGA and are to be considered when creating the urban plan. The IGA also provides that no urban zoning be applied until the urban plan was adopted by Gresham and Portland and approved by Metro.

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The goal for urbanization was:

> ***Create a community***. *The plan will create a "place" that has a unique sense of identity and cohesiveness. The sense of community will be fostered, in part, by providing a wide range of transportation choices and living, working, shopping, recreational, civic, educational, worship, open space and other opportunities. Community refers to the broader Concept Plan area, recognizing that it has (and will have) unique areas within it. Community also refers to Pleasant Valley's relationship to the region – relationships with Portland, Gresham and Happy Valley, Multnomah and Clackamas counties, and the unique regional landscape that frames Pleasant Valley.*

In the alternatives evaluation process, the "Create a Community" goal was used as a way to coordinate and integrate the best attributes of the alternatives. The "Create a Community" goals was the vision that guided the guided the developed of a "hybrid" alternative and ultimately the Steering Committee's preferred Concept Plan.

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary, the central theme of the plan is to create an urban community through the integration of land use, transportation and natural resource elements.

*Key features of the Concept Plan are:*

- A mixed-use town center as the focus of retail, civic and related uses.
- A new elementary school and middle school located adjacent to 162nd Avenue.
- The location of major roads away from important historic resources and "park blocks" that connect the town center to the historic central section of Foster Road.
- A framework for protection, restoration and enhancement of the area's streams, floodplains, wetlands, riparian areas and major tree groves through the designation of 461 acres of the valley as "environmentally sensitive and restoration areas" (ESRAs).
- Designation of a "neighborhood transition design area" adjacent to the ESRA so that neighborhood development is compatible with adjacent green corridors.

- A "green" stormwater management system intended to capture and filter stormwater close to the source through extensive tree planting throughout the valley, "green" street designs, swale conveyance and filtration of run-off, and strategically placed stormwater management facilities.
- Nine neighborhood parks dispersed throughout and a 29-acre community park centrally located between the utility easements north of Kelley Creek.
- A network of trails including east-west regional trails paralleling Kelley Creek and north-south regional trails following the BPA power line easement. A reorganization of the valley's arterial and collector street system to create a connected network that will serve urban levels of land use and all modes of travel.
- Re-designation of Foster Road from arterial to local street status between Jenne Road and Pleasant Valley Elementary School. The intent is to preserve the two-lane tree-lined character of Foster Road and to support restoration efforts where Mitchell Creek and other tributaries flow into Kelley Creek.
- A network of transit streets that serve three mixed-use centers and seven nodes of attached housing.
- A variety of housing organized in eight neighborhoods. The variety includes large-lot, medium-lot and small-lot single-family homes, townhomes, apartments, condominiums and senior housing.
- Planned housing that is 50 percent attached, 50 percent detached and has an overall density of 10 dwelling units per net residential acre. The estimated housing capacity is 5,048 dwellings.
- Two 5-acre mixed-use neighborhood centers.
- Employment opportunities in the town center, mixed-use employment district, general employment district and in home-based jobs. Employment capacity is estimated at 4,985 jobs, with a job to housing ratio of .99:1.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in an urban plan for land uses in Pleasant Valley:

***Compact and Mixed-Use Neighborhoods.*** Pedestrian communities should have stores, offices, homes, and parks placed close to each other. The physical components of an ideal pedestrian neighborhood are:

- A five to ten minute walk (¼ to ½ mile walk) from the center to the edge defines the boundaries of a neighborhood. This time and distance is comfortable for the average American. Neighborhood residents should be within walking distance of many of their daily needs, such as a convenience store, ATM, transit stop, day care and a community police office.

- There is a balanced mix of activities with places to live, shop, work, worship, learn and recreate. Proximity of daily destinations and transit can reduce the number and length of auto trips. Those that can't drive but can walk (or bike), such as the young and the elderly, are able to be active in their neighborhood.

***Neighborhood Edges and Centers.*** Neighborhoods should have edges and centers. The edge of a neighborhood marks the transition from one neighborhood to another. The edge might be a natural area or a tree-lined arterial street. Schools, bus stops and other uses located at the edge are shared by neighborhoods. The neighborhood center is the main gathering place. Neighborhood centers could consist of a combination of any of the following:

- A public space such as a neighborhood or community park.
- Plazas within developments to create a public realm, instead of just a parking lot.
- An important intersection with pedestrian improvements.
- Civic neighborhood institutions such a meeting hall or a day care center would be located at the center.
- Shops and especially mixed-use buildings can be located around a plaza.

In centers, public spaces are given priority. Public spaces and public buildings are a source of community identity. The structure of streets and blocks, and the resultant location of public spaces and buildings can create special places. The importance of the public realm can be enhanced by its location without increasing the additional infrastructure costs.

***Variety of Housing Options.*** Communities should have places for people of all ages and incomes to live. This can be made possible by locating different dwelling types in the same neighborhoods and even on the same street.

- Locate dwelling units in relation to public spaces and infrastructure. A variety of housing types can include small apartments, row housing, housing over shops, live/work studios, co-housing (clustered housing project in which certain common areas such as dining rooms are shared), small lot housing, and larger lot housing.
- Accessory dwellings (i.e., secondary suites or granny flats) can increase affordable housing opportunities both for the person renting a unit and the homeowner paying a mortgage.

***Increasing Transportation Options.*** Every community should provide transportation alternatives, such as transit service, bicycle lanes and sidewalks. Transit provides necessary mobility for those who can't drive – because they are too young, too old, disabled, or can't afford a car. Transit also provides a more energy efficient and less polluting alternative to a car trip. The ability for adults and children to safely ride a bicycle or walk is also important.

- All new development should be designed with transit in mind. Transit (buses or even light rail) may be planned but not immediately implemented until well after development occurs. Land use patterns should lead transit service planning, rather than retrofitting a developed area to be served by transit.

- Public transit is only feasible when dwellings and jobs are concentrated near transit lines. A walkable, mixed-use neighborhood within walking distance of a transit stop makes it convenient for residents and employees to travel by transit, bike, foot, or car.
- Focusing development into pedestrian-oriented patterns that can be served by transit can be part of the strategy to preserve open space/natural resource areas.
- New development should be bike friendly, so that this method of transportation is safe – especially for children.

***Provide Buildings that are Pedestrian Friendly.*** By presenting a friendly face to the street, individual buildings can contribute to a safer, more conducive walking environment.

- Rear alleys can allow housing and commercial buildings to be closer to the street with parking at the rear.
- Planting many shade trees along streets is easier when driveways are not present. Trees provide a number of benefits including a more interesting urban design, place setting, stormwater management, and energy (shading) conservation.

***Incorporate the Natural Environment into the Design of the Community***. Critical to the "sense of place" in Pleasant Valley is the extensive network of streams and wetlands. It is critically important to develop the valley in such a way to minimize impact on these natural features, while at the same time using the presence of features to enhance the built environment. This can be accomplished in the following ways:

- Use the area adjacent to streams and wetlands to create a multi-use trail system that creates a pedestrian and bicycle pathway linkage system.
- Design neighborhoods to incorporate existing natural features to enhance the aesthetic environment while minimizing impacts.
- Design the roadway system to minimize impact on natural resources. Provide additional neighborhood level connectivity with pedestrian connections, such as bridges.

***Plan District.*** Gresham and Portland provide for Plan District approach when there are unique conditions within a specific area that require a unique approach rather than a generalized citywide zoning approach. The Plan District designation must be based on a study or plan that documents those unique conditions and the measures that address the relevant issues. Proposed policies, procedures, development standards and other measures need to be consistent with the study/plan and with the city's comprehensive plan.

## GOALS

1. Pleasant Valley will be a complete community with a unique sense of identity and cohesiveness.

2. Pleasant Valley will have a wide range of transportation, living, working, recreation, and civic and other opportunities.

## POLICIES

1. The Pleasant Valley Concept Plan Map and Implementation Strategies will provide the blueprint for local jurisdictional adoption of comprehensive plan amendments and implementing measures for future urbanization.

2. Pleasant Valley will be master planned as a complete community. A complete community has a wide range of transportation choices; of living choices; of working and shopping choices; and of civic, recreational, educational, open space and other opportunities.

3. Pleasant Valley will have full public services to include transportation, stormwater management, water, wastewater, fire and police services, recreation, parks and connected open spaces and schools.

4. Urbanization of Pleasant Valley will carefully consider its relationship to adjoining communities as annexations and extensions of public facilities occur.

5. Urbanization of Pleasant Valley will carefully consider and enhance its relationship to the unique regional landscape that frames Pleasant Valley.

6. Urbanization will be guided by a Pleasant Valley urban services and financial plan that will ensure that annexation, service provision and development occur in a logical and efficient manner and that major public facilities are provided at the time they are needed.

## ACTION MEASURES

1. Establish a Plan District for Pleasant Valley. A Plan District designation provides a means to create unique zoning districts and development regulations that address the specific opportunities and problems identified in the Pleasant Valley Concept Plan.

2. Establish the new Plan District Zoning Classifications based on the Concept Plan guidelines in the Town Center, Housing, and Employment and other sections found in these Pleasant Valley Concept Plan Implementation Strategies.

3. The Pleasant Valley Plan District will allow for unique planning and regulatory tools that are needed to realize the Pleasant Valley Concept Plan.

4. Establish a strategic plan for urban services and financing infrastructure. The plan will include a phasing plan, i.e., identifying a logical sequence for phased annexations, development of public infrastructure and delivery of public services as urbanization occurs. This strategic plan will also include a provision for providing major public facilities at the time they are needed. “Major public facilities” will be defined in this process and be based on the details provided in the water, wastewater, stormwater and transportation reports.

5. Create a set of new development standards for the design of land use types and the transition and compatibility of these land uses down to the block level based on the Pleasant Valley Concept Plan map and implementation strategies.

## 10.702 TOWN CENTER

### BACKGROUND

The Metro Council designated a town center within Pleasant Valley on the Region 2040 Growth Concept map when Pleasant Valley was brought into the Urban Growth Boundary (UGB) in December 1998. New town centers are expected to accommodate retail and service needs of a growing population while reducing auto travel by providing localized services to residents within a two to three-mile radius.

Region 2040 town centers can and should be different but do share some general characteristics:

- The guidelines for density are 40 persons per acre.
- Good transit service and, because of their density and pedestrian-oriented design, play a key role in promoting public transportation, bicycling and walking as viable alternatives to the automobile.
- Include not only employment and shopping, but also housing.
- Provide citizens with access to a variety of goods and services in a relatively small geographic area, creating an intense business climate.
- Act as social gathering places and community centers, where people find the cultural and recreational activities.
- Overall town centers function as strong business and civic communities with excellent multi-modal arterial street access and high-quality public transportation with strong connections to regional centers and other major destinations.

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary planning goals was developed as part of this process. A preliminary goal for a town center included these elements:

- Focus of retail and other public and private services serving this community.
- Village atmosphere through a mix of land uses.
- Sized carefully to limit the amount of traffic attracted into this area from outside the community.
- Excellent pedestrian facilities and amenities to facilitate walking throughout and from adjoining areas.

- Average building two stories developed in a compact form around a grid of streets with on-street parking.
- View corridors from surrounding hillside properties considered in the design.
- Residential areas adjacent to the town center a focus for the higher density housing options in the area.
- Includes open space.
- Developed to protect watercourses and sensitive environmental areas.
- In a single city jurisdiction.

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The goal for town center was:

> ***Create a town center as the heart of the community****. A mixed-use town center will be the focus of retail, civic, and related uses and services that serve the daily needs of the local community. The town center will be served by a multi-modal transportation system. Housing will be incorporated into mixed-use buildings and/or adjacent apartments and town homes. A central green or plaza will be included as a community gathering space. Streets and buildings will be designed to emphasize a lively, pedestrian-oriented character for the town center. The town center will have strong connections to adjacent neighborhoods, and commercial services that are centralized and convenient to pedestrian-oriented shopping.*

Two Town Center Focus Sessions were held during the development of the Pleasant Valley Concept Plan. The purpose of the first session was to assess the nature and extent of a future Pleasant Valley town center. The purpose of the second session was to discuss important attributes of a future Pleasant Valley town center and to evaluate four town center configurations developed in the design charrette planning process. These focus sessions were hosted by the Pleasant Valley Concept Plan Land Use work team and facilitated by project staff. Participants included commercial real estate professionals and planning professionals as well as citizen advocates. Through the course of the focus session's participants identified major issues critical to ensure the economic and design success of a town center.

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary, the Pleasant Valley Concept Plan town center is intended to be the civic and commercial heart of the Pleasant Valley community – a place to shop, get a cup of coffee, greet neighbors and visit the local community center. Primary uses include retail (anchored by a grocery store), offices, services and civic uses. A range of higher density housing types will be allowed as part of a mixed-use development.

Selected characteristics of the town center include:

- An east-west main street connecting 172nd Avenue to the community park. This street will have two travel lanes, on-street parking, wide sidewalks and pedestrian amenities.
- A centrally located plaza or community green.
- An overall "village feel" with buildings oriented to streets, generally two- to three-story building heights, storefront character along key streets and extensive pedestrian amenities.
- Access and circulation designed in a logical grid of streets.
- Park blocks extending from Kelley Creek and terminating at the plaza, a key building or intersection within the town center.
- Street and place names that link the center to the cultural and natural history of Pleasant Valley.

The mixed-use employment area north and west of the town center is intended to provide employment opportunities and other uses that are compatible with, and support, the town center. Primary uses shall include offices, services and small retail. Housing will be allowed within a mixed-use building.

*Selected characteristics of the mixed-use employment area include:*

- Buildings can be up to three stories high.
- This district is intended to have buildings oriented to streets and pedestrian amenities. These characteristics will help reduce the impact of the three- and four-lane character of Giese Road and 172nd Avenue. Both Giese Road and 172nd Avenue are transit streets, so it is important that a walkable character is created to complement the opportunity for transit-oriented development.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in planning a Pleasant Valley town center:

- ***Market Issues***. The town center needs to survive in the marketplace. Therefore, concepts that are untested in the marketplace should be avoided. However, innovation is still important. It is possible to have a town center that relates to tested market rules of thumb, has a character that reflects the pedestrian-orientation goals adopted by the Steering Committee, and is unique to Pleasant Valley.
- ***Public Sector***. Land use regulations and incentives could help create the desired town center. Infrastructure improvements should be timed to facilitate development of the town center. The public sector could stimulate the private sector investment in the town center by building uses such as libraries, fires stations and other

community uses in a centralized area. A strong master plan could be helpful in creating a cohesive town center.

- ***Size***. The size of the town center could be as large as 20 acres. This size would include any associated civic uses.
- ***Design Issues***. The Metro model of a town center focuses on a centralized "nodal" pattern. Towards this end commercial strips along major arterial roadways should be avoided. The town center should be well integrated into design of the valley, including transportation (vehicular, transit and walking), open space, and land use systems. A "main street" environment should be created. A rectilinear shape increases development feasibility.
- ***Parks and Plazas***. The town center should include a handsome well-proportioned park or plaza to serve as a focal point for collective civic action. It should be a space that defines a role for the buildings that surround it, rather than being the remnant space left after the buildings have been designed. A public space will help create a community oriented town center and will support retail. A large central park in the heart of the town center may not be appropriate and could dilute its functionality. A better alternative could be a small hardscape plaza or series of plazas immediately adjacent to retail uses. The size and location can vary depending on design objectives, but might be between 1 and 3 acres in size. However, smaller may be better in the core of the town center and could be as little as 1/8 to 1/4 of an acre – depending on design.
- ***Open Space***. Linkage and proximity of open space are important to town center character and design. Linkage to a larger open space, such as the "Nature Park" or the stream corridor open space system is desirable. This linkage could pass through a residential neighborhood.
- ***Natural Area***. The connection of the town center to the natural areas and open space system is desirable. However, it is not necessary or even desirable for the town center to be adjacent to natural areas. Residential areas can provide a buffer between the town center and stream corridors. The concept plan should balance the necessary configuration and size of a town center with the protection of natural areas.
- ***Retail and Service Uses***. A grocery store (30,000 – 55,000 square feet) will serve as the anchor for a town center. A second anchor such as drug store may be appropriate. Smaller uses could include restaurants, coffee shops, video stores, personal services, copying, gas station, bank and insurance offices. Overall retail and service uses could combine for 80,000 to 150,000 square feet. Envisioned as a shopping area and neighborhood center for meeting daily needs of residents, not as a "big-box" retail center.
- ***Civic Uses***. Commercial uses should be combined with civic and community service uses when possible. Certain civic and community service uses such as a library, meeting hall or elderly housing facility would benefit from immediate adjacency.

- ***Transportation***. Access to a major roadway is critical and a good intersection ("100% corner") is highly desirable. Access to a good bus route is also critical.
- ***Concept of Linked Trips***. A substantial benefit is gained by locating complementary uses close to one another. For example, a school or a day care near (not necessarily adjacent to) a grocery store allows parents to combine trips. This helps support the town center economically and reduces vehicle trips. Senior housing facilities, where many residents do not have vehicles, also benefits from proximity to the town center.
- ***Housing Issues***. Housing density makes sense around town centers. The density provides customers to the town center and, if designed correctly, can create a pedestrian environment that reduces vehicle trips. While a high number of households close to the town center is good, the center will still need the population from the valley as a whole to survive. Visibility and vehicular access remain important.
- ***Offices***. Offices will likely be okay around the current town center and neighborhood center areas. Those areas, because of the mix of land uses, would likely have employment because of the positive relationship or mutually supportive relationship of land uses. Institutional uses and small office and business parks with relatively small buildings would also likely occur near the town center.

## GOAL

Pleasant Valley will have a mixed-use town center that will be the heart of the community.

## POLICIES

1. The town center will be the focus of retail, civic and office related uses and services that serve the daily needs of the local community.

2. The town center will be served by a multi-modal transportation system with good access by vehicular, pedestrian, bicycle and transit traffic.

3. A wide range of housing types will be allowed and incorporated into mixed-use buildings and adjacent townhouses and apartments.

4. Streets and buildings will be designed to emphasize a lively, pedestrian-oriented character where people feel safe by day and night.

5. A "main street" environment that is a visually stimulating area that makes people want to linger and explore will be created.

6. A central green or plaza(s) will be included as a community gathering space(s). There shall be good linkage to the central park space to the east and to Kelley Creek

to the south. Linkage design to Kelley Creek shall include consideration of a park block design.

7. The town center will have strong connections to adjacent neighborhoods and include commercial services that are centralized and convenient to pedestrian-oriented shopping.

8. The core town center will have adjacent mixed-use employment areas that will include office uses and live-work housing opportunities.

9. The expectation for the Town Center is a highly pedestrian oriented place with a dense mix of shopping, service and civic and mixed-use buildings.

    a. It is anchored (at least) by a grocery store. Smaller buildings for retail and service uses, civic uses and mixed commercial/residential uses will be oriented on pedestrian main streets(s) and plaza(s).

    b. It will be an easy and attractive place to walk, bike and use transit. It will be a convenient and attractive place to drive.

    c. A high standard for development will be set. Develop techniques such as shadow platting to provide for future infill at the desired minimum density.

10. The Pleasant Valley Plan District will include two mixed-use zoning districts associated with the town center:

    a. A town center zoning district with a mix of retail, office and civic uses and housing opportunities as a pedestrian oriented area and a main street character.

    b. A mixed-use employment zoning district that will provide office, professional services and other support services and employment opportunities adjacent to the town center.

## ACTION MEASURES

1. Develop a strategy to help ensure the town center's survival in the marketplace. Marketplace design standards and principles can be combined with pedestrian-oriented design standards to create a unique Pleasant Valley Town Center. Consideration shall be given to future public involvement strategies including a design charrette with property owners and developers and the public to create specific design standards, street layouts and a scheme for a mix of retail, service and housing uses. Develop techniques, such as shadow platting, to provide for future infill at desired density. Shadow platting requires placement of buildings in a way that allows future infill at the desired minimum density.

2. Identify and recruit desired civic uses. These uses to consider should include a library, a community police station, a community-meeting hall and a day care facility.

3. Develop a strategy that allows for a town center master plan review process. Such a master plan included more detail than found in the Plan District regulations and would guide development of the town center.

## 10.703 RESIDENTIAL LAND USE/NEIGHBORHOODS

### BACKGROUND

The Metro Council designated most of the Pleasant Valley area as inner neighborhood on the Region 2040 Growth Concept map when Pleasant Valley was brought into the Urban Growth Boundary (UGB) in December 1998. Inner Neighborhood is primarily a residential area accessible to jobs and neighborhood businesses. The guideline for density is an average of 14 persons per acre.

In addition to Inner Neighborhood (and the town center designation discussed elsewhere), the Metro Council designated transit corridor along the expected transit streets. Corridors are along good quality transit lines featuring a high-quality pedestrian environment. Density guidelines are 25 persons per acre. Typical new developments would include rowhouses, duplexes and one- to three-story office and retail buildings. Corridors may be continuous, narrow bands or may be more nodal, with a series of smaller centers at major intersections or other locations.

Title 11 of Metro's Urban Growth Management Functional Plan has a provision for average residential densities of a least 10 dwelling units per net residential acre. This provision is also consistent with State requirements for housing in the Portland metropolitan area. Title 11 also includes provisions requiring demonstrable measures that will provide for a diversity of housing stock that will fulfill needed housing requirements as defined in State statues (ORS 197.303). This definition asserts the need to ensure affordable, decent, safe and sanitary housing opportunities for persons of lower, middle and fixed income, as well as seasonal workers. Needed housing includes attached and detached single-family housing, multiple family housing for both owner and renter occupancy, government-assisted housing and manufactured home housing.

State statues also require that for new construction that jurisdictions designate sufficient buildable land to provide the opportunity for at least 50% of new residential units to be attached single-family housing or multiple family housing.

Title 11 also provides that there be a demonstration of how residential developments will include, without public subsidy, housing affordable to households with incomes at or below area median incomes for home ownership and at or below 80% of area median incomes for rental.

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary planning goals was developed

as part of this process. Preliminary goals were developed for housing and for neighborhoods:

**A variety of housing** will be planned for, with a wide array of densities.

- Full range of housing types, from large lot single family to small lot single family, row houses, and apartments.
- Highest densities will be concentrated along transit lines and in close proximity to commercial services, transitioning to lower density housing at the edges of the area and in both the foothills of the steeper slopes.
- High quality design will be important to achieve both density and aesthetic goals.
- Affordable housing will be planned. Existing amounts of affordable housing in the south and eastern parts of the region will be considered in determining the share and percentage in this area.
- The focus of meeting affordability goals in this will be on home ownership options.

The area should be divided into **neighborhood areas** defined by natural features or major roads.

- Neighborhoods are often defined and characterized by the amenities that are located in their physical area.
- To ensure that each neighborhood develops into a community with an identity, they shall include provision for local shopping, parks, and several schools.
- The tax base for each of these neighborhoods will be diversified, but predominantly single-family housing.

A Residential Focus Session was held during the development of the Pleasant Valley Concept Plan. The purpose of the session was to assess the nature and extent of who will eventually live in Pleasant Valley, what range of housing types should be provided and what are reasonable ranges for percentage of each type of housing. This focus session was hosted by the Pleasant Valley Concept Plan Land Use work team and facilitated by project staff. Participants included multiple and single-family residential developers, a non-market rate housing provider, a realtor, and housing planning professionals. Through the course of the focus session, participants identified major issues critical to ensure the success of the plan by addressing future housing needs. The focus session participants recommended the percentages of various housing types that were ultimately used to calculate the final dwellings units, jobs and population estimates for the Pleasant Valley Concept Plan areas.

The final percentages used were:

| Housing Type | Percentage |
|---|---|
| Large Single Family (7,500+ sq. ft. lots) | 14% |
| Standard Single Family (5,000 – 7,000 sq. ft. lots) | 32% |
| Small Single Family (3,000-5,000 sq. ft. lots) | 5% |
| Rowhouses/Plexes (15-20 dwelling units/acre) | 8% |
| Condos/Cohousing (20-30 dwelling units/acre) | 9% |
| Apartments (20-30 dwelling units/acre) | 23% |
| Senior Housing (20-60 dwelling units/acre) | 9% |

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The following goal addressed housing and neighborhoods:

> ***Provide housing choices****. A variety of housing choices will be provided, with a focus on home ownership options. Housing options will accommodate a variety of demographic and income needs, including appropriate affordable choices and housing for seniors. The plan will provide for an overall average residential density of 10 dwelling units per net residential acre (i.e., including only residential land), based on a mix of densities. Walkable neighborhoods will form the organizing structure for residential land use. Natural features will help define neighborhood form and character.*

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary, the Concept Plan addressed housing and neighborhoods with the following characteristics:

- Each of the eight Pleasant Valley neighborhoods is intended to include a variety of housing options.
- Overall housing density is 10 dwelling units per net residential acre, with 50 percent of the proposed housing as detached and 50 percent attached.
- Detached housing choices include small lots (3,000-5,000 square feet), medium lots (5,000-7,000 square feet) and large lots (7,500 square feet and greater).
- Attached housing choices include townhomes, apartments, condominiums and senior housing.
- Pleasant Valley's neighborhoods will have a walkable character with defined centers and edges. Neighborhood dimensions will be a comfortable walking distance of 1/4 to 1/2 mile (5- to 10-minute walk).
- Neighborhoods will be designed to increase transportation options. Neighborhoods will be bike and walking-friendly, especially so that children can travel safely.

Neighborhoods along the community's transit streets will be designed with transit in mind.

- Neighborhoods will be designed to incorporate the existing natural features, connect to the ESRA and support "green" stormwater management practices.
- Neighborhoods have a neighborhood park.
- Zoning will allow and encourage home-based employment.

The neighborhood concept described above is an essential part of the vision for Pleasant Valley. The development of individual properties is intended to fit together into complete, cohesive neighborhoods.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in planning Pleasant Valley residential neighborhoods:

- ***Place attached residential near Town Center and transit streets***. Having the higher density areas near the town center and transit streets supports the compact and mixed-use environment desired for the project area. This increases accessibility by allowing more opportunities to travel by bus, walking or biking. Small lot development is also transit supportive. A mix of smaller lots, townhomes and apartments would be a good balance of mixed character and transit orientation.
- ***Senior and higher density residential***. As more refinement occurs during implementation, distribute certain type of attached housing, e.g., higher density and senior housing, along streets with more frequent transit service.
- ***Attached residential and parks***. Locate a park next to or near attached residential areas. This enhances the quality of life for attached residential residents that are often underserved by park facilities and will help ensure a high quality of higher density housing. Relating attached residential to open space and parks can also minimize the feeling of multi-family being clustered together.
- ***Variety of housing***. Communities should have places for people of all ages and incomes to live. This can be made possible by locating different dwelling types in the same neighborhood and even on the same street.
- ***Walkable neighborhoods***. Neighborhoods should have edges and centers. The edge of the neighborhood marks the transition from one neighborhood to another. An edge might be a natural area, a transit stop or a tree-lined arterial street. The neighborhood center is a main gathering place. Public spaces, such as parks and civic buildings, should be given priority. From center to edge of neighborhood should be a comfortable walking distance of ¼ to ½ mile (5 to 10 minutes).
- ***Neighborhoods should increase transportation options***. Neighborhoods should be bike and walking friendly, especially so that children can travel safely. Neighborhoods should be designed with transit in mind. A transit stop(s) should be located within walking distance of mixed-use neighborhoods. A compact, mixed-

use neighborhood with transit options is one strategy for preserving the open space/natural resource areas associated with the Environmentally Sensitive and Restoration Areas.

- ***Arterial streets***. Design arterial streets, where they split a neighborhood or where they form the edge of a neighborhood, to be a worthy setting for buildings, an aesthetic benefit and unifying for the neighborhood.
- ***Incorporating the natural environment***. Neighborhoods should be designed to incorporate the existing natural features in a way that enhances the aesthetic environment while minimizing impacts. This is a critical aspect of Pleasant Valley's "sense of place".

## GOAL

Pleasant Valley will provide a wide variety of housing choices that will accommodate a variety of demographic and income needs within high quality, well-designed and walkable neighborhoods framed by the natural landscape.

## POLICIES

1. Each Pleasant Valley neighborhood will include a wide variety of housing options for people of all ages and incomes with the following considerations:

    a. Home ownership options that range from affordable housing to executive housing.

    b. Housing for the elderly and the disabled.

    c. Affordable housing choices including rental and home ownership opportunities.

    d. An overall average density of 10 dwelling units per net residential acreage.

    e. A 50/50 ratio of attached dwelling to detached dwelling opportunities.

    f. A housing type mix in the same neighborhood and on the same street.

2. Home-based work will be permitted and encouraged in residential districts. Standards shall be established to ensure compatibility with surrounding neighbors. Existing City of Portland and City of Gresham standards shall be used as a model for home-based work standards.

3. Pleasant Valley will have walkable neighborhoods with a defined center and edges. The edge of the neighborhood marks the transition from one neighborhood to another. An edge might be a natural area, a transit stop or a tree-lined arterial street. The neighborhood center should be a main gathering space with priority given to public spaces, such as parks and civic buildings. From the center to the edge should be a comfortable walking distance of ¼ to ½ mile radius (5 to 10 minute walk).

4. Pleasant Valley neighborhoods will be designed to increase transportation options. Neighborhoods shall be bike and walking friendly, especially so that children can travel safely. Neighborhoods shall be designed with transit in mind. A transit stop(s) should be located within walking distance of a neighborhood.

5. Pleasant Valley will support a compact, mixed-use urban form, increase accessibility for walking and biking and be transit supportive. Attached housing should take a nodal form as opposed to a transit street lined with apartments.

6. Higher density residential areas will be designed and scaled in keeping with the desired pedestrian form.

7. Higher density residential areas will be located near the town center, transit streets and the mixed-use neighborhood centers. A mix of smaller lots, townhomes and apartments provide a good balance of mixed housing character and transit-orientation.

8. Neighborhoods will be designed to incorporate the existing natural features in a way that enhances the aesthetic environment while minimizing impacts. A compact, mixed-use neighborhood with transit options is one strategy for preserving open space and natural resource areas.

9. Parks will be located next to or near higher density areas. They shall also serve to provide a sense of place for the neighborhood and be accessible to the whole neighborhood. This enhances the quality of life for attached residential residents and will help ensure a higher quality of higher density housing.
10. Neighborhoods will have strong connections to the Kelley Creek and Mitchell Creek open space systems. The design and function of neighborhoods shall facilitate preserving, enhancing and restoring Pleasant Valley's open space system.

11. The Pleasant Valley Plan District will include residential districts that will provide for small, standard and large single-family lot (detached residential) opportunities and for high and moderate density attached dwelling (attached residential) opportunities. High-density attached dwelling opportunities shall be focused in the vicinity of the town center.

**ACTION MEASURES**

1. Work with groups such as the City of Gresham's Community Development and Housing Committee (CDHC) and the Planning Commission to create a plan that identifies appropriate strategies and implementation measures to promote affordable housing in Pleasant Valley.

2. Create principles and strategies to ensure that the scale and design of dwellings, especially in the high and moderate density zoning districts, are compatible with the compact, pedestrian oriented and smaller scale character of Pleasant Valley.

Consider a process for developing a design vocabulary (a variety of specific architectural elements) for the Pleasant Valley community.

## 10.704 EMPLOYMENT AND OTHER COMMERCIAL

### BACKGROUND

The Metro Council generally applied three Region 2040 Growth Concept Map design districts to the Pleasant Valley area: town center, transit corridor and inner neighborhood. The bulk of employment opportunities were expected to occur within the town center focused on retail, commercial services and office uses. Corridors were expected to have some employment focused on small centers with office and retail uses at major intersection or other locations. Inner neighborhoods would have a small amount of employment focused on home based jobs and civic uses (such as schools).

No employment or industrial area 2040 design districts were included in the Region 2040 Growth Concept Map for Pleasant Valley. Employment areas encourage various types of employment with limited commercial uses and have a density guideline of 20 persons per acre. Industrial areas are primarily for industrial activities with limited supporting uses and have a density guideline of 9 persons per acre.

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The goal for employment was:

> ***Provide and coordinate opportunities to work in and near Pleasant Valley***. *The plan will identify opportunities for home-based work and employment areas within Pleasant Valley. A range of employment opportunities will be considered, including retail and other employment. The plan also will consider the relationship of Pleasant Valley to existing employment centers in the East Metro area and potential new employment areas near Damascus.*

Employment opportunities for the four alternatives focused on the town center and schools. The evaluation of the alternatives for the above employment goal found that: 1) Home-based work is a desirable element of the Pleasant Valley community; and 2) the overall estimates for jobs are relatively low for a 1,500-acre community and additional opportunities for employment should be evaluated. The relatively low estimate was considered a significant issue and led to three recommendations.

1. That the Preferred Concept have a more efficient use of the Town Center through a combination of having more office and civic uses and less retail uses and higher floor area ratios; that a 10-15 acre pedestrian-oriented business/office park near the Town Center be added and that two five-acre mixed-use neighborhood centers (retail and adjacent office use or live-work opportunities) be added.

2. Consider adding an employment area to the Concept Plan. This would be significant area (e.g., 60 +/- acres) that would be planned as a cohesive district that is integrated with the overall community concept.

3. Develop strategies to encourage and allow home-based employment in Pleasant Valley.

Consideration of adding an employment area to the Concept Plan resulted in two additional evaluations: 1) an analysis report on Pleasant Valley Employment Opportunities by City of Gresham and E. D. Hovee & Company staff, and 2) an Employment Focus Session. The analysis report focused on three areas: 1) what additional employment opportunities are viable during a 20-year planning period, 2) if additional employment opportunities are viable what kind, where and how much, and 3) what are the site characteristics to associate with employment centers.

One Employment Focus Session was held during the development of the Pleasant Valley Concept Plan. The purpose of the session was to assess future employment opportunities in Pleasant Valley with a focus on what type of businesses might be appropriate and what characteristics are needed to attract the businesses. The focus session was hosted by the City of Gresham in conjunction with the Pleasant Valley Concept Plan Land Use work team and facilitated by project staff. The thirteen session participants included employment and economic development experts and planning professionals. Through the course of the focus session participants identified major issues critical to ensure the economic success of an employment district in Pleasant Valley.

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary:

***Mixed-Use Neighborhood Centers***. Two mixed-use neighborhood centers are proposed: one along 190th Avenue and one at the corner of 172nd Avenue and the Clatsop Street extension. These centers are intended to provide local retail and service and employment opportunities at the edge of the adjacent neighborhoods. Primary uses shall include small-scale retail and service and office buildings. Housing will be allowed as part of mixed-use and live-work buildings. Street-oriented retail and pedestrian amenities along the streets will contribute to a pedestrian-friendly character. Each center includes a small plaza.

***Employment Areas***. Two employment areas are proposed: one along Giese Road and one along 172nd Avenue at the Sager Road extension. These districts are intended to provide Business/Office Park, medical and other employment opportunities. Primary uses will include knowledge-based industries (graphic communications, creative services, etc.), research and development facilities, office uses, medical facilities and other business park uses. Emphasis is placed on business suited to a high environmental quality setting.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in planning Pleasant Valley employment and neighborhood mixed-use center districts:

***Mixed-use Neighborhood Centers***. One to three small nodal centers could be strategically located in the concept plan area. The smaller centers would not compete with the larger town center due to difference in scale, character and type of use. Visibility from a major street is an important consideration.

***Flex space***. Local and regional studies show a strong need for additional business park/flex space lands. Gresham tends to attract small companies. Its strengths are in high tech, graphic communication and creative services, which could be accommodated in a business park setting. Medical facilities and research could also fit into a business park/campus setting.

***Quality environment***. Quality of environment is becoming increasingly important in site location decisions. The case studies of Snoqualmie Ridge in Washington and the Comprehensive Health Center in Hawaii are examples. A preserved natural environment can create a desirable setting for information sector uses.

***Job/Housing balance***. The job to housing balance in the concept plan need not meet the regional average. However, it is desirable to strive to attain an even balance of jobs and housing. A density of about 35 persons per acre in an additional 50 acres of land would help achieve this balance.

***Employment opportunities***. Additional employment opportunities in the concept plan area should allow business park development with a focus on flex space. The information sector, research and development and medical campus should be allowed and encouraged. Development regulations should set high standards for green practices and positive relationships with the adjoining community. Institutional uses and small office and business parks with relatively small buildings would also likely occur near the town center.

### *Types of uses*

- Offices, health and elderly care facilities, and small start-ups such as a software firm should be attracted to Pleasant Valley. This will likely be local and entrepreneurial in nature. Small floor areas, 2-3 stories high, and Class B office space are likely features.
- Health care uses of all types have been consistently mentioned as good fits for Pleasant Valley: hospitals, clinics, health related research and development, elderly care, etc.
- Research and development firms tend to locate next to other firms doing research and development. The only way that research and development would work in this area is if it was initiated in the Pleasant Valley area and was a small enough company that it didn't need to move right away.
- Spin-off employment. Due to constraints, Pleasant Valley may not be a natural choice for business locations. However, as people move into the valley, they may choose to start companies in an available business park. Also, a successful town center could lead to additional employment in a business park.

***Locational Attributes***. Locational attributes include access to major roads (arterial system), transit service, strong relation to the Environmentally Sensitive and Restoration Areas, convenient access to the commercial centers and site(s) sizes of 10-50 acres.

***Damascus***. The long-term relationship to Damascus is critical to larger scale employment uses in Pleasant Valley. Having a relationship to Damascus and a direct transportation connection to the future Sunrise Corridor is important.

***Transportation***. Transportation is absolutely essential, and building an effective and connected road network should be a high priority. The regional transportation system needs to be funded by all the users. Due to the complexity and expense of needed improvements in Pleasant Valley, cooperation with other jurisdictions will be critical. Improvement to the Foster and Powell corridors and improvements in Damascus will be needed.

***Zoning***. It is also important that zoning and land uses provide as much regulatory flexibility as possible, but still maintain a high quality of life for area residents and businesses.

***Capital Improvement Programs***. Jurisdiction's capital improvement programs and public facility plans should be tied to improving employment opportunities in the area.

### *Quality of Community*

- Success of the town center is critical to the creation of employment opportunities in Pleasant Valley. Employment in the town center and adjacent to the town center are most likely in the short term. A small business park near the town center is practical in the (relative) short term.
- High quality neighborhoods and amenities will be needed to support employment. The quality of the neighborhood will lead to stronger employment as business owners choose to live and locate in Pleasant Valley. The area should have the following characteristics: executive housing; higher density housing (around commercial areas); recreation areas; community facilities (schools, libraries) and protected open space areas.
- Executive housing. An existing strength of some housing developments in the area surrounding Pleasant Valley is the option for a larger than average lot size (for example, 4 dwelling units per acre) in a natural setting. This type of housing development is appealing for executive housing and the high income can help support the town center. Case studies from the Portland and Seattle metro areas suggest that executive housing development can attract business park developments. It was emphasized that executive housing should be a part to serve a range of housing types for a wide range of income and demographic needs. Quality of all housing should be high.
- Higher density housing. This type of housing should be clustered around town centers and can provide additional support for the town center and employment uses.

There are quality of life issues associated with a library, cultural centers, and athletic facilities. These uses could be provided with future schools in the area. Mt. Hood Community College

could work with Multnomah County Library and the Centennial School District on a joint facility.

## GOAL

Pleasant Valley will provide for a range of employment opportunities that enable Pleasant Valley to be part of a complete community and to provide the opportunity to work and live in the same community.

## POLICIES

1. Home-based work opportunities will be allowed and encouraged.

2. Employment opportunities will include retail and services, business office and business park uses to include "flex space," research and development, and medical facilities.

3. Employment opportunities will consider the relationship of Pleasant Valley to existing employment centers in the east Metro area and potential new employment areas south (Damascus area).

4. Pleasant Valley will have mixed-use neighborhood centers to provide local service and shopping opportunities within a very short walking, biking or driving distance. Small (3-5 acre) mixed-use neighborhood centers shall provide retail, office and live-work employment opportunities.
5. A higher density and variety of housing types will be located near the mixed-use neighborhood centers.

6. The quality of the natural environment will be an asset in Pleasant Valley. Businesses locating in Pleasant Valley shall be expected to be good environmental stewards, utilize green practices and have a positive relationship with the community.

7. The quality of the built environment will be an important contributor to employment opportunities. A high quality town center, high quality neighborhoods and the inclusion of a mix of housing types will foster employment opportunities.

8. Pleasant Valley will endeavor to have a sustainable balance of jobs and housing capacity. This policy supports fiscal and community sustainability, distributes the risk for future developers/builders and eases costs associated with infrastructure improvements.

9. The Pleasant Valley Plan District will (in addition to the two mixed-use zoning districts associated with the town center) include two other mixed-use employment zoning districts:

    a. A mixed-use neighborhood center zone district with a mix of local retail, service and office live-work uses to encourage short walking, biking and driving trips.

b. An employment center zone district that will provide business park employment opportunities including flex space, office park, research and development and medical facilities.

### ACTION MEASURES

1. Develop a strategy to preserve employment center areas and to test its viability in the marketplace. The preservation strategy would include developing a list of prohibited uses. A cited example of a potential prohibited use is mini-storage facilities.

2. Develop a strategy for economic development recruitment and incentives to locate businesses that will enhance the compact nature and pedestrian scale orientation of Pleasant Valley and its environmental features.

3. Local participating jurisdictions and others are strongly encouraged to participate in actions and to take steps to solve employment issues on a community and citywide basis and on a regional basis.

## 10.705 NATURAL RESOURCES

### BACKGROUND

Pleasant Valley has an extensive system of creeks that connect to the surrounding forested lava domes and provide habitat for listed steelhead and cutthroat trout under the Endangered Species Act. Mitchell Creek, a tributary of Kelley Creek, has some of the highest quality habitat in the region and provides winter habitat for cutthroat trout.

The Metro Council brought the Pleasant Valley area into the Urban Growth Boundary (UGB) in December 1998. When land is brought into the UGB, Title 11 of the Metro Urban Growth Management Functional Plan requires that the added territory be brought into a city's comprehensive plan prior to urbanization with the intent to promote the integration of the new land into existing communities.

Title 11 requires a series of comprehensive plan amendments, including maps that include specific provisions for natural resource protection and restoration. It requires:

> *Identification, mapping and a funding strategy for protecting areas from development due to fish and wildlife habitat protection, water quality enhancement and mitigation, and natural hazards mitigation. A natural resource protection plan to protect fish and wildlife habitat, water quality enhancement areas and natural hazard areas shall be completed as part of the comprehensive plan and zoning for lands added to the Urban Growth Boundary prior to urban development. The plan shall include preliminary cost estimates and funding strategy, including likely financing approaches, for options such as mitigation, site acquisition, restoration, enhancement, or easement dedication to ensure that all significant natural resources are protected.*

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary planning goals was developed as part of this process. The goals addressed a town center, housing, transportation, natural resources, neighborhoods, and schools. The preliminary planning goal for natural resources stated:

> *This area has unique and important natural resources and the plan must identify and protect them. The watercourses and associated wetlands must be protected from development, and should be preserved as the signature natural feature of the area. This should be refined as environmental, site amenity and development impacts are better understood. The natural resource and amenity value of the lava domes that surround and form the valley should be protected. Sufficient areas should be set aside so that the habitat of Johnson Creek is preserved and enhanced, and sufficient areas set aside to insure that stormwater can be detained and treated before entering the creek system. A master plan should be developed that can be implemented as the area develops. In addition, this area should coordinate with the other portions of the Johnson Creek Watershed. There should be no net increase in water run-off or decline in water quality as a result of the development in this area. The natural resources of the area, including the streams, should be coordinated and included in the parks master planning for this area. The BPA power line that cuts through the area should also be considered.*

The Pleasant Valley Concept Plan Steering Committee endorsed a series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan and were used in evaluating the four plan alternatives. The goal for natural resources is the following.

> ***Preserve, Enhance, and Restore Natural Resources***. *The plan will identify, protect, enhance, and restore significant natural resource areas, including stream corridors, forested areas and buttes. These resource areas will provide the basis for identifying buildable and non-buildable areas, and serve as open space amenities for the community. Resource protection will include strategies to protect endangered species, water quality and the aquifer. Resource protection and enhancement will be a shared responsibility of property owners, governments, and developers.*

The work of the Natural Resource/Watersheds work team used this goal as a basis for developing the Environmentally Sensitive/Restoration Areas (ESRA). After a thorough inventory of resources in the study area, the work team presented their findings through a series of inventory maps at a Community Forum. Local residents made additions and corrections to the maps, which formed the basis for the ESRA areas. One of the unique aspects of the Concept Plan was the identification of the green infrastructure (ESRA) prior to the creation of the street network and locating land uses, such as the town center.

A tool used for addressing water quality issues, habitat protection issues, and natural hazards mitigation was to divide the Kelley Creek watershed into seven subwatersheds for analysis purposes. Extensive documentation of the scientific basis for resource protection was prepared as part of the subwatershed planning process.

Each of the four alternatives created during the 5-day design charrette included the ESRA as part of the base map. As a result, the work team evaluated each alternative using criteria that evaluated the number of stream crossings, amount of tree cover, etc. The alternatives that kept major roads and the town center away from the confluence of the creeks in the center of the study area were rated the highest.

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary, the Pleasant Valley Concept Plan ESRA is the green framework for the Pleasant Valley Plan. It constitutes the resource management areas with important ecological functions planned for integration with a new urban community. The long-term goal is to restore and enhance sensitive wetlands and stream corridors to more natural vegetation conditions, recognizing that existing homes and other uses will continue in the ESRA.

*Selected characteristics of the ESRA include*:

- Wetlands, upland, and riparian habitats that incorporate 34 habitat types. Wetlands range from open water to forested wetlands. Upland habitat ranges from deciduous and conifer forests to shrubs and habitats of mixed species.
- Habitat migration routes.
- Buffers adjacent to the resources range from 50 to 200 feet, depending on the type of resource.
- The implementation strategies included rough cost estimates, funding strategies, regulatory and incentive options, and restoration priorities.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in planning for Pleasant Valley:

- As the area urbanizes and open fields are developed, traditional wildlife migration routes between Powell Butte and the surrounding lava domes will be disturbed. A fully forested area along the creeks is vital to provide wildlife a useable corridor.
- Protection for the confluence area will provide important habitat for migrating wildlife to use as a resting and nesting area.
- A complex “network circuitry” of linkages between habitats will improve the effectiveness of the network for species movement. Examples of linkages include north and south along the utility corridor, linkages between Kelley Creek and the Metro open space land, and linkages between riparian corridors created by parks.
- An important key to the effectiveness of the riparian corridors system is the provision of “core” areas or nodes along the corridor that provide functional habitat and sufficient spaces for species to rest and breed. These nodes improve the survival rate for dispersing wildlife, and increase overall wildlife use of the network. The stream confluence area near

the existing elementary school provides an important opportunity to create a centrally located core habitat. A further site study to relocate the existing north-south section of Richey Road is needed.

- The wetland complex south of Foster and east of 172nd is unique in the region in that it sits at the crest of two creeks flowing in opposite directions. This complex has great potential for restoration and stormwater management.
- Depending on their design, both parks and schools located adjacent to the riparian corridors could also serve as important buffers to the habitat network by providing natural or semi-natural area.
- The integrity of the system will be enhanced by minimizing crossings within the confluence area of Kelley, Saddle and Gresham South Slope, and the wetland complex in the Saddle subwatershed.
- The final site planning and design of urban development is critical to achieving the natural resource goals and policies. Careful consideration of resource issues suggest a community focused around the natural resource system of Kelley Creek and its tributaries. The design of parks, trails, school grounds, open space, transportation crossings, and other land uses will need special consideration of design to achieve the natural resources goal.

**State Goal 5 Natural Resources**. In order to protect natural resource values, Statewide Planning Goal 5 and its administrative rule require that jurisdictions complete a natural resource inventory, a determination of resource significance, an analysis of the consequences of resource protection, and develop resource protection standards. This work is one of the three central elements in the effort to create an urban community through the integration of land use, transportation, and natural resources.

The inventory is largely based on information collected during the Concept Planning phase. The purpose of the inventory is to document the quantity and quality of the characteristic vegetation, wildlife habitat, streamside areas, sensitive species, and other natural features in the Pleasant Valley study area.

The inventory is then used to determine which resources are significant. A set of mapping criteria was developed and a computer mapping exercise was used to assist in the process. The following nine different basic functions were used to provide the foundation for the significance determination.

- Water quality
- Channel dynamics and morphology
- Water quantity – stream flow, sources, and storage
- Microclimate
- Fish and aquatic habitat
- Organic inputs

- Riparian and upland wildlife habitat
- Upland sensitive species
- Upland interior habitat

The Goal 5 process then requires an analysis describing the different types of land uses that impact streamside areas, wetlands, and upland forest. Specifically, it requires an analysis of the economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit certain uses in the significant resource areas (ESRA).

The final step in a Goal 5 process is the development of a program to implement the outcome of the inventory, significance determination and the ESEE analysis. Programs include both regulatory and non-regulatory elements.

## GOAL

Pleasant Valley will be an urban community integrated with the natural environment.

## POLICIES

1. Urbanization of Pleasant Valley will preserve, enhance, and restore natural resources.

2. Urbanization of Pleasant Valley will be balanced with the protection of sensitive species and habitat, water quality, and the aquifer.

3. Road crossings within the Environmentally Sensitive/Restoration Areas (ESRA) will be designed to provide crossings with the least impact.
4. Urbanization of Pleasant Valley will achieve low levels of effective impervious areas and high levels of tree protection and reforestation.

5. Flooding will be addressed by managing the frequency and duration of water flows in relation to match pre-development conditions for Kelley Creek and also to reduce downstream impacts to Johnson Creek.

6. Floodplains and wetlands will be fully protected and restored for improved hydrology and flood protection.

7. Urbanization of Pleasant Valley will increase quantities and diversity of upland habitats by creating larger, more diverse, connected habitats in the uplands.

8. Wildlife habitat connections between upland and riparian (river) habitats will be maintained and restored.

9. Wildlife habitat connections to surrounding areas, such as Powell and Clatsop buttes and Butler Ridge, will be maintained and restored.

10. Fish passage, where current passage is blocked, will be restored. Barriers to wildlife habitat corridors, such as bridges and roads, will be designed to provide proper opportunities for wildlife migration.

11. Urbanization of Pleasant Valley will prevent erosion and control sedimentation through the use of green development practices, site-sensitive design, appropriate construction management practices, revegetation of disturbed areas, and regular maintenance and monitoring. The use of native plants is a priority for revegetation and Green Streets.

12. As a near-term objective, downgrade the function of Foster and Richey Roads in the confluence area of Kelley Creek to serve as local access streets. As a long-term objective, disconnect and vacate the vehicular function of these street segments while maintaining the opportunity for a local trail opportunity.

13. As a major organizing feature, the network of natural resources identified on the Resource Management Map should serve as an open space amenity for the community.

14. Resource protection and enhancement is a shared responsibility and partnership of property owners, governments, community and non-profit organizations, and developers.

**ACTION MEASURES**

1. The Pleasant Valley Resource Management Map will serve as the basis for identifying areas to preserve, restore and enhance.

2. Require abandoned water wells to be decommissioned following Oregon Department of Water Resources accepted procedures to avoid groundwater contamination.

3. Establish a Greenway along Kelly Creek and its tributaries as the valley urbanizes. Greenways provide for public access and create a focal point for the community in the form of trails and open space along Kelley Creek and its tributaries.

4. Develop interim regulations for the sections of Foster and Richey Roads within the ESRA detailing how improvements are allowed, if at all, to minimize impervious surface, manage stormwater, and not preclude future removal.

5. The participating cities, area neighborhood associations, and the Johnson Creek Watershed Council are encouraged to support revegetation efforts, work to restore fish and wildlife habitat in the study area, and pursue funding sources outlined below to achieve the goals of the Pleasant Valley Concept Plan.

6. Complete and adopt a state goal 5 natural resources process including an ESEE analysis and implementing program.

## 10.706 GREEN DEVELOPMENT

### BACKGROUND

Green development practices refer to a toolbox of stormwater management techniques. The technique is an approach that instead of using a traditional piped collection and conveyance system uses a system of landscaping features that treat and infiltrate stormwater on the development site. The benefit of green development practices is that it minimizes the production of stormwater runoff and manages it close to the source.

- Traditional development practices clear entire areas for development, add large amounts of impervious surfaces, and compromise the ability of soils to absorb stormwater. Through better site design, soil disturbance can be minimized, unnecessary impervious surfaces can be eliminated, and tree canopy protected, resulting in reduced generation of stormwater runoff.
- Traditional stormwater management techniques also convey runoff quickly to management facilities. Without any prior management, these facilities are quickly overwhelmed and release water into streams at rates, volumes, and durations that compromise stream habitat. Green development practices infiltrate stormwater close to the source, give it an opportunity to evaporate, and attenuate its progress towards streams so that the release of runoff into streams more closely mimics the natural hydrology of the area.
- Green development practices promote the conservation of existing trees and forests and providing tree-planting opportunities in order to create an urban forest. In a forested environment rainfall is intercepted by vegetation, reducing its impact by slowly allowing it to infiltrate and saturate in the soil thus promoting infiltration, minimizing erosion and enhancing water quality. Trees also consume many different types of stormwater-linked pollutants through update from the root zone. Forested areas along stream banks provide stability by holding soil in place and slow runoff velocities.

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary planning goals was developed as part of this process. A preliminary goal for natural resource protection included these elements:

- This area has unique and important natural resources and the plan must identify and protect them. The watercourses and associated wetlands must be protected from development, and should be preserved as the signature natural feature of the area. This should be refined as environmental, site amenity and development impacts are better understood.
- Sufficient areas should be set aside so that the habitat of Johnson Creek is preserved and enhanced, and sufficient areas set aside to ensure that stormwater can be detained and treated before entering the creek system.
- A master plan should be developed that can be implemented as the area develops. In addition, this area should coordinate with the other portions of the Johnson Creek Watershed.

- There should be no net increase in water run-off or decline in water quality as a result of the development in this area.

The Metro Council brought the Pleasant Valley area into the Urban Growth Boundary in December 1998. It was recognized that future urban development would result in increased impervious surfaces and increased stormwater runoff. A federal Transportation and Community and System Preservation (TCSP) grant was obtained by Metro, with Gresham and Portland and others as partners, in part to address this stormwater runoff issue. Included in the goals of the TCSP grant, as acknowledged by the Pleasant Valley Steering Committee, was:

- To develop strategies to help protect steelhead and cutthroat trout salmonoids;
- To minimize stormwater runoff in the Johnson Creek watershed; and
- To avoid further degradation of water quality.

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The goal for green development practices was:

> ***Use "green" development practices***. *The plan will incorporate community design and infrastructure plans that produce minimal impacts on the environment, including flooding and water quality within Johnson Creek. The plan will incorporate guidelines for stormwater quality and quantity and resource management for each subwatershed, and also will enhance natural hydrologic systems as a fundamental part of managing drainage and water quality. The plan will incorporate green street designs. The plan will integrate green infrastructure with land use design and natural resource protection. The plan will incorporate energy-savings measures.*

As part of the evaluation and concept plan selection process a hydrodynamic model (MIKE 11) was developed, calibrated and run for the Kelley Creek watershed. The purpose of the hydrological modeling was to simulate the impacts that different land use changes and green development practices would have on the water level, flow and extent of flooding through the Kelley Creek system. Different scenarios were developed with variables of the Environmentally Sensitive and Restoration Area (ESRA); green development practices such as bioswales in green streets; landscape planters and ecoroofs; and creating a tree canopy throughout the plan area.

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary, the concept plan provides for a "green" stormwater management system intended to capture and filter stormwater close to the source through extensive tree planting throughout the valley, "green" street designs, swale conveyance and filtration of run-off, and strategically placed stormwater management facilities.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in planning for green development practices in Pleasant Valley:

***Initial stormwater modeling***. Initial modeling that simulates for both continuous rainfall and single events showed a large increase in stormwater runoff between pre-development and post-development flood peak and flow durations. Green development practices, such as managing stormwater on each individual parcel to the maximum amount practicable, will be an extremely important strategy in mitigating these impacts and protecting endangered species, water quality and the underlying aquifer.

***Johnson Creek flooding***. Initial modeling notes a significant enough rise in floodwaters downstream in Johnson Creek, and specifically in the Lents area, to warrant management for the nuisance flood event in Kelley Creek watershed. The nuisance flood is the targeted level of protection indicated in the Johnson Creek Restoration Plan for minimizing and preventing frequent and repetitive flood damage, and maximizing environmental benefits. The nuisance flood event is based on an actual, historical 3-day rainfall pattern in the watershed that generated an approximately 10-year flood event.

### *Kelley Creek Watershed Stormwater Modeling Conclusions:*

- A full tree canopy is highly desirable. However, trees may take at least 20 years to grow to maturity and until they are at maturity will not realize the full benefits of stormwater management. Other stormwater management practices are, therefore, necessary.
- Considering the benefits shown in the model of tree canopy on stormwater management, there should be a long-term goal of vigorous tree planting throughout the valley. Additional tree canopy will help to mitigate the potential loss of green development practices due to improper maintenance or inaccuracies in facility sizing or modeling.
- To protect stream habitat, green development practices must be sized larger to more adequately mitigate runoff from larger storms. Facility sizing should be left to the next planning stage when stormwater management plans are written.
- The use of green development practices may decrease the size of stormwater management facilities needed to be built to prevent nuisance flooding downstream. However, green development practices will not completely manage larger storms and they will be conveyed from green facilities through swales and into regional facilities
- The Environmentally Sensitive and Restoration Areas (ESRAs) help to reduce flood peaks for the nuisance, 5-year and 2 ½-year storms. Initial modeling shows that the 100-year footprint stays well within the ESRA with the implication that the ESRA is a flood management tool so that regional facilities don't need be sized to manage the 100-year flood, providing a significant cost savings.
- Maintenance of green development practices should be addressed as part of the implementation plan for stormwater management. Improper maintenance and enforcement may lead to failure of the stormwater system.

- Modeling greatly facilitates and provides information critical to the decision making process. Results tend to be accurate from a relative standpoint when comparing alternative scenarios. However, model representations and results should only be one item among others that influence decisions and project design/implementation.

***Tree canopy***. The planting and preservation of trees is one of the most cost-effective green development practices. The planting and preservation of trees is encouraged in the front and backyards of residential areas, along all streets and in medians, in neighborhood and community parks, on school grounds, and in all landscaped areas of parking lots and employment lands.

***Ecoroofs***. Ecoroofs are recommended for buildings in the town center, employment areas, apartments and senior housing. Ecoroofs are also encouraged on other structures. Ecoroofs are vegetated areas on top of roofs that absorb precipitation. Ecoroofs consist of a vegetated layer, a geotextile layer and a synthetic drain layer. They can vary in depth and vegetation depending on the weight bearing restrictions of the roof. A 3-inch ecoroof can reduce annual runoff by more than 50 percent in temperate climates.

***Bioswales***. Bioswales are recommended for all development outside the town center where hard surfaces predominate. Swales are essentially depressions lined with well draining soils where water can pond. They can be planted with vegetation that helps to absorb water and pollutants, or with grass. Runoff is directed into the swale and infiltrates. When soils are saturated, runoff ponds within the depression and begins to drain down slope. Check dams are often added to slow down runoff within the depression. Also, swales can be used for stormwater conveyance. The benefit of this approach is that unlike pipes, which quickly gather and pass stormwater, swales slow down the progression of stormwater and help to reduce the overall volume through infiltration and evapotranspiration.

***Landscape planters***. Landscape planters are recommended to mitigate stormwater for all development in the valley. Planters can vary in shape, style and form, but the essential design is a landscaped area that sits anywhere from 1 to 2 feet above ground and is filled with well draining soils and plants specialized in filtering pollutants. Landscape planters can line the perimeter of buildings and treat roof runoff via downspouts. In poorly draining soils, the bottom of the planters should be lined with an impermeable fabric and underlain with perforated pipes which convey water away from building foundations and into other management systems. Landscape planters can also be incorporated into the middle of courtyards. In this case, they do not have to be lined and in areas with well draining soils they can act as bioretention facilities by infiltrating stormwater. In areas with poorly draining soils they are underlain with perforated pipe to prevent overflows.

***Green Streets*** are recommended for all streets (with flexibility for those within the town center). Green Streets are designed to incorporate stormwater treatment within its right-of-way. They incorporate the stormwater system into the aesthetics of the community and maximize the use of street tree coverage for stormwater and climatic reasons. The handbook, published by Metro, titled *Green Streets – Innovative Solutions for Stormwater and Stream Crossings*, provides detailed designs and specifications.

***Education and Maintenance***. Green Streets, and green practices, are relatively new concepts that will require education on the part of the developer to build and the jurisdictions and homeowners to maintain. There are considerable construction cost savings (in addition to the environmental benefits) to building Green Streets, as outlined in the Stormwater Report, and these cost savings should be applied directly to the cost of maintaining Green Streets over the life of the system.

## GOAL

Pleasant Valley will be a "green" community where green infrastructure is integrated with land use and street design and natural resource protection.

## POLICIES

1. Encourage the planting, maintenance and preservation of trees throughout the watershed.

2. Transportation plans will use Green Street designs, as described in Metro's handbook titled *Green Streets: Innovative Solutions for Stormwater and Stream Crossings* as a resource in the development and design of streets.

3. Community design and infrastructure plans will produce minimal impacts on the environment, including flooding and water quality in Johnson Creek.

4. Infrastructure plans will avoid placement of utilities in the Environmentally Sensitive and Restoration Areas where practicable.

5. Community design and infrastructure plans will enhance the natural hydrologic system as a fundamental part of managing stormwater and water quality.

6. Community design and infrastructure plans will incorporate energy-saving measures.

7. Community design, infrastructure, and natural resource protection plans will incorporate guidelines for resource management by subwatershed, including stormwater quality and quantity.

## ACTION MEASURES

1. Develop regulations, incentives, and development standards that include measures to protect and augment the natural stream system with a variable width, vegetated buffer system along streams and wetlands that are critical to the ecological health of the watershed.

2. Develop regulations, incentives, and development standards for managing stormwater on-site for buildings, houses, parking lots, and street rights-of-way by integrating stormwater management into the landscaping. The intent is to preserve and create opportunities for infiltration, evaporation, and transpiration before utilizing off-site storage. Where off-site storage is necessary, design shall be consistent with the *Johnson Creek Watershed Plan.*

For example, off-site storage should be linked to swales and other infiltration areas and designed in a way that mimics natural storage functions (e.g., constructed wetlands).

3. Develop regulations, incentives, and development standards to provide for the planting and preservation of trees throughout the valley, including street rights-of-way, community open spaces, parking lots, and other landscaping areas, in order to:

   - Restore the natural hydrologic system by providing opportunities for evaporation, transpiration, and infiltration of rainwater.
   - Act as an energy-saving measure to save on heat and cooling costs by shading and buffering buildings, and by reducing urban heat effects by shading parking lots and streets.

## 10.707 CULTURAL AND NATURAL HISTORY

### BACKGROUND

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The goal for cultural and natural history was:

> ***Celebrate Pleasant Valley's cultural and natural history***. *The plan will retain the best of the past and incorporate the area's cultural and natural history, as appropriate, into the new community form. Important cultural and natural names, places and themes will be included.*

A Cultural/Natural History focus session was held during the development of the Pleasant Valley Concept Plan. The session's purpose was discussing how to retain and incorporate the Pleasant Valley area's cultural and historical past into the future Pleasant Valley community form. The twelve session participants included a panel of historical and planning experts. The meeting was hosted by the Pleasant Valley Land Use work team and facilitated by project staff. Historical and citizen advocates and planning professionals were invited for additional expertise and specialized knowledge of the area.

The Cultural/Natural History focus session was informed by a discussion of two documents. First, there was *Residents Informing the Planning Process: Pleasant Valley and Its Natural Resources*, a report prepared by Portland State University planning graduate students. Much of the data assembled in the report came from interviewing long-time residents of Pleasant Valley. The oral history focused on the land uses and natural history of the Kelley Creek system that is within the Pleasant Valley area. Secondary sources included the Oregon and Gresham Historical Societies and interviews with agricultural and natural resource experts. The information was gathered to understand how the land and the movement of water have affected the activities of people, and, in turn, how people have affected natural resources.

*Key findings included:*

- There is a strong sense of place in Pleasant Valley. Many residents' families have lived in the valley for several generations and still remember the rich local history.
- The presence of a compacted soil layer a few feet below the surface of the valley has greatly affected farming in the area. There has been 150 years of continuous manipulation of the water flow in the valley.
- Creeks have changed regarding geomorphology and flow, water quality and riparian areas. Flows have increased in the winter and decreased in the summer, erosion and sedimentation have increased, and blackberries and fields are replacing riparian forests. Kelley Creek supported a healthy salmon run in the past, which ceased in the 1970's. Resident cutthroat trout, sea run cutthroat trout and steelhead are still present.
- The wildlife of Pleasant Valley has changed with large carnivores, such as bears, disappearing, bird life changing and the number of coyotes rising.

### *History*

***Early History***. The valley was once covered with old growth fir forest with cedar in the bottomlands. While there is little archeological evidence of Native American activity in the valley, it is likely that area tribes did travel through. The first Europeans arrived in the early 1800s trapping fur, but the first settlement began in the 1850s after the passage of the Oregon Donation Land Claim Act.

***Settlers and Farmers***. The first settlers and future farmers worked hard to clear the land for farming. Some earned a living from logging, some farmed hay, and others farmed potatoes. The most prominent of the early settlers were the Richey brothers, who held the first church services and donated land for the first school. Many others were memorialized with street names, such as Giese and Jenne.

***Berries and Dairies***. Many current residents recall a landscape of filbert orchards, berry fields, small dairy farms, and stumps. The work to remove the large stumps and forest continued until the 1920s. The valley continued to prosper and a small town emerged, near the current Grange site, called Sycamore. There was a post office, feed store, and gas station. The peak of farming occurred just prior to World War II. During the depression, the Works Progress Administration (WPA) was active building bridges and lining Johnson Creek. The WPA also constructed the current elementary school in 1939.

***Transition from Farming to Suburban/Exurban***. Farming in the valley began to decline in the 1950s. Many noted that farming became less profitable, and as a result, many of the farms were carved up into smaller parcels and sold for large lot residences. Residents are very aware of the changes that have occurred in the valley – including increased traffic and a loss of the rural character. Residents still have a strong sense of community and long standing institutions to support the community, such as the Grange, the Baptist Church, and the elementary school.

The second document was a report, compiled by the project consultant, that listed and described historical structures identified and recommend for designation by Multnomah County. It also includes two structures suggested by the Damascus Historical Society. The structures are:

***Pleasant Valley Grange No. 348, SE Foster Road (From Multnomah County)***. The grange acquired the subject property in 1912. According to the county records, the grange building was constructed in 1933. Grange No. 348 is the only known historic grange building in the study area. It is a modest expression of the Bungalow style, a popular domestic architecture style at the time of construction.

***Forsgren House, 17120 SE Foster Road (From Multnomah County).*** Frank and Lillian Richey are believed to be the original owners of the turn-of the-century architectural style dwelling built in 1929. It is located on the northwest corner of the intersection of 172nd Avenue and Foster Road.

***James Richey House, 18102 SE Richey Road (From Multnomah County)***. James Richey is believed to be the original owner of the subject Queen Anne dwelling. Richey owned the property from 1874 until 1909. The Richey House is a rare example of the Queen Anne style in the study area. According to the county records it was constructed in 1891. Characteristic features include an asymmetrical plan, paired double-hung sash windows and numerous decorative treatments. Pleasant Valley Residents now refer to this building as the Ziniker House.
***Gustave Richey Farm, 18960 SE Richey Road (From Multnomah County)***. Gustave and Martha Richey are believed to be the original owners of the bungalow dwelling built in 1910 and its associated barn and two sheds. The Western style barn has exposed rafters and a tile foundation, suggesting a date of construction contemporary with the dwelling.

***Bliss House, 7620 SE 190th (From Multnomah County)***. Paul and Mary Isabelle Bliss from Switzerland are believed to be the original owners of the bungalow style house built in 1920 and its detached garage and three sheds. An offset, gabled, single-bay porch with round-arched openings fronts the house. The house is located on the east side of 190th at its intersection with Richey Road; small clusters of early 20th Century farm buildings are in the vicinity.

***Pleasant Valley Community Baptist Church, 17608 SE Foster Road (From Damascus Historical Society).*** The church was incorporated in 1902 and was originally at the corner of 182nd and Richey Road. When that building burned down in 1943 the church met at the Grange Hall for a year until a new building could be built across the street from the school. It is a community church in fact as well as in name; for the first 50 years of its existence it was ecumenical, unaffiliated with the Baptist church. The church today also hosts the Romanian Apostolic Church and Pleasant Valley PTA meetings.

***Pleasant Valley Elementary School, 17625 SE Foster Road (From Damascus Historical Society)***. *Pleasant Valley Elementary School was constructed with the assistance of the Works Progress Administration (WPA) in 1939. It is home to yearly picnics for valley residents. Barb Velander, past principal of the School, noted that the school has done natural/historical planting on the south side of the school near Foster Road.*

In addition to structures, names also have a role in Pleasant Valley's history. A small town by the name of Sycamore existed in the vicinity of the present-day Grange building. It consisted of a post office built in 1889, a feed store and gas station. The first postmaster was from West Virginia, the Sycamore State, and named it the Sycamore Post Office (McArthur, 1992). The Sycamore name was used widely for a time in the northern end of the valley. The school was called Sycamore School, Southeast 162nd was called Sycamore Road until around 1930, and the trolley station just north of the valley was called Sycamore Station.

Many of the roads in the valley were named after the land claims they ran along or across. Current residents see reminders of the past whenever they see road signs for Richey, Jenne or Giese Roads. Richey Road and the Richey House are both named after the best-known settlers, Stuart and Caleb Richey. The Richey's land claims were in the center of Pleasant Valley, and they had donated land for the first school. The Giese family made improvement to Filberts but were mostly involved in current Gresham.

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. A key feature of the Concept Plan regarding cultural and natural history is that the location of major roads is away from important historic resources and there are "park blocks" that connect the town center to the historic central section of Foster Road.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in planning Pleasant Valley cultural and natural history:

***Sense of Place***. Developing within the structure of the existing movement patterns (streets, drives, alleyways) is one way to retain a sense of the historical place.

***Historical Landmarks***. What makes an historical landmark is not the ability to get on a register but, rather, if people talk about it and want to relate to it. It was agreed that anything 50 years or older would be considered historical.

***Conversion of Rural Roads***. Historical homes and farm buildings naturally relate to the rural roads on which they front. Conversion of the roads to wider arterial streets can have a negative impact on landmarks. A successful walking tour would not tend to be on main arterials but on more pedestrian friendly roads.

***Riparian Corridors***. Many of the historical landmarks are near the riparian corridors. Consider stubbing out streets so that there is a connection from the regional trail system to the historic landmarks.

***Completeness of Historic Landmark List?*** It was noted that the current project has not attempted to identify any additional historic landmarks except for those already noted. It was suggested that any future planning process seek to identify additional historic resources.

***How Can Historical Landmarks be preserved?*** What is the role or obligation of a developer and how can removal of landmarks be prevented? It was suggested involving property owners early in the process and that a partnership of owners, developers and the City will be needed to prevent loss of historic buildings.

***Future criteria***. The more specific the criteria and implementation strategies are, the more likely they will be to preserve and celebrate the past.

***Keeping historic resources*** away from major roads that will be widened is best for the goals. Besides potentially causing removal of a structure, major roads can have a negative effect on the ability to experience cultural and natural history resources.

***A town center*** that has a close relationship with the natural history (riparian system) and historical landmarks is best for the goal.

Look for good connections ***to the Kelley Creek (historical) trail***.

***The more growth*** within an area near a historic/cultural/natural resource the more threat there is for those sites.

## GOAL

The best of Pleasant Valley's cultural and natural history is retained and incorporated into the new community form.

## POLICIES

1. Important cultural and natural names, places and themes will be used as Pleasant Valley urbanizes. Historic place names can used for the street, place and neighborhood names.

2. To the extent possible, major roads that will need to be widened shall be kept away from historic resources. This should be done to lessen the potential that a historic structure may be removed, preserve context around structures, and generally enhance the ability to experience cultural and natural history resources.

3. Design the town center to reflect the area's natural history (the riparian system) and historical landmarks. The town center can be connected to the central area near the grange with well-designed streets (possibly park blocks) and/or off-street paths.

4. Have good connections to the Kelley Creek trail as a potential historical trail. The Kelley Creek trail, among other functions, can link together the valley's historic landmarks and cultural and natural history.

### ACTION MEASURES

1. Identify and use historic place names for streets, places and neighborhoods. To the extent practical this should occur during the next implementation plan phase. The names identified in the evaluation report shall be a starting point. The City of Gresham Historic Resources Advisory Committee, the Gresham Historical Society and others should be engaged in determining additional names.

2. Review existing regulations regarding historic landmarks and prepare new ones as needed for Pleasant Valley. Property owners and developers should be engaged in this process before development occurs. The City of Gresham Historic Resources Advisory Committee, the Gresham Historical Society and others should also be engaged.

3. Continue to document the history of the valley and identify historic landmarks. The historic landmarks identified in the evaluation report shall be a starting point. The City of Gresham Historic Resources Advisory Committee, the Gresham Historical Society and others should be engaged in this process.

4. Cultural and natural history will be an element for consideration in future determination of how Foster and Richey Roads function in the Environmentally Sensitive and Restoration Areas. Historical homes and farm buildings naturally relate to the rural roads on which they front.

5. Integrate a cultural and historical resources plan with parks and trails master plans including a potential historical trail.

## 10.708 SCHOOLS

### BACKGROUND

A requirement of Title 11 of the Metro Urban Growth Management Functional Plan is to plan for schools with a provision that requires: "A conceptual school plan that provides for the amount of land and improvements needed, if any, for school facilities on new or existing sites that will serve the territory added to the UGB. The estimate of need shall be coordinated with affected local governments and special districts." Title 11 also requires a map that shows "General locations or alternative locations for any needed school."

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary goals was developed as part of this process. A preliminary goal for schools was that "the Centennial School District shall be included, and develop a plan for the number, type, and location of schools needed in the area."

The Pleasant Valley plan area is within the Centennial School District (CSD). The Centennial School District Board appointed a representative to serve on the Pleasant Valley Concept Plan Steering Committee. Additionally, the Pleasant Valley Elementary School PTA was represented

on the Steering Committee. Project staff worked closely with Centennial School District staff in developing a conceptual school plan.

The Pleasant Valley Concept Plan Steering Committee endorsed a series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The goal for schools was:

***Integrate schools and civic uses into the community***. *The number, type, and location of schools will be coordinated with the Centennial School District. Schools and civic uses will be integrated with adjacent neighborhoods and connected by a system of bicycle and pedestrian routes. The number, type and location of mixed-use centers will be considered as schools and civic uses are integrated into the Plan.*

A meeting was held between project staff and Centennial School District staff during the development of the Pleasant Valley Concept Plan. The meeting's purpose was twofold: First, to discuss how integrate a new elementary school (approximately 10 acres in size serving 600 students) and a new middle school (approximately 20 acres in size and serving 800 – 1,000 students) and the existing Pleasant Valley Elementary School. The Centennial School District had previously requested that the Concept Plan address those three school components. Second, to evaluate the four Pleasant Valley Concept Plan alternatives for compliance with project goal C – "integrate schools into the community."

The school evaluation essentially dealt with locational issues of walkability, accessibility, and park availability with focus on:

1. How well is the school situated relative to residential areas (attached and detached) so that children could safely walk or bicycle to school without crossing a major street?

2. Is the school served by a collector street for bus access to minimize the use of a local street for bus traffic (loading and unloading)?

3. Is there a public park that will enhance the school fields and facilities?

4. Is it located in a way that will minimize neighborhood conflict?

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary, the central theme of the plan is to create an urban community through the integration of land use, transportation and natural resource elements.

*Selected features of the school plan are:*

- There would be two new schools serving Pleasant Valley: a new elementary school and a new middle school. Pleasant Valley Elementary School will remain as one of the three schools serving the valley.

- The two new schools are located at a combined site adjacent to 162nd Avenue. This location is subject to future decisions on site acquisition and funding, however, it is recommended as the preferred general location for the schools. Some consolidation of land and joint use of facilities may result from having the schools next to each other.

## MIDDLE SCHOOL

***Purpose***. Middle schools serve grades 7 through 8 and serve 750 – 1,000 students.

### *Characteristics*

- One new middle school is expected unless a middle school is built at the Butler Road site.
- Approximately 20 acres in size. Can be smaller, but large sites allow for more recreational play fields.
- Frontage on collector street for school bus service. Transit facilities are not needed for middle school students. Staff and parents would be most likely to use public transportation.
- Student walking distance is one mile and generally students should be able to walk within ½ mile of a middle school without crossing more than one arterial.
- Adjacent to a public park of at least 2-3 acres in size immediately adjacent to the school fields is desirable. Even larger parks would allow more opportunity for school and community events.
- Not located in town center or mixed-use centers. However, being near commercial is acceptable and would allow for dual-purpose trips.

## ELEMENTARY SCHOOL

***Purpose***. Elementary schools serve grades K through 6 and serve 600 students.

### *Characteristics*

- The District has identified a longer-term need for a new elementary school.
- Approximately 10 acres in size. Can be smaller, but large sites allow for more recreational play fields.
- Frontage on collector street for school bus service. Transit facilities are not needed for elementary school students. Staff and parents would be most likely to use public transportation.
- Student walking distance is one mile and generally students should be able to walk within ½ mile of an elementary school without crossing an arterial.
- Adjacent to a public park of at least 2-3 acres in size immediately adjacent to the school fields is desirable. Even larger parks would allow more opportunity for school and community events.

- Not located in town center or mixed-use centers. However, being near commercial is acceptable and would allow for dual-purpose trips.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in a school plan for Pleasant Valley:

***Walking to school***. It is particularly important to not have kids crossing busy streets. Collector streets, in addition to arterial streets, can be concern. The walking distance for elementary school and middle school children is 1 mile.

***Access***. Elementary and middle schools should have frontage on a collector street in order to accommodate school buses. Access to public transit is not required to serve elementary or middle schools.

***Public parks and schools***. A public park adjacent to school fields can allow for an enhanced community space that benefits the school and the community. A larger public park can provide more opportunities but a 2 – 3 acre park is beneficial. The public park should not be located across a street. This is especially true for elementary school kids so that the students do not have to cross a street to use the park. The school district prefers that the parks be joint use and not have separating fences.

***Schools and town center or other mixed use commercial areas***. Would not expect an elementary or middle school to be in the town center. However, being close to the town center or other mixed-use commercial is okay and can be a benefit by allowing dual-purpose trips, i.e., combining a trip to take or pick up a student at school with a shopping trip.

***Schools and neighborhood location***. Compatibility in a neighborhood needs to be balanced with the benefits of passive supervision. Sites that minimize conflicts, for example, with a natural feature acting a buffer can be beneficial. However, residential "eyes," especially towards fields, can enhance security.

***Major power lines***. The Bonneville Power Administration has a major transmission line that runs through the project area. Northwest Natural Gas has a major pipeline than runs through the project area. Both lines generally use the same 75-foot wide easement, although they are separate through one segment. The school district prefers that schools stay at least 1,000 feet away from power lines and gas lines.

***Butler Road Site***. The school district is currently pursuing permits to construct a new elementary school on Butler Road just outside the project area. The site may also be used for a future middle school. If a middle school were built on that site one would not be needed, at least in foreseeable future, in the project area. However, the school district advised to still look for a second site which, if not a middle school, could be an elementary school.

***Joint site***. Locating the schools at a joint site can have some area and joint use benefits such as joint use of parking lots, fields, and computer and safety systems.

***School balance within the district***. Locating the elementary school to on the west side of the plan area would provide a better balance for the district considering the new Butler Road elementary site and the existing Pleasant Valley Elementary School site.

## ROUGH COST ESTIMATES

The planning process for schools shall include the associated costs for necessary land acquisition, design services, and construction. The costs stated in 2002 dollars (inflation between 2002 and project commencement date would also need to be accounted for) are estimated in the table below:

| Type of School | Land | Construction | Associated Costs | Total |
|---|---|---|---|---|
| Elementary School | $1M – $3M | $8.5M – $10M | $2.5M – $3M | $12M – $16M |
| Middle School | $3M – $8M | $15M – $19M | $4M - $5M | $22M - $32M |
| Total | $4M - $11M | $23.5M - $29M | $6.5M - $8M | $34M - $48M |

## GOAL

Schools will be integrated into the Pleasant Valley community.

## POLICIES

1. The number, type and location of schools will be coordinated with the Centennial School District. The School District has indicated that for planning purposes:

   a. The existing Pleasant Valley School Elementary School use will remain.

   b. There are potential needs for a new elementary school and for a new middle school.

2. Schools and civic uses will be integrated with adjacent neighborhoods and connected by a system of bicycle and pedestrian routes. Schools should be located to avoid students crossing major streets.

3. School compatibility in a neighborhood will be balanced with the benefits of passive surveillance. Residential "eyes," especially towards a field, can enhance security.

4. Where practical a public park will be located adjacent to school fields. Such parks shall be a minimum of 2-3 acres in size, but can be larger. This allows for an enhanced community space that benefits the school and the community. The park should not be located across a street, especially for use by elementary school students.

5. New schools will be located at least 1,000 feet from major electrical and gas transmission lines.

6. Elementary and middle schools should have frontage on a collector street to accommodate school buses.

### ACTION MEASURES

1. The Centennial School District should continue to evaluate the benefits of a joint middle/elementary school site. Potential benefits of a shared site include flexibility for school and community events, fields that are large enough for community events such as little league and soccer, parking lots that can be shared, and there are potential cost savings through shared infrastructure such as gas and electric service, telephones, sewer and water systems and computer network systems.

2. The Centennial School District should continue to work with the affected City (or County) to provide for the amount of land and improvements needed.

3. Mt. Hood Community College with Multnomah County Library and the Centennial School District should explore the potential of a joint facility. The joint facility could include a library, cultural center and an athletic facility.

### FUNDING STRATEGIES

1. An attempt should be made to coordinate the land acquisition for the schools and parks with master planning of the areas when developments occur. Providing land for a school site in a neighborhood enhances property value and, as such, is often set aside and donated for the school.

2. The affected City (or County) should have adequate urban services such as water systems, sewer systems and transportation systems in order that the School District taxpayers do not have to be financially burdened with system upgrades before the schools can be built.

3. A broad-based group of School District patrons should be convened to develop a long range facility plan for both elementary and middle schools. The outcome of this group could be a recommendation to the Board of Directors for a public vote on issuing bonds for the needed facilities or purchase of property.

## 10.709 TRANSPORTATION

### BACKGROUND

The Metro Council brought the Pleasant Valley area into the Urban Growth Boundary (UGB) in December 1998. When land is brought into the UGB Title 11 of the Metro Urban Growth Management Functional Plan requires that the added territory be brought into a city's

comprehensive plan prior to urbanization with the intent to promote the integration of the new land into existing communities.

Title 11 requires a series of comprehensive plan amendments including maps that address provisions for annexation; housing, commercial and industrial development; transportation; natural resource protection and restoration; public facilities and services including parks and open spaces; and schools.

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary planning goals was developed as part of this process. The goals addressed a town center, housing, transportation, natural resources, neighborhoods and schools. The goal for transportation stated:

> *The area has inadequate rural road improvements and suffers from traffic congestion and unsafe road conditions and driving behaviors. Development of the area should be timed to coincide with road improvements. The transportation plan should include a system of local collectors and arterials that will provide sufficient north-south and east-west connectivity. Transit bus service should be included in any transportation plan. Other modes of transportation should also be available. Some of the roads in the area may be difficult to widen without significant environmental impacts. In some cases, a realignment or replacement should be considered. In general, roads should be planned and designed for speeds consistent with local uses rather than regional through traffic. For example, Foster Road provide for slower, safer speeds, particularly in the town center area. Biking and walking should be safely accommodated on all arterials and collectors.*

***Transportation and Community Systems Preservation (TCSP)***. The Pleasant Valley Concept Plan was initiated under a federal highway TCSP grant. It was a pilot project – the specific goal being to link a balanced land use plan and a multi-modal transportation system with an efficient circulation system with good connection in an environmentally constrained area. Environmental considerations included creating strategies to help protect steelhead and cutthroat trout salmonoids, minimize stormwater runoff in Johnson Creek watershed and avoid further degradation of water quality.

Acknowledging the TCSP goals the Steering Committee adopted a series of purpose statements. Included, as a purpose, was to "*determine land use and transportation patterns minimizing the impact to environmentally sensitive areas"* and to "*link with regional context such as the regional transportation system, the Johnson Creek watershed and the Gresham Regional Center."*

***Pleasant Valley Transportation Goal***. A Transportation work team conducted a number of sessions during the Pleasant Valley Concept Plan process. The Transportation work team consisted of transportation planning, land use planning and traffic engineering professionals from the Cities of Gresham and Portland, Multnomah and Clackamas County, Metro, Tri-met, the Oregon Department of Transportation and DKS Associates (a private consultant firm).

The Transportation work team identified four principles for well-planned street system to help prevent traffic congestion, while promoting walking, transit and bicycling. Good design can also avoid the effects of heavy traffic on neighborhood safety and the environments.

***Principle 1 – Spread out the Traffic***. When designing streets it is important to not only consider the roadway's traffic function, but also other modes of travel and character of the surrounding community that the street will serve. Well designed arterial, collector and local streets are a good starting point for spreading out traffic in communities, and avoiding overly wide streets as a community and its neighborhoods grow.

***Principle 2 – Design for Livability***. The design of streets of our streets directly affects our quality of life. Streets design can promote community livability by emphasizing local travel needs and creating a safe, inviting space for community activity. Street design elements such as sidewalks, crosswalks, landscaped sidewalk buffers, bikeways, on-street parking, street trees, landscaping, street lighting, bus shelters, benches and corner curb extensions provide an environment that is not only attractive, but can slow traffic and encourage walking, bicycling and use of transit. Metro's handbook Creating Livable Streets provides examples of better design. Additionally streets can be designed to be "green", where features like street streets, landscaped swales and special paving materials can be used to limit stormwater runoff, which, in turn, helps protect stream habitat. Metro's Green Streets handbook is a resource for green street design and issues.

***Principle 3 – Connectivity Works***. On average, each household generates 10-12 automobile trips per day. A well-connected street system with reasonably direct connections encourages walking, bicycling, and transit use, and can reduce the number and length of these automobile trips. In well-connected street systems, local traffic is more dispersed, rather than focused on arterials where it combines with through-traffic to create congestions. With a well-connected system that provides multiple routes to local destinations, any single street will be less likely to be overburdened by excessive traffic. Police and fire response also benefits from a well-connected street system. Other benefits include: travel is more direct, better serves the development of main street and town centers as alternatives to commercial strip development, ideal for walking and biking because of more direct routes that are safer streets, allows streets to be narrower reducing costs, saving energy and reducing stormwater runoff, and allows for more frequent transit stops and ease of walking to transit stops.

***Principle 4 – Copy What Works***. There are a number of good street system examples in the Metro region. Older areas such as Laurelhurst (Portland), East Hill and Southeast Roberts (Gresham), Eastmoreland (Portland) and newer areas such as Fairview Village (Fairview), Tualatin Commons (Tualatin) and Orenco Station (Hillsboro).

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The following goal addressed transportation:

***Provide transportation choices***. Pleasant Valley will be a community where it is safe, convenient, and inviting to walk and ride a bike. The Plan will set the stage for future

community level transit service that connects to regional transit service, including street designs, land use types, and densities that support transit. Recommendations will be developed to correct transportation safety issues, address through traffic and provide adequate capacity for future growth. The Plan will coordinate with surrounding jurisdictions to create effective regional connections and balanced regional transportation system. A well-connected street system will be planned, using a variety of street types that reinforce a sense of community and provide adequate routes for travel. Streets will accommodate walking and biking, with special pedestrian features on major transit streets. The plan will incorporate green street designs [from "Use 'green' development practices" goal] and "A network of bicycle and pedestrian routes, equestrian trails and multi-use paths will connect the parks and open spaces [from the "Locate and develop parks and open spaces throughout the community goal].

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies.

*Key features of the Transportation element of the Concept Plan are*:

In summary, the key elements of the transportation plan (as integrated with land use and natural resources) are to:

- Create a network of arterial, collector, neighborhood connector and local streets that accommodates travel demand and provides multiple routes for travel. Key new street extensions and connections include:
  - 172nd Avenue extension north to Giese Road
  - Giese Road west to Foster Road
  - Clatsop Street west to Cheldelin Road
  - 182nd Avenue south to Cheldelin
  - Butler Road west to 190th Avenue
  - Sager Road east to Foster Road
  - Long-term arterial connection from 172nd to 190th Avenue south of the study area.
- Upgrade existing streets and design all new streets to accommodate biking and walking, with special pedestrian amenities on transit streets. Upgrade intersections with safety issues identified as part of the inventory work.
- Provide regional and community transit service on key roads in Pleasant Valley, with direct connections to Happy Valley, Clackamas regional center, Damascus, Lents, Gresham, the Columbia Corridor and downtown Portland. Transit streets include 172nd Avenue, Giese Road, 182nd Avenue, 190th Avenue, a new east-west collector south of Giese Road and Clatsop Street-Cheldelin Road.
- Provide a logical and connected street system that connects directly to community destinations while also avoiding the ESRA where possible. Plan for a local street system

that complements the arterial and collector street system, and meets regional connectivity requirements.

- Use "green" street designs that are an integral part of the stormwater management system and provide walkable tree-lined streets. Green streets are designed to incorporate stormwater treatment and conveyance within its right-of-way. They incorporate the stormwater system into the aesthetics of the community and maximize the use of street tree coverage for stormwater and climatic reasons. Metro's *Green streets – Innovative Solutions for Stormwater and Stream Crossing* provides detailed guidelines, designs and specifications.
- Downgrade the function of Foster and Richey roads to serve as local access streets and develop a strategy to disconnect and potentially vacate these streets in the confluence area of Kelley Creek.
- Plan for a long-term major arterial connection south of the study area from 172nd Avenue to 190th Avenue to serve long-term regional mobility needs if future urbanization occurs in Damascus. This will be evaluated more fully by Metro as part of urban area planning for the Damascus area.
- Evaluate needed capacity improvements to address long-term travel demand for key gateway routes if future urbanization occurs in Damascus. This will be evaluated as part of a Powell/Foster corridor study (beginning in summer 2002), continued Damascus area planning, and the next Regional Transportation Plan update.

## SUMMARY OF MAJOR ISSUES

The following are some of seven major issues that were considered in an urban plan for transportation in Pleasant Valley. Each bulleted issue is followed by a general discussion of ideas the work team identified for further consideration as part of the planning process.

***Issue 1***. Develop a network of arterial and collector streets adequate to serve future growth in Pleasant Valley, while protecting environmentally sensitive areas and adjacent neighborhoods and rural reserves from the effects of urbanization.

*Traffic analysis conducted as part of the update to the Regional Transportation Plan (RTP) demonstrated that future growth in Damascus and Pleasant Valley would likely have widespread effects on the regional transportation system, despite significant improvements to the primary routes serving the area. Additional analysis will be conducted as part of the Pleasant Valley Concept Plan process. It will be important to design the transportation system in a manner that supports the land use goals of the community, protects the natural features that define the area and improves community access by all modes of travel by providing a variety of travel choices. It will be equally important to locate the land uses in a manner that the transportation system can best serve it.*

***Issue 2***. Currently, most travel out of Pleasant Valley is via Foster Road, which is limited in its ability to accommodate future growth in traffic. The cost of any improvements in the Foster Road corridor will likely be high due to topographic and environmental constraints.

*Foster Road is an important connection between the Damascus/Pleasant Valley area and employment areas in the I-205 corridor and Portland. Foster Road has two functional segments. The first segment, from the Portland central city to I-205, experiences significant levels of congestion today. The second segment, from I-205 to Pleasant Valley, is expected to experience heavy travel demand in the future.*

*Four related concerns have been identified for the eastern portion of Foster Road. First, intersections at 162nd/Foster Road and Jenne Road/Foster Road have safety problems today that need to be addressed. Next, environmental and topographic constraints limit future capacity expansion of Foster Road east of I-205. In addition, I-205 experiences significant congestion today and directing most traffic to I-205 from Pleasant Valley via Foster Road will likely have significant implications for I-205 in the future. Finally, RTP analysis showed that despite widening Foster Road to five lanes from I-205 to Damascus and implementation of high quality bus service and a limited arterial and collector street network, the corridor experienced significant levels of traffic congestion. Any improvements to Foster Road will need to be evaluated in the context of the environmental and community impacts.*

If an additional north/south route is provided (such as Foster/190th to 182nd Avenue) and the function and capacity of Powell Boulevard east of I-205 is upgraded to serve longer trips, then Foster Road could function more like a collector in the town center area. This strategy would be consistent with the RTP. Foster Road could be relocated/realigned to orient traffic onto north/south routes (i.e., 162nd Avenue or 190th Avenue). The potential for a new north/south connection east of Foster Road could also be examined. The location and shape of the Pleasant Valley town center should be designed in the context of the function of Foster Road.

*The RTP recommended evaluation of street connectivity, potential parallel route improvements, system management strategies and rapid bus service along Foster Road. RTP analysis showed rapid bus service is expected to generate good ridership levels. Any transit improvements should include improvements to the pedestrian environment along the road, bus priority treatment at signals and improved access to bus stops.*

***Issue 3***. Safety issues exist for all modes of travel due to topography, awkward intersections and high speeds and traffic volumes. Walking and biking is also made difficult due to a lack of facilities for these modes of travel.

*Safety issues exist throughout the area due to topography, awkward intersections with difficult sight distances, and high speeds and traffic volumes. More than 20 intersections were identified by participants in the first community forum as being unsafe because of one or more of these issues. In addition, many individuals indicated they often travel significantly out of direction to avoid congested locations and routes or intersections they feel are dangerous. Cut-through traffic on existing roads was also identified as a significant issue.*

***Issue 4***. 172nd Avenue could serve as an important link between the future Sunrise Highway to the south and the Columbia Corridor via 182nd Avenue to the north. Regional transit service in this corridor could also link Pleasant Valley neighborhoods to the commercial services in the town center and the Gresham and Clackamas regional centers.

*Currently, 172nd Avenue is a narrow two-lane farm-to-market road. The 2000 RTP evaluated the comparative advantages of 172nd Avenue over Foster Road (east of 172nd Avenue) as the primary connection to Highway 212. 172nd Avenue has fewer topographic constraints, and provides more direct access to planned industrial areas along Highway 212. 172nd Avenue is also more centrally located to the Pleasant Valley/Damascus area. Based on this evaluation, the 2000 RTP upgraded 172nd Avenue to be a Major Arterial. This change in classification could transform this route into the north/south spine for the area, linking Pleasant Valley to the future Sunrise Corridor Highway to the south and Gresham and the Columbia Corridor via 182nd Avenue to the north. The location and shape of the Pleasant Valley town center should be designed in the context of the function of 172nd Avenue. The RTP recommended providing parallel routes to 172nd Avenue and more direct regional bus service linking Gresham, Pleasant Valley and Clackamas along the Sunnyside Road/172nd Avenue/Towle Road/Eastman Parkway alignment.*

***Issue 5***. The existing street system is not adequate to serve future town center growth. Connect Pleasant Valley to major streets in Gresham, Portland and Happy Valley in a manner that provides alternatives to Foster Road while protecting existing neighborhoods from traffic infiltration.

*Additional connections and improvements to existing streets are needed to increase access from Pleasant Valley to other parts of the region. Currently, there is a lack of north/south arterial routes serving this area, which could create significant traffic congestion in the future without additional street connections in Pleasant Valley. An evaluation of new north/south street connections would need to address the potential impact of traffic generated in Pleasant Valley area on adjacent neighborhoods. A number of potential connections could take pressure off the Jenne Road route that is currently used. Possible connections to be examined include: 172nd Avenue extension to 190th, Foster Road to Towle Road and 172nd Avenue to 162nd Avenue around Powell Butte. 162nd Avenue is one of the few north/south routes that connect to the Columbia Corridor employment area. The area around the base of Powell Butte has significant topographic and environmental constraints. Highland Drive is currently a three-lane collector street that connects SW Gresham to Powell Boulevard and 182nd Avenue. The route traverses Jenne Butte and crosses Johnson Creek.*

*Pleasant Valley also lacks an adequate number of east/west arterial routes to serve this area. It will be important to identify potential east/west connections to improve access from the Pleasant Valley area to Clackamas regional center area to reduce demand for Sunnyside Road to the south. The current Happy Valley TSP identifies only one potential east-west connection to the Pleasant Valley area given environmental and topographic constraints. The committee felt the planning process*

*should address the Scouter's mountain "island," potentially using the future street plan for Pleasant Valley to define the edges of this rural reserve. One possible connection could be an extension of Clatsop Street to Foster Road.*

*RTP analysis showed that expanded transit service via Sunnyside Road and 172nd Avenue was promising in combination with improvements to parallel routes and widening Sunnyside Road between Clackamas regional center and Pleasant Valley. The RTP recommended evaluation of additional street connectivity, potential parallel route improvements and system management strategies along the eastern portions of Sunnyside Road.*

*As new arterial street connections are identified, it will be necessary to balance land use and transportation planning to keep neighborhood infiltration to a minimum. Implementation strategies could include measures within these adjoining neighborhoods to make them less attractive to through-traffic intrusion.*

***Issue 6***. By providing local circulation and access from growing neighborhoods to the town center, community level transit service will be an important component of serving travel needs in Pleasant Valley.

*Pleasant Valley is not currently served by transit service. Implementation of more locally oriented transit service and connecting local service to regional service will need to be addressed as part of the transportation plan for the area, including connections to Gresham transit center, Clackamas transit center and downtown Portland. Some sort of a transit hub could be established as part of the land use and transportation plan for the town center to serve that important connection.*

***Issue 7***. The topography of Pleasant Valley and the need to protect streams will require an emphasis on providing bicycle and pedestrian connections where full street connections are not possible. These connections could be further complemented by multi-use trails that connect Pleasant Valley neighborhoods to schools, parks, commercial services, existing multi-use trails and Damascus. As a result, bicycle and pedestrian access and safety, including an extended trail system, will also need to be addressed as part of the transportation plan for this area.

*Street connectivity within the town center is important, and should complement the broader goals of tying together existing and future streets so that the town center has a high level of connectivity. Improved street connectivity can help keep local auto trips on local streets without placing an undue burden on the arterial streets like Foster Road and Sunnyside Road, and provides better access for pedestrians, bicycles and transit users. With an interconnected system that provides multiple routes to local destinations, any single street will be less likely to be overburdened by excessive traffic. Emergency response vehicles also benefit from a well-connected street system.*

*Community forum discussions revealed that many people drive to access the Powell Butte and Springwater Corridor trail systems and shared a desire to have a network*

*of sidewalks, bike facilities and multi-use trails linked to existing trails systems. Better equestrian access to trails and natural areas in Pleasant Valley was also identified as important to many people during the first community forum. In addition, a safer equestrian crossing at SE 162nd Avenue and Foster Road to improve access to Powell Butte has been identified as a need.*

*Green street designs help reduce impervious surface and incorporate on-site stormwater management within the right-of-way through the use of vegetative filter strips, swales, linear detention basins, infiltration trenches, permeable pavement and tree planting. Street alignments should follow natural contours and features as much as possible, which can help optimize implementation of green street designs. Metro has studied green streets over the same timeline as the Pleasant Valley Concept Plan study using Pleasant Valley as a case study. It recommends innovated approached to stormwater management and stream crossing using green streets in its handbook – Green Streets – Innovative Solutions for Stormwater and Stream Crossing. Also published by Metro is the Trees for Green Street – An illustrated guide handbook.*

*Metro's Green Streets manual states that bridges are preferred for all stream crossings but they tend to be a more expensive option than culverts. It notes that bridges tend to become more economically justifiable when required hydraulic opening exceeds 15 feet in span (active channel width) or 10 feet in diameter. It also notes that bridges are preferred for fish passage when stream channel slopes exceed 5 percent. A bridge design principle is that bridge abutments, piers and foots should be located outside the bankfull channel.*

## GOAL

Pleasant Valley will be a community where a wide range of safe and convenient transportation choices are provided.

## POLICIES

1. Pleasant Valley will be a community where it is safe, convenient, and inviting to walk, ride a bike and use transit. The network of streets shall accommodate walking and biking, with special pedestrian features on transit streets.

2. The community will be served by a balanced transportation system that serves all modes of travel and is coordinated with Gresham, Portland, Happy Valley, Clackamas County, Multnomah County, Tri-Met, ODOT, Metro and other transportation service providers to provide effective regional connections to the Pleasant Valley community.

3. The community will be served by community level transit service that connects to regional transit service, and include street designs, land use types, patterns and densities and pedestrian and bicycle improvements that support transit.

4. An efficient, well-connected street system will be planned, using a variety of street types that reinforce a sense of community, provide adequate routes for travel by all modes and preserve adequate right-of-way to serve future transportation needs.

5. Existing transportation safety issues will be addressed.

6. The Pleasant Valley Plan District map will serve as the basis for providing opportunities for through-travel on arterial streets and local access to community destinations on collectors, neighborhood connectors and local streets.

7. The plan district will provide a bicycle and pedestrian system that provides for safe, convenient, attractive and accessible bicycle and pedestrian routes on all streets. These routes will connect the multi-use trail and parks and open spaces system, and to major activity centers such as schools, civic uses, neighborhood centers, employment areas and the town center.

8. The plan district will provide a multi-use trail system to serve as important off-street bicycle and pedestrian connections to schools, parks, commercial areas and neighborhoods within the Pleasant Valley community, particularly in areas near the confluence of Kelley and Mitchell creeks where streams limit street connectivity.

9. Transportation plans will use green street designs, as described in Metro's handbook titled *Green Streets: Innovative Solutions for Stormwater and Stream Crossings* and *Trees for Green Streets* as a resource in the development and design of streets.

10. The Pleasant Valley Town Center and adjacent Mixed-Use Employment area will be served by a regional transit system prior to the buildout of the Town Center.

**ACTION MEASURES**

1. As a near-term objective, downgrade the function of Foster and Richey roads in the confluence area of Kelley Creek to serve as local access streets. As a long-term objective, develop a strategy to disconnect and potentially vacate the vehicular function of these street segments while maintaining the opportunity for a local trail opportunity.

2. Establish street design standards that respect the characteristics of the surrounding land uses, natural features, and other community amenities. All streets will be designed to support adjacent land uses, accommodate pedestrians and bicyclists and include green streets design elements that help minimize stormwater runoff. Design will be based on the Pleasant Valley Street Designs adopted in the Pleasant Valley Concept Plan Implementation Strategies. In developing street designs utilize Metro publications *Creating Livable Streets, Green Streets: Innovative Solutions for Stormwater and Stream Crossings* and *Trees for Green Streets*. The plan district street design standards will provide for:

    a. Planting and preservation of trees in the street right-of-ways

b. Continuous sidewalks along both sides of all arterial, collector, and local streets. Sidewalks should connect to side streets and adjacent sidewalks and buildings. Pervious sidewalk treatments should be considered.

c. Landscaped buffer separating travel lanes from sidewalks

d. Direct and logical pedestrian crossings at transit stops and marked crossings at major transit stops.

e. Short and direct public right-of-way routes to connect residential uses with nearby commercial services, schools, parks and other neighborhood facilities.

f. Street design elements that discourage traffic infiltration and excessive speeds on local streets, such as curb extensions, on-street parking, and wider sidewalks and narrowed travel lanes.

g. Secure bicycle storage facilities such as bicycle racks and other park and lock accommodations at major destination points including the town center, transit center, recreation areas and office, commercial and employment centers.

h. Minimize impervious area and utilize the natural drainage system where practical.

i. Designing bridges to serve as civic gateways or focal points in the community. Establishing guidelines to help determine most appropriate stream crossing solution for each individual crossing.

j. Locating road and multi-use path stream crossing alignments to have the lowest level of impact on a stream or ESRA. Locational considerations shall include crossings perpendicular to the stream and along narrow stream segments. Trail crossings shall consider the needs of equestrians, where appropriate, and pedestrian and bicycle travel.

3. Adopt a local street network plan that includes functional classifications for streets, street design types, connectivity plan and standards and a bike and trail plan for the plan district. The local street network plan will:

a. Consider opportunities to incrementally extend streets from nearby areas.

b. Limit the use of cul-de-sac designs and other closed end street systems to situations where barriers such as existing development, topography and environmental constraints prevent full street connections.

c. Provide bicycle and pedestrian accessways where full street connections cannot be provided.

d. Investigate off-street bike and pedestrian connections where needed to link major community destinations, such as the town center, transit center, recreation areas and office, commercial and employment centers.

4. Realign 172nd Avenue as it passes through Kelley Creek ESRA to not follow creek and reduce impact area by keeping it as far west of confluence as practical and minimizing the bridge footprint in the creek and adjacent riparian area.

5. The plan district will allow for and encourage:

a. Efficient use of on-street parking to help reduce off-street parking needs

b. Shared parking agreements to reduce the size and number of parking lots

c. Shared driveways between adjacent development projects

d. Minimizing impervious area when developing parking lots

6. Educate business groups, employees, and residents about trip reduction strategies, and work with business groups, residents, and employees to develop and implement travel demand management programs, such as carpool matching, vanpool matching, flexible work hours, transit subsidies, parking management, bikes on transit and telecommuting to reduce peak-hour single occupant vehicle in Pleasant Valley.

7. Gresham, in coordination with Portland, will work with Metro, ODOT, Multnomah County, Clackamas County and other agencies as appropriate to:

   a. Investigate needed safety and capacity improvements to address future travel demand in the Foster Road and Powell Boulevard corridors and implement study recommendations.

   b. Evaluate the long-term need for an arterial connection between 172nd Avenue and 190th Avenue as part of urban area planning that responds to future urban growth boundary decisions.

   c. Implement needed transportation improvements to serve Pleasant Valley and correct existing safety issues.

   d. Implement regional corridor study recommendations and projects identified in Regional Transportation Plan for key gateway routes, such as Sunnyside Road, Foster Road, Powell Boulevard, 172nd Avenue and 190th Avenue.

8. Expand the Tri-Met service boundary to include areas within Clackamas County to allow TriMet to serve this area.

   Work with Tri-Met to develop a transit plan for Pleasant Valley that:

   a. Establishes a transit hub within the town center zoning district that provides transfer opportunities between regional and community transit routes

   b. Implements recommended community and regional transit service.

   c. Determines appropriate locations and design of bus loading areas and transit preferential treatments such as reserved bus lanes and signal pre-emption to enhance transit usage and public safety and to promote the smooth flow of traffic.

   d. That, with other transit service providers, and employers and social service agencies' efforts enhances access for elderly, economically disadvantaged, and people with disabilities.

9. Work with emergency service providers to designate emergency access routes.

10. Develop and implement a public facility and capital improvement plan that identifies, prioritizes and adequately funds transportation improvement, operation and maintenance needs.

    a. Consider system development charges, traffic impact fees, local improvement district fees, parking fees, street utility fees and other fee mechanisms to help pay for transportation improvements, including transit.

    b. Apply for federal, state and regional funds through the Metropolitan Transportation Improvement Program (MTIP).

    c. Encourage creative partnerships (e.g., federal, state, regional, multiple jurisdiction, private) to fund transportation improvements.

    d. Develop a right-of-way preservation strategy for 172nd Avenue, Giese Road, 190th Avenue, Clatsop Street extension to Cheldelin Road.

11. Work with Metro to amend the Regional Transportation Plan to reflect Pleasant Valley Plan District recommendations, including:

    a. Motor vehicle functional classification system, transit system, pedestrian system, bicycle system and street design classification system.

    b. Transportation improvements and rough cost estimates.

## 10.720 PUBLIC FACILITIES

BACKGROUND

This section addresses water, wastewater, stormwater and park public facilities. It is intended to amend the City's public facilities plans for each facility. Amendments to the Public Facility Plan for transportation are located in a separate amendment to the City's Transportation System Plan.

The Metro Council brought the Pleasant Valley area into the Urban Growth Boundary (UGB) in December 1998. When land is brought into the UGB, Title 11 of the Metro *Urban Growth Management Functional Plan* requires that the added territory be brought into a city's comprehensive plan prior to urbanization with the intent to promote the integration of the new land into exiting communities.

Title 11 requires conceptual public facilities plans for each of these services that demonstrate how Pleasant Valley can be served. The conceptual plans are to include preliminary cost estimates and funding strategies, including likely financing approaches and maps that show general locations of the public facilities.

Conceptual public facility plans were developed for water, wastewater, stormwater, and parks during the *Concept Plan* project. The general steps in developing the conceptual public facility plans were:

- Inventorying existing conditions
- Needs analysis
- Laying out system for each of the four alternatives including facilities needs and preliminary cost estimates
- Utilizing system information to evaluate and inform creating a preferred alternative (referred to as the "hybrid plan"
- Describing in the Implementation Strategies document each system including preliminary costs and a set of funding strategies

The *Concept Plan* also included the Steering Committee's adoption of plan goals. A specific goal was adopted for parks and is described in detail in the parks section. No specific goal was developed for water, wastewater, or stormwater public facilities. However, the Steering Committee did adopt, as a planning parameter, addressing the provisions of Title 11, which as previously noted requires a conceptual plan for public infrastructure along with preliminary costs and likely funding sources. Also, a green development goal was adopted which includes describing an intention that stormwater public facilities will be part of a green infrastructure system.

The *Concept Plan* work was the basis for the Public Facilities Plans that were drafted as part of the *Implementation Plan* project. Two steps occurred during the *Implementation Plan* process. One, for each public facility the system descriptions were updated to reflect the Pleasant Valley Plan District map and its land use assumptions for dwellings and population, employment and land areas. The Plan District is a refinement of the adopted *Concept Plan* map. And second, it identified and described the elements necessary to comply with Statewide Planning Goal 11 and OAR 660-011-000 necessary to amend the City's Public Facility Plan for each the public facilities:

660-011-0010 The Public Facility Plan

1. The public facility plan shall contain the following items:

    a. An inventory and general assessment of the condition of all the significant public facility systems which support the land uses designated in the acknowledged comprehensive plan;

    b. A list of the significant public facility projects, which are to support the land uses designated in the acknowledged comprehensive plan. Public facility project descriptions or specifications of these projects as necessary;

    c. Rough cost estimates of each public facility project;

    d. A map or written description of each public facility project's general location or service area;

    e. Policy statement(s) or urban growth management agreement identifying the provider of each public facility system. If there is more than one provider with the authority to

provide the system within the area covered by the public facility plan, then the provider of each project shall be designated;

f. An estimate of when each facility project will be needed; and

g. A discussion of the provider's existing funding mechanisms and the ability of these and possible new mechanisms to fund the development of each public facility project or system.

**Service Delivery Overview**

Current residents of Pleasant Valley are largely self sufficient, and are responsible for their own water supply, wastewater treatment, and stormwater systems. Water is currently accessed via underground wells and wastewater is primarily treated in septic tanks and drain fields. Stormwater runoff is conveyed to natural drainage areas or to drainage ditches adjacent to local roads. All public roads are owned and maintained by Multnomah County and Clackamas County. There are no public parks in Pleasant Valley.

Future Public Facilities Provider Overview

In March 2004, the cities of Portland and Gresham revised a 1998 intergovernmental agreement (IGA) for the Pleasant Valley area regarding proposed jurisdictional boundaries, urban services, and preparation of land use plans for the area. A framework for urbanizing Pleasant Valley was developed and carried out through the planning process. The Pleasant Valley Public Facilities Plan further refines the roles and responsibilities outlined in the IGA. Urban development is expected to proceed only after annexation to an incorporated city. In accord with the 2004 IGA, Gresham agreed to annex the land generally east and north of Mitchell Creek (Area A) and Portland agreed to annex the land generally west of Mitchell Creek and in the Jenne Road area (Area B). A map showing the areas is in appendix B – Pleasant Valley Plan District Future Governance map.

For the remainder of Pleasant Valley, which is in Clackamas County (Area C), a final decision on who will provide services to most of this area has not yet been determined. The Cities of Portland and Gresham can serve this area, but do not have agreements in place with the county for doing so. The City of Happy Valley annexed a portion of the area south of Clatsop Street and west of 156th Street (Area D). Happy Valley will serve that area and is responsible for public facility planning in that area.

For planning purposes and to demonstrate that the area can urbanize in a manner that complies with Goal 11, the PFP assumes the cities of Portland and Gresham will serve the balance of Area C. The cities have plans in place that demonstrate its capacity to serve Area C.

The City of Gresham will be responsible for the provision of urban services for areas annexed into Gresham and the City of Portland will be responsible for the provision of urban services for areas annexed to Portland. This includes all Goal 11 mandated services (water, wastewater, and stormwater) and park services. The IGA states that Gresham and Portland will jointly determine whether wastewater sewage treatment for the mapped areas should be through Portland or Gresham. Preliminary indications suggest that it is more economical for Gresham to pump

wastewater flows from Pleasant Valley to its sewage treatment plant. A final solution regarding wastewater sewer service will be made through a refinement study to the City of Gresham Sewer Master Plan.

## 10.721 WATER SYSTEM

SYSTEMS DESCRIPTION/CONDITION ASSESSMENT

***Existing Conditions***. Currently, water supplies in Pleasant Valley are from individual wells that tap the groundwater aquifer beneath the Valley. In addition, there is no domestic water distribution system in Pleasant Valley. This source is not adequate to meet the Valley's needs as it urbanizes. Alternatives have been analyzed based on agreements that are already in place for future annexation of three sub areas within Pleasant Valley.

***Future Water Supply***. The City of Portland supplies water to approximately 840,000 people in the Portland metropolitan area. Its five largest wholesale customers are the City of Gresham, Rockwood People's Utility District, Powell Valley Road Water District, Tualatin Valley Water District, and the City of Tualatin. These customers buy about 40% of the water Portland produces.

The current Portland water system includes two storage reservoirs in the Bull Run Watershed that can store up to 10.2 billion gallons of useable storage. A supplemental groundwater source, the Columbia South Shore Well field, is located east of the Portland Airport and can provide up to 95 million gallons per day ("mgd"). The water system also consists of three large conduits that convey water from the Bull Run Watershed to Portland, key storage reservoirs at Powell Butte, Mt. Tabor, and Washington Park and a vast distribution grid containing over 2000 miles of pipeline.

The water quality of the Portland Water Bureau (PWB) sources meets and exceeds all current U.S. Environmental Protection Agency ("EPA") water quality requirements. The City of Gresham signed a 25-year intergovernmental agreement to purchase wholesale water from PWB in 1980. The Portland system has capacity to meet the future water service demand for all of Pleasant Valley.

***Future Water Service Distribution***. There is no water distribution system in place in Pleasant Valley except for portions of Area B, which are described below. Fire flows are one of the main criteria in sizing waterline infrastructure and storage needs. Potential fire flow requirements for schools, attached residential and commercial sites can range from 1,000gpm to 3500gpm. Based on specific design criteria, a looped 12-inch waterline can supply flows to meet these demands during a Maximum Day Demand scenario. Locations of these types of sites within the Pleasant Valley area are the determining factor to the layout of the 12-inch waterline facilities.

System Design Assumptions:

- Domestic usage storage requirements:
  - 120 gallons per person per day
  - 2.3 ADD/MDD peaking factor
- Fire flow storage requirements:
  - Single Family Detached — 1000gpm for 2 hours (120,000gal)
  - Single Family Attached — 3000gpm for 2 hours (360,000gal)
  - Commercial / Public — 3500gpm for 3 hours (630,000gal)
  - (In service levels with mixed usage, fire flow storage is based on the highest rated requirements)
- Overall storage requirements based on the following: The sum of 25% of MDD (peaking equalization) plus fire flow storage plus 2 times ADD.
- Pumping requirement based on supplying MDD.
- Source requirement based on supplying MDD times 25% for Gresham's Intermediate and 720 service levels.

The following narrative describes the systems envisioned to serve the three sub areas within Pleasant Valley.

***Area A***. The City of Gresham will deliver water to future urban development in Area A. Gresham currently provides water service to approximately two-thirds of city residents, businesses, and industries. The Rockwood Water People's Utility District ("RWPUD") serves the remaining one-third. The Gresham water system is supplied from the Portland Water Bureau ("PWB") Bull Run System and Columbia River well field sources. Gresham currently has seven supply connections from PWB and one supply connection from RWPUD. Gresham has emergency connections via normally closed valves in the water system with RWPUD, Powell Valley Road Water District, Lusted Water District, and City of Troutdale.

The City of Gresham water system has seven service levels. Pressure to the system is provided directly by gravity from the PWB system or from eight water reservoirs supplied from booster pumping stations. Gresham's overall system Average Day Demand ("ADD") is approximately 7 million gallons and the Maximum Day Demand ("MDD") was approximately 14 million gallons. The water system's 8 reservoirs have approximately 28.5 million-gallons ("MG") of total storage. There are seven pump stations, approximately 250 miles of pipeline, and approximately 35 miles of water service pipeline. The system is monitored and controlled by a central supervisory control and data acquisition ("SCADA") system. The SCADA system allows water system operators to monitor and operate reservoirs, pump stations, and supply connections via a central computer control. This ability has enabled efficient operation of the water system by controlling peak demands from the PWB conduits.

Area A has elevations between 340 feet and 580 feet. Area A will be served from two separate service levels – the Intermediate Service Level and the 720 Foot Service Level. The Intermediate Service Level, which has an overflow elevation of 575 feet, can serve elevations between 340 feet and 440 feet. The 720-foot Service Level, which will have an overflow elevation of 720 feet, can serve elevations between 440 feet and 580 feet. A single population for Area A was received from Metro. Acreage as well as population was calculated for the 720-foot service level for the concept plan. These population figures were subtracted from the total population figures from Metro to then determine the expected populations within the Intermediate service level.

The following narrative describes the improvements needed to serve the area.

The *Intermediate Service Level* is served by two concrete reservoirs, which have a total storage of 10 MG, one 6MG reservoir (Regner Reservoir) and the other a 4MG reservoir (Butler Reservoir). Additional storage of approximately 3.5 to 4.0MG is needed in the Intermediate Service Level within Area A in Pleasant Valley. The existing Butler Reservoir site has adequate property to construct an addition reservoir. Additional pumping capacity of approximately 1,650 gpm to 1,950 gpm and source capacity of approximately 1,950 gpm to 2, 325 gpm is needed in the Intermediate service level, which would be the level from which to pump to the 720-foot service level.

Two extensions of a 16-inch waterline are recommended: one extending from the existing Butler reservoir and the other extending from the existing system north of the Pleasant Valley study area. This redundancy is an important factor in assuring adequate service to a substantially populated area. The plan envisions 12-inch waterlines in all areas where there is a potential for high fire flows ranging from 1,500 gpm to 3500gpm. Waterline infrastructure smaller than 12 inches is anticipated to be constructed by development as it occurs.

*The 720-foot Service Level* will require 400,000 gallons to 1MG of storage for the Pleasant Valley study area. Property acquisition, which is not included in the estimate, will be required for a new reservoir. Location of the reservoir is also not identified at this time. The new 720-foot reservoir will be inter-connected with the existing Hunters Highland Service reservoir. Additional pumping capacity of approximately 125gpm to 600gpm is needed for the 720-foot Service Level. The pump station would be located at the Butler Reservoir Site.

For Water, the preferred annexation strategy within Pleasant Valley would be east to west to take advantage of the existing water infrastructure. Our South Hills Service Level through an interim service arrangement can serve the 720-foot Service Level. If development proceeds west to east we could enter into an interim service arrangement with Portland. Pressure would be regulated at this connection to mirror Gresham's Intermediate Pressure Zone (575' elevation). Under both approaches, reserves need to be set aside using SDCs to build the additional water storage facilities for Pleasant Valley.

***Area B***. The City of Portland will provide water service to urban development in Area B. Area B includes two separate portions of land within the Pleasant Valley study area. The first area is at the NW corner of the Pleasant Valley study area along Jenne Rd, which has elevations between

260 feet and 380 feet. Currently, a 12-inch waterline resides in SE Jenne Road from SE McKinley Road to SE 174th Avenue. This waterline is served directly from the 50MG Powell Butte Reservoir, which has an overflow elevation of 531 feet. An analysis indicates that this 12-inch main could adequately serve this area. The second area is east of 162nd and between Kelley Creek and Mitchell Creek, as well as a small portion of land at the NW corner of 162nd and Clatsop. Elevations in this area range from 340 feet and 450 feet. Currently, a 12-inch waterline resides in SE 162nd from SE Foster Road to SE Clatsop Road as well as a 12-inch waterline in SE Clatsop from 162nd to the west. These waterlines are served from the 3MG Clatsop Reservoir, which has an overflow elevation of 814 feet. This reservoir is served from a pump station located near 162nd and Flavel and has a MDD capacity of 350gpm. A conceptual analysis indicates that this 12-inch main could adequately serve this area.

All the major water transmission and storage facilities are, therefore, already in place for Portland's part of Pleasant Valley. In both subsections of Area B, it is anticipated that property owners, as a condition of service, would construct required distribution mains. However, Portland will need to update its water master plan to show the preferred routing and pipe sizes for Area B to justify requirements for oversizing water distribution facilities. This is especially important because of the potential that a school may be build adjacent to 162nd Street north of Clatsop Street.

***Area C***. As noted above, there is uncertainty regarding who will deliver water to urban development in Area C. Given that the area is designated primarily for residential development, there are no significant storage or transmission facilities needed to serve the area independently from other parts of Pleasant Valley. The City of Gresham is capable of serving this area.

The Gresham Water Master Plan recommends that the city extend a 16-inch waterline along Cheldelin Road as part of a loop that provides redundancy for serving areas to the north within the Intermediate Service elevation. This line also would be capable of supplying water to all of Area C. For the present, the PFP assumes the City of Gresham will extend a 16-inch waterline along Cheldelin Road and will serve Area C.

A map in Appendix A of this section shows the planned system improvements.

## SUMMARY OF FUTURE NEEDS

- The City of Gresham has access to sufficient water supplies to serve all areas within Pleasant Valley and has identified necessary improvements to its water system to serve sub areas A and C. Additional intergovernmental work is needed to determine whether the Gresham serves Area C by annexing this area, or through a special service agreement.
- The City of Portland has storage and transmission capacity to serve Area B, but will need to update its water master plan to clearly identify the size and preferred routing of transmission facilities to establish over sizing requirements. Portland also may supply portions of Area A on an interim basis until adequate storage can be constructed in Pleasant Valley. More analysis is needed to refine this concept. The IGA may need to be amended to enable this solution.

- Additional storage will be needed in the City of Gresham's Intermediate or 720-foot water service level to serve complete development. In the interim, Gresham will be able to serve the eastern parts of Area A from the Hunters Highland and South Hills reservoirs until additional storage is constructed to serve Pleasant Valley. More analysis is needed to refine this service concept.
- The Cities of Portland and Gresham need to consider the impact of water service extensions in Pleasant Valley on their existing SDC programs. In particular, Gresham needs to evaluate which Pleasant Valley projects should be added to their list of eligible projects and determine the appropriate SDC to finance the additional public improvements that will support growth in Pleasant Valley commensurate with existing levels of service.

## FINANCING PLAN

The following discussion presents the envisioned strategy for financing water service extensions in the Gresham and Portland sections of Pleasant Valley. For analysis purposes, the boundary between Portland and Gresham is presumed to be Mitchell Creek in the west. The Jenne Road area is also presumed to be part of Portland. All other areas in Multnomah County (Area A) are anticipated to be in Gresham. The final boundary will likely shift away from the creek, but at this time, the shift is not expected to significantly alter the relative cost burden depicted for Gresham and Portland. This discussion assumes Gresham will serve the Clackamas County area (Area C). The ultimate serve and governance provides for Area C have not been determined and will be the subject of future agreements.

***Water***. Both Gresham and Portland rely on developer contributions, SDCs, and retained earnings from the utility to finance system expansion. Each city has borrowed against future utility revenues to finance major improvements in production, storage and transmission facilities. SDCs are collected by both cities to help finance system expansion.

In the Portland service areas, it is expected that the current mix of private contributions, utility earnings, and SDC will finance necessary system improvements. The existing water system has capacity, pressure, and available storage to serve these areas. Transmission extensions can be financed incrementally with private funds and SDCs. The City will need to review its SDC methodology to determine if the transmission line in 162$^{nd}$ should qualify as an SDC credit eligible project. Otherwise, all improvements would be financed conventionally.

In Gresham, the annexation analysis indicates that the city may have difficulty financing water storage needs in the short term. The Water Fund currently has insufficient reserves to secure revenue bond financing to build the storage and transmission needed to serve Pleasant Valley. Over the long term, however, Gresham's existing SDCs should generate enough revenue from within Pleasant Valley to capitalize system improvements.

To address the timing problem for meeting water storage needs, two approaches can be taken. If development proceeds into Pleasant Valley from east to west, most of that land falls within Gresham's 720-foot pressure zone. The city has a moderate amount of capacity in its South Hills Reservoir that could serve development in Pleasant Valley within the 720-foot service pressure zone on an interim basis. As reserves build from SDC payments, Gresham can issue bonds to

add long-term storage in this pressure zone for Pleasant Valley. Transmission extensions from both the east and west can be financed conventionally.

If development proceeds into Pleasant Valley from west to east, most development would fall within Gresham's Intermediate Service Level. On an interim basis, Portland could serve as the main water supply for development in the western portion of the valley until Gresham can finance permanent storage reservoirs. During this interim time period, Gresham will need to set aside reserves from SDCs that can be used to secure a bond issue to build storage for areas east of Mitchell Creek that are within the City's Intermediate Service Level. The timing for a bond measure to build this storage will depend on the pace of development in Pleasant Valley. When service can be transferred over to the Gresham service area and inter-tie between Portland and Gresham can serve as an emergency connection.

Gresham needs to review their SDC methodology, especially their improvement fee, to ensure the fee is adequate to recover forecast capital improvement needs in Pleasant Valley. This will be done as part of an engineering study to refine the storage and supply solutions outlined above. The consensus of staff, however, is that there are no extraordinary physical or technical issues associated with water service delivery in Pleasant Valley. If SDCs keep pace with design and construction costs, the area will generate sufficient revenue over the long term to finance necessary water system improvements.

## GOALS, POLICIES AND ACTION MEASURES

### GOALS AND POLICIES

1. Applicable goals and policies that relate to the provision of public facilities in the existing comprehensive plans for the cities of Portland and Gresham also apply to the Pleasant Valley PFP. In addition to those goals and policies, the following policies are made part of this plan.

2. The Cities of Gresham and Portland and Clackamas County will work cooperatively to identify an efficient solution for extending water service to portions of Clackamas County that are within the Pleasant Valley plan area. Any agreement between Gresham and the County that does not anticipate annexation of this area to Gresham will comply with provisions of ORS 195 for urban service providers.

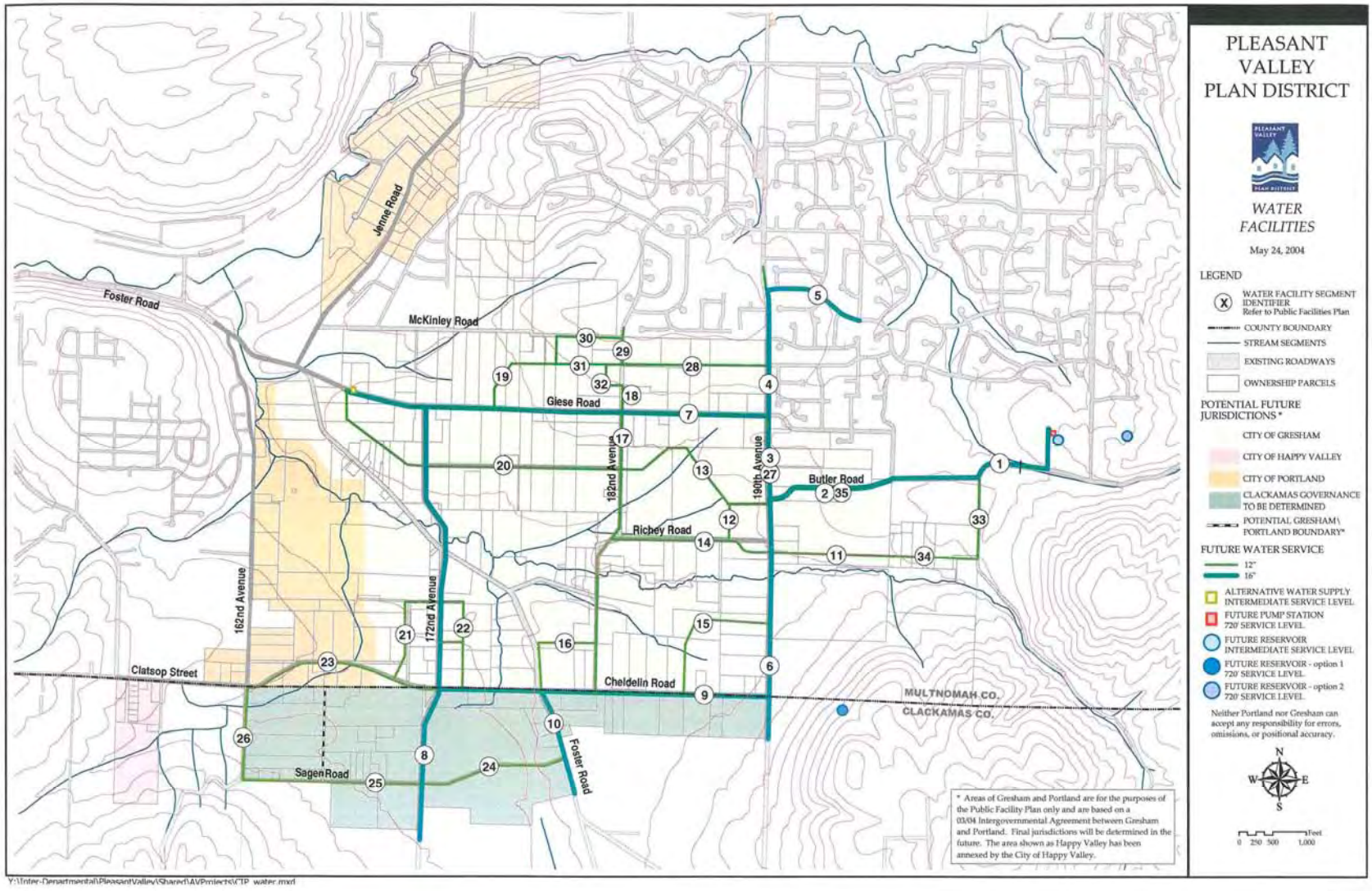
### ACTION MEASURES

1. Update the City of Portland water master plan to establish the size and preferred routing for water system improvements serving Area B and establishing an interim service agreement with Gresham if annexation proceeds from the west to east.

2. Review and, if necessary, update the City of Gresham system development charge water improvement fees to include necessary public improvements for serving Areas A and C.

3. Update the City of Gresham 5-Year Capital Improvement Plan to include critical path water system improvements – especially storage in the Intermediate service level - in accordance with the adopted water master plan and annexation plan.

4. If Gresham and/or Portland is to annex and provide services to Area C (in Clackamas County) then Gresham and/or Portland and Clackamas County need to conclude negotiations for territorial expansion and service agreements for Area C.


PLEASANT VALLEY PLAN DISTRICT
WATER FACILITIES
May 24, 2004
LEGEND
WATER FACILITY SEGMENT IDENTIFIER Refer to Public Facilities Plan
COUNTY BOUNDARY
STREAM SEGMENTS
EXISTING ROADWAYS
OWNERSHIP PARCELS
POTENTIAL FUTURE JURISDICTIONS *
CITY OF GRESHAM
CITY OF HAPPY VALLEY
CITY OF PORTLAND
CLACKAMAS GOVERNANCE TO BE DETERMINED
POTENTIAL GRESHAM\ PORTLAND BOUNDARY*
FUTURE WATER SERVICE
12"
16"
ALTERNATIVE WATER SUPPLY INTERMEDIATE SERVICE LEVEL
FUTURE PUMP STATION 720' SERVICE LEVEL
FUTURE RESERVOIR INTERMEDIATE SERVICE LEVEL
FUTURE RESERVOIR - option 1 720' SERVICE LEVEL
FUTURE RESERVOIR - option 2 720' SERVICE LEVEL
Neither Portland nor Gresham can accept any responsibility for errors, omissions, or positional accuracy.
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* Areas of Gresham and Portland are for the purposes of the Public Facility Plan only and are based on a 03/04 Intergovernmental Agreement between Gresham and Portland. Final jurisdictions will be determined in the future. The area shown as Happy Valley has been annexed by the City of Happy Valley.
Jenne Road
Foster Road
McKinley Road
Giese Road
182nd Avenue
190th Avenue
Butler Road
Richey Road
162nd Avenue
172nd Avenue
Clatsop Street
Cheldelin Road
MULTNOMAH CO.
CLACKAMAS CO.
Sagen Road
Foster Road
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## Section 10.721 - Appendix B – Pleasant Valley Public Facility Plan

### Water Capital Improvement Project List

| Project | Description | Units | Cost[1] | Timing | Responsible Jurisdiction | Funding Source | Comments | Short Term | Long Term |
|---|---|---|---|---|---|---|---|---|---|
| **Waterlines** | | | | | | | | | |
| **Intermediate Service Level** | | | | | | | | | |
| | Size – 16” | Linear feet | | | | | | | |
| 1 | Butler Rd west to Butler extension Intermediate Service Level – 16” | 3,022 | $362,599 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 362,599 |
| 2 | Butler Extension to 190th – Intermediate Service Level – 16” | 1,899 | $227,858 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 227,858 |
| 3 | 190th from Butler Rd extension north to Giese – Intermediate Service Level – 16” | 1,219 | $146,227 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investments | $ - | $ 146,227 |
| 4 | 190th from Giese north to Willow Parkway – Inter-Intermediate Service Level – 16” | 1,854 | $222,480 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 222,480 |
| 5 | Willow Parkway from 190th east to Eastwood Ave – Intermediate Service Level – 16” | 1,515 | $181,800 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 181,800 |
| 6 | 190th from Butler Road extension south to PV boundary – Intermediate Service Level – 16” | 3,530 | $423,544 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 423,544 |
| 7 | Giese from 190th to just east of Foster – Intermediate Service Level – 16” | 6,309 | $757,075 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 757,075 |
| 8 | 172nd from Giese south to PV Boundary – Intermediate Service Level – 16” | 6,526 | $783,101 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 783,101 |
| 9 | Cheldelin from 190th to 172nd – Intermediate Service level – 16” | 4,916 | $589,900 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 589,900 |

| Project | Description | Units | Cost[1] | Timing | Responsible Jurisdiction | Funding Source | Comments | Short Term | Long Term |
|---|---|---|---|---|---|---|---|---|---|
| 10 | Foster from Cheldelin south to PV Boundary – Intermediate Service Level – 16" | 1,587 | $190,454 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 190,454 |
| | **SIZE – 12"** | | | | | | | | |
| 11 | Richey Road from 190th east to service level break point – Intermediate Service Level – 12" | 1,680 | 164,640 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 164,640 |
| 12 | West side 190th/South of Plaza to Richey Road – Intermediate Service Level – 12" | 1,190 | $116,662 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 116,662 |
| 13 | From 182nd looping through LDR to Plaza – Intermediate Service Level – 12" | 2,142 | $209,914 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 209,914 |
| 14 | Richey Road from 190th to 182nd – Intermediate Service Level – 12" | 2,444 | $239,531 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 239,531 |
| 15 | (west of 190th) between Richey & Cheldelin – Intermediate Service Level – 12" | 2,306 | $226,017 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 226,017 |
| 16 | (east of Foster- 2 lines) between Richey & Cheldelin, Intermediate Service Level – 12" | 3,921 | $384,235 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 384,235 |
| 17 | 182nd from Richey to Giese – Intermediate Service Level - 12" | 1,900 | $186,223 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 186,223 |
| 18 | 182nd from Giese to Neighborhood Park – Intermediate Service Level – 12" | 398 | $39,027 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 39,027 |
| 19 | 31st looping back to Giese – Intermediate Service Level – 12" | 1,404 | $137,602 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 137,602 |

| Project | Description | Units | Cost[1] | Timing | Responsible Jurisdiction | Funding Source | Comments | Short Term | Long Term |
|---|---|---|---|---|---|---|---|---|---|
| 20 | (south of Giese) between Linneman & Foster – Intermediate Service Level – 12" | 4,723 | $462,855 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 462,855 |
| 21 | (west of 172nd) Crystal Springs to Baxter – Intermediate Service Level – 12" | 1,725 | $169,095 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 169,095 |
| 22 | (east of 172nd-2 lines) Crystal Springs to Cheldelin – Intermediate Service Level – 12" | 1,965 | $192,523 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 192,523 |
| 23 | Baxter/Cheldelin from 172nd west to 162nd –Intermediate Service Level – 12" | 3,010 | $294,943 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 294,943 |
| 24 | (south of Cheldelin) from Foster west to 172nd – Intermediate Service Level – 12" | 2,200 | $215,603 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 215,603 |
| 25 | Sager Rd from 172nd west to 162nd – Intermediate Service Level – 12" | 2,667 | $261,361 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 261,361 |
| 27 | 162nd from Sager to Clatsop St – Intermediate Service Level – 12" | 1,358 | $133,122 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 133,122 |
| | | | | | | | | | |
| **720-foot Service Level** | | | | | | | | | |
| | **SIZE – 12"** | | | | | | | | |
| 35 | Butler Road Extension – 720-foot Service Level – 12" | 1,925 | $188,607 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 188,607 |
| 27 | 190th from 25th to Butler extension – 720-foot Service Level – 12" | 3,432 | $336,287 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 336,287 |
| 28 | 31st Street from 190th to Linneman – 720-foot Service Level – 12" | 2,165 | $212,206 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 212,206 |
| 29 | SW Linneman from 30th to 21st Street – 720-foot Service Level – 12" | 552 | $ 54,086 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 54,086 |

| Project | Description | Units | Cost[1] | Timing | Responsible Jurisdiction | Funding Source | Comments | Short Term | Long Term |
|---|---|---|---|---|---|---|---|---|---|
| 30 | McKinley Road from 190th looping back to 31st - 720-foot Service Level – 12" | 1,391 | $136,282 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 136,282 |
| 31 | 31st Street from Linneman to McKinley loop – 720-foot Service Level – 12" | 983 | $96,382 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 96,382 |
| 32 | West side of neighborhood park from 31st to Linneman – 720-foot Service Level – 12" | 559 | $54,742 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 54,742 |
| 33 | Rodlun from Butler south to UGB – 720-foot Service Level – 12" | 1,164 | $114,068 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 114,068 |
| 34 | Richey Road from Rodlun west to service level break point – 720-foot Service Level 12" | 1,394 | $136,659 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 136,659 |
| **Reservoir Storage** | | Gallons | | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | |
| **Intermediate Service Level** | 3,472,000 Gallons at the Intermediate Service Level | 3,472,000 | $5,208,000 | 1 to 5 | Gresham | SDC/Utility | | $5,208,000 | $ 0 |
| 720' Service Level | 1,182,000 Gallons at the 720' service level | 1,182,000 | $1,773,000 | 6 to 20 | Gresham | SDC/Utility | | | $1,773,000 |
| **Pumping Capacity** | | **Gallons per Minute** | | | | | | | |
| Intermediate Service Level | 1,696 Gallons/minute at the Intermediate Service Level | 1,696 | $1,696,000 | 6 to 20 | Gresham | SDC/Utility | | | $1,696,000 |
| 720' Service Level | 604 Gallons/minute at the 720' Service Level | 604 | $604,000 | 6 to 20 | Gresham | SDC/Utility | | | $ 604,000 |
| **Source** | | | | | | | | | |
| Intermediate/720' Service Level | 2,875 Gallons/minute at the Intermediate/720' Service Level | 2,875 | $862,500 | 6 to 20 | Gresham | SDC/Utility | | | $ 862,500 |
| **Planning** | | | | | | | | | |
| Water Master Plan/SDC Update | | | $30,000 | 1 to 5 | Gresham | SDC/Utility | Priority Investment | $ 30,000 | $ 0 |

| Project | Description | Units | Cost[1] | Timing | Responsible Jurisdiction | Funding Source | Comments | Short Term | Long Term |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| Total Waterlines | | | $8,647,711 | | | | | | |
| Total Reservoir Storage | | | $6,981,000 | | | | | | |
| Total Pumping Capacity | | | $2,300,000 | | | | | | |
| Total Source | | | $862,500 | | | | | | |
| Total Planning | | | $30,000 | | | | | | |
| **Total Water System CIP Cost** | | | $18,821,211 | | | | | $5,238,000 | $13,583,211 |

Source: City of Gresham Water Bureau

[1] Costs are based on 2003 data

**Some portions of project service areas fall outside the proposed Annexation Sub-area extent or are adjacent to areas outside the study boundary.

## 10.722 WASTEWATER SYSTEM

SYSTEM DESCRIPTION/CONDITION ASSESSMENT

***Existing Conditions***. Most of the Pleasant Valley Concept Plan area is within the upper Johnson Creek basin. The Johnson Creek basin is bordered generally by Clackamas County to the south, the City of Gresham to the east, on the north by NE Glisan Street and on the west by SE 45th Avenue. Current land use in the Pleasant Valley part of this basin is rural in nature and the area is served by on-site septic drainfields. This method cannot be relied on to serve planned urban level development. The City of Portland, City of Gresham, and Clackamas County all have the ability to collect and treat flows from all or portions of the Pleasant Valley Area. Alternatives have been analyzed based on service options for three sub areas within Pleasant Valley.

***Sewage Collection***. The sewage collection system refers to the infrastructure that serves development in Pleasant Valley. The topography within the Pleasant Valley area is such that the majority of the waste generation is within one drainage basin. A conceptual sewage collection system was developed as part of the Concept Planning process for Areas A, B, and C (Technical Appendix 11, Pleasant Valley Concept Plan, Concept D, 2001). A map in Appendix A shows the planned collection system improvements. Most of the system serving Areas A and C is gravity sewers. This design will avoid building sewers in sensitive riparian areas.

The Jenne-Powell sub-basin (former Urban Reserve area 4 and now part of Area B) can be connected directly to the Portland sanitary sewer system via the Foster Road interceptor. The remaining area (former Urban Reserve Area 5 and now the southwestern part of Area B) can be served with a gravity sewer system to a point near the confluence of Kelley Creek and Mitchell Creek. From there this sewage will need to be pumped across Kelley Creek, either to tie in with Portland's Foster Road interceptor or pumped south along Foster Road to the Pleasant Valley main pump station.

For planning purposes, the Concept Plan analysis assumes that Area C, which is within Clackamas County but drains toward Gresham, will be integrated with the sewer collection system for the rest of Pleasant Valley. It is conceivable that sewage from Area C could be collected in a separate system and pumped to Clackamas County for treatment, but this likely would be a more expensive solution and is not anticipated.

***Sewage Conveyance and Treatment***. The sewage conveyance and treatment system refers to the infrastructure that transports sewage from Pleasant Valley to a wastewater treatment plant for processing and discharge. There are three conveyance and treatment options for wastewater flows from Pleasant Valley. The first option would convey the sewage to the City of Gresham wastewater treatment plant. The second option would direct sewage to the City of Portland wastewater conveyance system for treatment at the Columbia Boulevard Treatment Plant. Both treatment options have advantages and disadvantages, which are described in detail below. The third option only deals with flow from Area C. A simplified description of these solutions follows.

The Gresham treatment solution involves building a 24-inch trunk line – most likely constructed along Foster Road and then up Jenne Road – to an inter-tie point with Gresham's existing sewer system. Some Gresham sewers or pump stations may need to be enlarged to convey the flow to the Gresham sewer plant where sewage would be processed and discharged to the Columbia

River. In both these scenarios, the capacity of the main pumping station would be around 3,300gpm to match projected flows from the integrated parts of Areas A, B, and C.

The Portland treatment option requires transporting the Pleasant Valley wastewater to Portland's sewage conveyance system. One approach would involve building gravity sewers, but this would require extensive construction in the sensitive Kelley Creek and Johnson Creek riparian corridor and stream channel. A more likely solution would be to use a large pump station on the south side of Kelley Creek near 172nd Avenue combined with a pressure sewer line - most likely constructed along Foster Road - to an inter-tie point with Portland's sewer system. Sewage would then flow through Portland sewers, some of which would need to be enlarged to accommodate the additional flow. Sewage would be treated at the Columbia Boulevard treatment plan and discharged to the Columbia River.

An engineering analysis by the City of Gresham has led Gresham to conclude that for Area A and C, the preferred solution is to convey by gravity sewage to the Gresham Treatment Plant. More analysis is needed to determine whether or not some flow from Area B also should be treated in Gresham. A final decision on the treatment option for Area B will be made when Portland adopts amendments to its public facility plan for Area B.

As noted above, it is conceivable that the flow from Area C, in Clackamas County, could be collected and diverted south to Clackamas County Sewer Service District #1. This approach, however, would be expensive because it runs counter to the terrain. This option would only be pursued if the area becomes part of Happy Valley and if an agreement cannot be reached for treating flow from this area in Gresham or Portland.

***The City of Portland Treatment Solution***. Portland currently treats most of the sanitary sewage generated within the 12,750-acre Johnson Creek basin. Portland also accepts sanitary sewer flows generated in the basin from the city of Gresham at four locations: SE 162nd Avenue and SE Stark Street, SE 176th Avenue, SE Haig Street, and Foster and 162nd Avenue. Portland also accepts sewage flows from Clackamas County Sewer Service District #1 at: SE 132nd Avenue and SE Clatsop Street, SE Linwood Avenue at Johnson Creek Blvd.

The McKinley Estates, located in the Jenne-Powell sub-basin, also is served by Portland. This development is served by an 8-inch sewer line in SE Jenne Road (from SE McKinley Road to Foster Road) and an 8-inch line in Foster Road (from SE Jenne Road to 162nd Avenue), where it discharges into the city's sewer system in a 10-inch line.

Portland completed a Public Facilities Plan in July 1999. This plan included an analysis for serving the Pleasant Valley Concept Plan area. Johnson Creek was modeled using a spreadsheet analysis tool. Infiltration and inflow (I/I) contributions varied within the model, depending on whether actual monitoring data were available. Because of the proximity of the Pleasant Valley Concept Plan area, the modeling effort considered the impacts of both including and excluding this area as part of the analysis.

In addition to existing pipes, the model contains hypothetical pipes that may be constructed in the future to serve undeveloped areas within Pleasant Valley. These future pipes were placed on a planning-level alignment based on topography and street location. Sub-basins were delineated so that the flows in these future pipes could be turned on and off as required for the analysis.

In the 2015 base-case (without Pleasant Valley) wet weather scenario, the 10-inch and 18-inch sewer lines following SE Knapp Street were too small to accommodate projected flows. The total deficient length is less than 1,000 feet. The main branch serving the mid-county area (from SE Raymond Street and 122nd Avenue to Division Street and 148th Avenue) ran at 50 to 65 percent capacity. The segment on SE 111th Avenue just upstream of the Johnson Creek Interceptor ran at 70 to 75 percent capacity. The Johnson Creek Interceptor itself was at about 65 percent capacity below SE 112th Avenue and SE Foster Road (one segment was 81 percent) and at 20 to 30 percent capacity in the upper section. In summary, 214 pipes were zero to 25 percent full; 114 pipes were 25 to 50 percent full; 92 pipes were 50 to 75 percent full; and 8 pipes were 75 to 100 percent full.

The modeling then considered an alternative future condition with full build-out for development in Pleasant Valley and other unserved areas. Under that scenario, some reaches of the Johnson Creek trunk exceeded design capacity. The interceptor ran 80 to 90 percent full in the lower section and 75 to 80 percent full in the upper section, with isolated segments running at 116 percent and 104 percent, respectively. About 645 feet of pipe in two locations would need to be replaced in the Johnson Creek basin.

Further modeling efforts in these areas would aid in predicting whether some of this pipe can be surcharged at an acceptable level. If so, the existing pipeline may not need to be replaced. Before a decision is made about directing flow from Pleasant Valley to Portland, a more sophisticated Stormwater Management Model ("SWMM") should be developed for the sewer system and reliable cost estimates prepared for related improvements.

In addition to replacing undersized sewer lines, flow from Pleasant Valley would be conveyed through parts of Portland's sewer system that are being overhauled to reduce combined sewer overflows. The overflow reduction has been accomplished by building very large deep conduit pipes that provide temporary storage for sewage during storm events. This sewage must later be pumped out of the storage conduits for treatment. It is estimated that sewage from Pleasant Valley may need to be pumped three or four times as it traverses the Portland system before being treated. This adds significantly to the cost of conveying and treating sewage through Portland. As a consequence, it is estimated that Portland sewer rates will be 30% or more higher than Gresham rates for domestic service. For areas in the City of Gresham, this rate differential represents a significant concern.

***City of Gresham Treatment Solution.*** The City of Gresham provides sanitary sewer collection and treatment for more than 90,000 residents, businesses, and industries within the City. Through its wastewater management program, the City is able to provide high quality service to ratepayers while protecting the area's sensitive surface water features. Gresham's service area contains seven major sewer basins totaling approximately 14,171 acres (22 square miles). In addition to the seven sewer basins, the City also accepts wastewater flows from the City of Fairview (228 acres) and the City of Wood Village (604 acres), and a small amount of flow from the City of Portland. The service area extends from the Columbia River at an elevation of approximately 10 feet to the southern edge of Multnomah County at an approximate elevation of 1,000 feet. The service area is bordered by the City of Portland to the west and Fairview, Troutdale, and unincorporated Multnomah County to the north and east.

Gresham recently expanded its sewage treatment plant and has capacity to serve Pleasant Valley. In February 2001, Gresham updated its Wastewater System Master Plan. The plan included a

service analysis for most of the Pleasant Valley Concept Plan area but it excluded Area C within Clackamas County. Like the modeling that was used for Portland, the analysis established a baseline flow condition for Gresham's existing service area and then identified necessary improvements under build out conditions to accommodate the additional flow from Pleasant Valley. This flow would likely be introduced to Gresham's system at the west end of the Johnson Creek Trunk.

Without contributions from Pleasant Valley, the Johnson Creek trunk is projected to carry a flow of 1,724 gallons per minute ("gpm"). With Pleasant Valley flows added, the line would need to carry an additional 3,300 gpm to 5,024 gpm, depending on the size of the area served and infiltration rates. This represents an increase of approximately 190 percent. The trunk line does not have capacity to accommodate this flow.

The closest pipeline with capacity to accept flow from Pleasant Valley is located in SW 11$^{th}$ Ave. just north of where Johnson Creek crosses under Jenne Road. A total of 3,116-linear feet of sewer pipe will need to be upsized to convey the additional flow to the Linneman pump station, and additional piping to convey flow within the Johnson Creek basin. Additional pumping capacity also must be provided. The size of the new force main from the Linneman pump station would need to be increased or a third parallel force main provided to maintain head loss and velocity at reasonable levels given the increased flow. Finally, because the West Trunk, Gresham Parallel Interceptor, and a planned new interceptor are forecast to be at capacity without flows from Pleasant Valley, the size of the new interceptor would need to be increased to accommodate Pleasant Valley flows.

***Clackamas County Treatment Solution***. Clackamas County's Water Environment Services ("WES") manages 3 service districts that provide sanitary sewer and surface water management service to over 150,000 customers. WES operates and maintains five wastewater treatment systems, 17 pump stations, and more than 240 miles of gravity sanitary sewer pipelines. The Kellogg Creek Wastewater Treatment Plant serves the City of Happy Valley and the unincorporated North Clackamas Urban area. This plant would likely accept any flow diverted from Pleasant Valley.

Area C is in Clackamas County. Gresham does not include any land from Clackamas County within its incorporated boundaries and has no agreements of procedures with the county for doing so. If Gresham and the County do not agree that Area C will be annexed into Gresham, it would still be possible for Gresham to serve Area C through an urban service agreement with Clackamas County. If that approach proves infeasible, Area C could be served by Clackamas County Sewer Service District #1. To do so, the District will need to update its sewer master plan and analyze how best to collect and pump sewage from Area C out of the Johnson Creek basin into the Clackamas basin and identify where to connect to the district's conveyance system. This would not be an efficient service delivery option for sewers.

## SUMMARY OF FUTURE NEEDS

The City of Gresham and Portland have sufficient treatment capacity to serve all areas within Pleasant Valley. Preliminary analysis by Gresham suggests that at least for Areas A and C, Gresham conveyance and treatment would be the preferred option, but both Portland and Gresham would benefit from an engineering analysis that compares the long-term capital improvement and operating costs associated for each alternative. In addition, a more refined

engineering analysis is needed to establish a location for the major pump station serving Pleasant Valley and the related force mains. The study needs to be conducted consistent with the 1998 IGA between Portland and Gresham re: future planning for sanitary sewer services in Pleasant Valley. The analysis also should consider the marginal impact on SDC improvement fees of constructing these conveyance facilities. This study is a critical path element because urban development cannot proceed in Pleasant Valley without a solution to the sewage treatment question.

Building the main pump station and force main is also a critical path public improvement because relatively little urban development can occur in Pleasant Valley without this facility. It may be possible to serve some interim development in the northeastern part of Pleasant Valley using temporary pump stations if there is conveyance capacity in Gresham's existing sewers north of the valley. This interim solution would need to be funded privately and these temporary pump stations decommissioned when the main pump station becomes operational and sewer connections are constructed to the main pump station.

While both Portland and Gresham have conducted a preliminary analysis of off-site conveyance routes and treatment capacity to serve Pleasant Valley, neither jurisdiction has amended their public facility plans or master plans to include specific sewer improvement projects within Pleasant Valley. This step provides certainty to property developers regarding fair-share allocation of improvement costs as well as providing a foundation for updating SDC improvement fees. Master plans should be amended to include the collection system improvements within Pleasant Valley and the off-site system improvements once a conveyance and treatment solution is established.

Both Portland and Gresham may need to modify their SDC improvement fees for sanitary sewers depending on the marginal cost associated with serving Pleasant Valley. Each jurisdiction also will need to modify their SDC improvement fee project list to make Pleasant Valley system improvements eligible to be financed with SDC revenue.

Additional intergovernmental work may be needed between Gresham and Portland if any portion of Area B obtains sewage treatment service from Gresham. Gresham and Portland already have intergovernmental agreements for contract treatment service to use in developing such an agreement.

Additional intergovernmental work is needed to determine whether or not Gresham will serve Area C either by annexing this area, or through a special service agreement. If Gresham serves the area on a contract basis, Clackamas County and Gresham need to make sure this agreement conforms with provisions of ORS 195 related to urban service provider agreements. If need be, Clackamas County Sewer Service District #1 can serve Area C, but no planning is in place to proceed with this solution.

## FINANCING PLAN

The following discussion presents the envisioned strategy for financing wastewater service extensions in the Gresham and Portland sections of Pleasant Valley. For analysis purposes, the boundary between Portland and Gresham is presumed to be Mitchell Creek in the west. The Jenne Road area is also presumed to be part of Portland. All other areas in Multnomah County are anticipated to be in Gresham. The final boundary will likely shift away from the creek, but at

this time, the shift is not expected to significantly alter the relative cost burden depicted for Gresham and Portland. This discussion assumes Gresham will serve the Clackamas County area (Area C). The ultimate service and governance providers for Area C have not been determined and will be the subject of future agreements.

***Sanitary Sewer***. Both Gresham and Portland have traditionally relied on developer contributions, SDCs, and retained earnings from the utility to finance system expansion. Each city has borrowed against future utility revenues to make significant improvements to their sewage treatment and conveyance systems. Both cities collect sanitary sewer SDCs to help pay for conveyance and treatment costs related to growth.

The areas of Pleasant Valley that may be annexed to Portland should generate sufficient revenue from private contributions, utility earnings, and SDCs to finance service extensions. There is a capacity limitation in the Portland conveyance system down-gradient from Pleasant Valley, but the flow from the Jenne Road and west Mitchell Creek areas may not significantly alter the scale of that problem or planned solutions to it. Sewer extensions in Portland service areas, therefore, can be financed incrementally with private contributions and SDCs.
In Gresham service areas, the analysis indicates that existing SDCs will not be adequate to finance treatment and collection system improvements. Another solution that may be considered is to use a sewer utility surcharge to offset the added capital and operating costs associated with serving Pleasant Valley. A refinement study to the Gresham Sewer Master Plan will be initiated in FY 2003-04 to analyze this issue and determine which approach should be used.

As with water, there are short-term service issues that also need to be resolved. If development in Pleasant Valley proceeds from west to east, the city will provide capacity by constructing the 24-inch sewer line from Linneman to Jenne Road at Foster Road. As sewer lines are extended east and south, this would provide an orderly sequence for extending sewer service.

If development precedes from east to west, a solution for funding the construction of the new sewer system through undeveloped property to the Kelley Creek pump station site is through the use of reimbursement districts. The City will likely receive proposals for constructing interim pump stations that would convey sewage from eastern development tracts to existing sewer lines in Gresham. These existing sewer lines were not designed to carry the additional flow that would result from allowing interim pump stations. From a sewer service perspective, this is an undesirable approach because it involves duplicative system investment and additional regulatory and operating costs in high-maintenance pump facilities. It is a policy decision for Gresham to decide if it wishes to allow interim pumping, but this may be a viable short-term service solution.

## GOALS, POLICIES AND ACTION MEASURES

### GOALS AND POLICIES

Applicable goals and policies that relate to the provision of public facilities in the existing comprehensive plans for the cities of Portland and Gresham also apply to the Pleasant Valley PFP. In addition to those goals and policies, the following policies are made part of this plan.

1. The City of Gresham and Clackamas County will work cooperatively to identify a cost effective solution for serving that part of Clackamas County that is within the Pleasant

Valley Concept Plan area. If agreement between Gresham and the County does not anticipate annexation of this area to Gresham, it will comply with provisions of ORS 195 for urban service providers.

## ACTION MEASURES

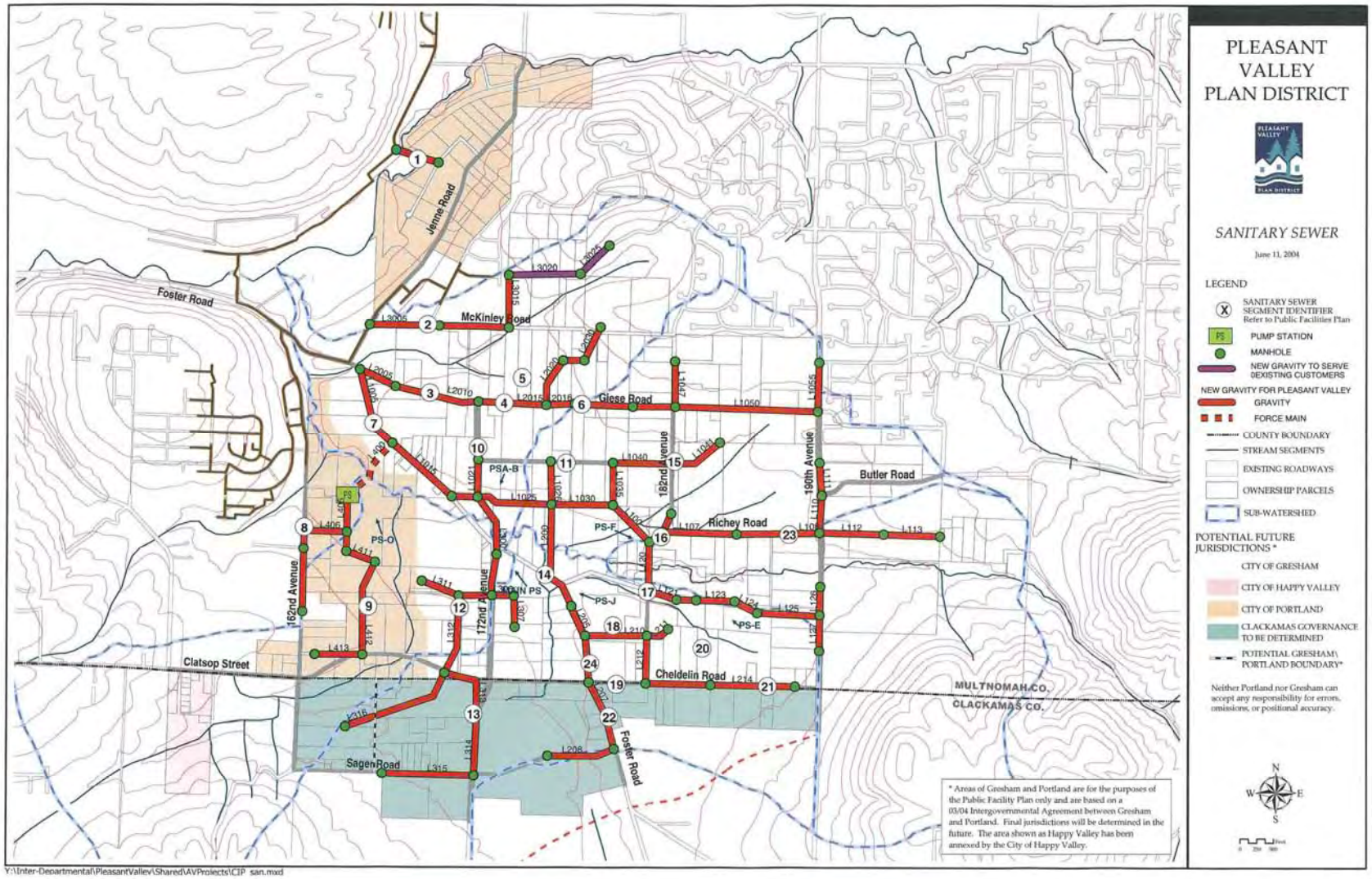
1. Update the City of Portland public facility plan to establish the size and preferred routing for sewer system improvements serving Area B.

2. Update the City of Gresham sewer master plan to establish the size and preferred routing for sewer system improvements serving Area A and C.

3. Review and, if necessary, update the City of Gresham and Portland system development charges for sewers. Update the SDC improvement project list to include the relevant Yr 1-5 sewer projects listed in the CIP section of this plan.

4. Update the Portland and Gresham 5-Year Capital Improvement Plan to include critical path sewer system improvements consistent with the annexation strategy that emerges for Pleasant Valley and the conveyance and treatment option that is selected.

5. Gresham and Clackamas County need to conclude negotiations for territorial expansion and/or service agreements for Area C. Regardless of the solution, the agreement needs to comply with provisions of ORS 195 that relate to urban service providers.


PLEASANT VALLEY PLAN DISTRICT
SANITARY SEWER
June 11, 2004
LEGEND
SANITARY SEWER SEGMENT IDENTIFIER Refer to Public Facilities Plan
PUMP STATION
MANHOLE
NEW GRAVITY TO SERVE DEXISTING CUSTOMERS
NEW GRAVITY FOR PLEASANT VALLEY
GRAVITY
FORCE MAIN
COUNTY BOUNDARY
STREAM SEGMENTS
EXISTING ROADWAYS
OWNERSHIP PARCELS
SUB-WATERSHED
POTENTIAL FUTURE JURISDICTIONS *
CITY OF GRESHAM
CITY OF HAPPY VALLEY
CITY OF PORTLAND
CLACKAMAS GOVERNANCE TO BE DETERMINED
POTENTIAL GRESHAM\ PORTLAND BOUNDARY*
Neither Portland nor Gresham can accept any responsibility for errors, omissions, or positional accuracy.
* Areas of Gresham and Portland are for the purposes of the Public Facility Plan only and are based on a 03/04 Intergovernmental Agreement between Gresham and Portland. Final jurisdictions will be determined in the future. The area shown as Happy Valley has been annexed by the City of Happy Valley.
Jenne Road
Foster Road
McKinley Road
Giese Road
Butler Road
Richey Road
Cheldelin Road
Clatsop Street
Sager Road
162nd Avenue
172nd Avenue
182nd Avenue
190th Avenue
PSA-B
PS-F
PS-O
PS-J
PS-E
MULTNOMAH CO.
CLACKAMAS CO.
Y:\Inter-Departmental\PleasantValley\Shared\AVProjects\CIP san.mxd

**Section 10.722 – Appendix B**

Pleasant Valley Public Facility Plan

**Sanitary Sewer Capital Improvement Project List**

| Annexation Area | Pipe Name/ Run | Pipe Size (in) | Pipe Length (ft) | 2004 Cost | Construction Contingency | Construction Cost | Engineering | Admin. | Project Total | Timing | Responsible Jurisdiction | Funding Source |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Area 1A | L4005 | 8 | 660 | $79,400 | $3,820 | $103,220 | $18,580 | $ 3,097 | $ 124,896 | 6-20 | Portland | SDC/Local |
| | **Area 1A Subtotal** | | | **$79,400** | **$23,820** | **$103,220** | **$ 18,580** | **$ 3,097** | **$ 124,896** | **6-20** | **Portland** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 2A | L3005-L3015 | 8 | 2,870 | $178,732 | $53,620 | $232,352 | $ 41,823 | $ 6,971 | $ 281,145 | 6-20 | Gresham | SDC/Local |
| | L2005-L2015 | 12 | 2,865 | $405,000 | $121,00 | $526,500 | $ 94,770 | $ 15,795 | $ 637,065 | 6-20 | Gresham | SDC/Local |
| | L2020-L2025 | 8 | 1,055 | $126,000 | $37,800 | $163,800 | $ 29,484 | $ 4,914 | $ 198,198 | 6-20 | Gresham | SDC/Local |
| | **Area 2A Subtotal** | | | **$709,732** | **$12,920** | **$922,652** | **$ 166,077** | **$ 27,680** | **$ 1,116,408** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 3A | L1047 | 8 | 675 | $ 81,100 | $24,330 | $105,430 | $ 18,977 | $ 3,163 | $ 127,570 | 6-20 | Gresham | SDC/Local |
| | L2030 | 8 | 555 | $67,800 | $20,340 | $ 88,140 | $ 15,865 | $ 2,644 | $ 106,649 | 6-20 | Gresham | SDC/Local |
| | L2016-L2055 | 8 | 4,780 | $561,000 | $68,300 | $729,300 | $ 131,274 | $ 21,879 | $ 882,453 | 6-20 | Gresham | SDC/Local |
| | **Area 3A Subtotal** | | | **$ 709,900** | **$212,970** | **$922,870** | **$ 166,117** | **$ 27,686** | **$ 1,116,673** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 2B | L1005 | 24 | 715 | $ 151,000 | $45,300 | $196,300 | $ 35,334 | $ 5,889 | $ 237,523 | 6-20 | Gresham | SDC/Local |
| | L1015 | 24 | 790 | $ 224,000 | $67,200 | $291,200 | $ 52,416 | $ 8,736 | $ 352,352 | 6-20 | Gresham | SDC/Local |
| | L1020 | 24 | 365 | $ 76,900 | $23,070 | $99,970 | $ 17,995 | $ 2,999 | $ 120,964 | 6-20 | Gresham | SDC/Local |
| | Microtunnel-L1015-L1005 | 24 | 975 | $1,070,000 | $ 321,000 | $1,391,000 | $ 250,380 | $ 41,730 | $ 1,683,110 | 6-20 | Gresham | SDC/Local |
| | **Area 2B Subtotal** | | | **$1,521,900** | **$ 456,570** | **$1,978,470** | **$ 356,125** | **$ 59,354** | **$ 2,393,949** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 2D | L1021 | 12 | 550 | $88,500 | $26,550 | $115,050 | $ 20,709 | $ 3,452 | $ 139,211 | 6-20 | Gresham | SDC/Local |
| | L1025 | 24 | 1,130 | $268,000 | 80,400 | $348,400 | $ 62,712 | $ 10,452 | $ 421,564 | 6-20 | Gresham | SDC/Local |
| | **Area 2D Subtotal** | | | **$356,500** | **$106,950** | **$463,450** | **$ 83,421** | **$ 13,904** | **$560,775** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 2C | L1026 | 18 | 635 | $130,000 | $39,000 | $169,000 | $ 30,420 | $ 5,070 | $ 204,490 | 6-20 | Gresham | SDC/Local |
| | L1030 | 18 | 915 | $185,000 | $55,500 | $240,500 | $ 43,290 | $ 7,215 | $ 291,005 | 6-20 | Gresham | SDC/Local |
| | L1035 | 12 | 620 | $128,000 | $38,400 | $166,400 | $ 29,952 | $ 4,992 | $ 201,344 | 6-20 | Gresham | SDC/Local |
| | L1040 | 8 | 900 | $118,000 | $35,400 | $153,400 | $ 27,612 | $ 4,602 | $ 185,614 | 6-20 | Gresham | SDC/Local |

| Annexation Area | Pipe Name/ Run | Pipe Size (in) | Pipe Length (ft) | 2004 Cost | Construction Contingency | Construction Cost | Engineering | Admin. | Project Total | Timing | Responsible Jurisdiction | Funding Source |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pedestrian Bridge | N/A | N/A | $8,960 | $2,688 | $11,648 | $ 2,097 | $ 349 | $ 14,094 | 6-20 | Gresham | SDC/Local |
| | **Area 2C Subtotal** | | | **$569,960** | **$170,988** | **$740,948** | **$ 133,371** | **$ 22,228** | **$ 896,547** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 3B | L1041 | 8 | 810 | $96,000 | $28,800 | $ 124,800 | $ 22,464 | $ 3,744 | $ 151,008 | 6-20 | Gresham | SDC/Local |
| | L100 | 18 | 775 | $100,000 | $30,000 | $ 130,000 | $ 23,400 | $ 3,900 | $ 157,300 | 6-20 | Gresham | SDC/Local |
| | L105 | 18 | 255 | $56,900 | $17,070 | $ 73,970 | $ 13,315 | $ 2,219 | $ 89,504 | 6-20 | Gresham | SDC/Local |
| | L106 | 12 | 300 | $55,100 | $16,530 | $ 71,630 | $ 12,893 | $ 2,149 | $ 86,672 | 6-20 | Gresham | SDC/Local |
| | L107 | 8 | 1,100 | $131,000 | $39,300 | $ 170,300 | $ 30,654 | $ 5,109 | $ 206,063 | 6-20 | Gresham | SDC/Local |
| | L108 | 8 | 1,255 | $148,000 | $44,400 | $ 192,400 | $ 34,632 | $ 5,772 | $ 232,804 | 6-20 | Gresham | SDC/Local |
| | **Area 3B Subtotal** | | | **$587,000** | **$176,100** | **$ 763,100** | **$ 137,358** | **$ 22,893** | **$ 923,351** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 3C | L110-L111 | 8 | 1,040 | $125,000 | $37,500 | $ 162,500 | $ 29,250 | $ 4,875 | $ 196,625 | 6-20 | Gresham | SDC/Local |
| | L112-L113 | 8 | 1,800 | $212,000 | $63,600 | $ 275,600 | $ 49,608 | $ 8,268 | $ 333,476 | 6-20 | Gresham | SDC/Local |
| | **Area 3C Subtotal** | | | **$337,000** | **$101,100** | **$ 438,100** | **$ 78,858** | **$ 13,143** | **$ 530,101** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 1B | L406-L408 | 8 | 1,840 | $ 216,000 | $ 64,800 | $ 280,800 | $ 50,544 | $ 8,424 | $ 339,768 | 6-20 | Portland | SDC/Local |
| | L412-L413 | 8 | 2,135 | $ 252,000 | $ 75,600 | $ 327,600 | $ 58,968 | $ 9,828 | $ 396,396 | 6-20 | Portland | SDC/Local |
| | L411 | 8 | 460 | $ 69,800 | $ 20,940 | $ 90,740 | $ 16,333 | $ 2,722 | $ 109,795 | 6-20 | Portland | SDC/Local |
| | L410 | 8 | 295 | $ 35,800 | $ 10,740 | $ 46,540 | $ 8,377 | $ 1,396 | $ 56,313 | 6-20 | Portland | SDC/Local |
| | L405 | 8 | 550 | $ 76,200 | $ 22,860 | $ 99,060 | $ 17,831 | $ 2,972 | $ 119,863 | 6-20 | Portland | SDC/Local |
| | Force Main | 8 | 1,060 | $ 215,000 | $ 64,500 | $ 279,500 | $ 50,310 | $ 8,385 | $ 338,195 | 6-20 | Portland | SDC/Local |
| | Pump Station | N/A | N/A | $ 361,648 | $ 108,494 | $ 470,142 | $ 84,626 | $ 14,104 | $ 568,872 | 6-20 | Portland | SDC/Local |
| | **Area 1B Subtotal** | | | **$ 1,226,448** | **$ 367,934** | **$ 1,594,382** | **$ 286,989** | **$ 47,831** | **$ 1,929,203** | **6-20** | **Portland** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 1D | L300 | 18 | 950 | $ 122,000 | $ 36,600 | $ 158,600 | $ 28,548 | $ 4,758 | $ 191,906 | 6-20 | Gresham | SDC/Local |
| | L305 | 18 | 625 | $ 111,000 | $ 33,300 | $ 144,300 | $ 25,974 | $ 4,329 | $ 174,603 | 6-20 | Gresham | SDC/Local |
| | L310 | 12 | 495 | $ 75,300 | $ 22,590 | $ 97,890 | $ 17,620 | $ 2,937 | $ 118,447 | 6-20 | Gresham | SDC/Local |
| | L311 | 8 | 595 | $ 78,000 | $ 23,400 | $ 101,400 | $ 18,252 | $ 3,042 | $ 122,694 | 6-20 | Gresham | SDC/Local |
| | L312 | 12 | 1,205 | $ 172,000 | $ 51,600 | $ 223,600 | $ 40,248 | $ 6,708 | $ 270,556 | 6-20 | Gresham | SDC/Local |
| | **Area 1D Subtotal** | | | **$ 558,300** | **$ 167,490** | **$ 725,790** | **$ 130,642** | **$ 21,774** | **$ 878,206** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 4A | L200 | 18 | 1,645 | $ 212,000 | $ 63,600 | $ 275,600 | $ 49,608 | $ 8,268 | $ 333,476 | 6-20 | Gresham | SDC/Local |
| | L205 | 12 | 485 | $ 73,800 | $ 22,140 | $ 95,940 | $ 17,269 | $ 2,878 | $ 116,087 | 6-20 | Gresham | SDC/Local |

| Annexation Area | Pipe Name/ Run | Pipe Size (in) | Pipe Length (ft) | 2004 Cost | Construction Contingency | Construction Cost | Engineering | Admin. | Project Total | Timing | Responsible Jurisdiction | Funding Source |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | L206 | 8 | 705 | $ 117,000 | $ 35,100 | $ 152,100 | $ 27,378 | $ 4,563 | $ 184,041 | 6-20 | Gresham | SDC/Local |
| | L210 | 8 | 920 | $ 150,000 | $ 45,000 | $ 195,000 | $ 35,100 | $ 5,850 | $ 235,950 | 6-20 | Gresham | SDC/Local |
| | L306 | 12 | 330 | $ 51,300 | $ 15,390 | $ 66,690 | $ 12,004 | $ 2,001 | $ 80,695 | 6-20 | Gresham | SDC/Local |
| | L307 | 8 | 465 | $ 54,600 | $ 16,380 | $ 70,980 | $ 12,776 | $ 2,129 | $ 85,886 | 6-20 | Gresham | SDC/Local |
| | **Area 4A Subtotal** | | | **$ 658,700** | **$ 197,610** | **$ 856,310** | **$ 154,136** | **$ 25,689** | **$ 1,036,135** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 4C | L120 | 18 | 735 | $ 150,000 | $ 45,000 | $ 195,000 | $ 35,100 | $ 5,850 | $ 235,950 | 6-20 | Gresham | SDC/Local |
| | L121-L125 | 8 | 2,620 | $ 309,000 | $ 92,700 | $ 401,700 | $ 72,306 | $ 12,051 | $ 486,057 | 6-20 | Gresham | SDC/Local |
| | L126-L127 | 8 | 960 | $ 145,000 | $ 43,500 | $ 188,500 | $ 33,930 | $ 5,655 | $ 228,085 | 6-20 | Gresham | SDC/Local |
| | L211 | 8 | 360 | $ 48,900 | $ 14,670 | $ 63,570 | $ 11,443 | $ 1,907 | $ 76,920 | 6-20 | Gresham | SDC/Local |
| | **Area 4C Subtotal** | | | **$ 652,900** | **$ 195,870** | **$ 848,770** | **$ 152,779** | **$ 25,463** | **$1,027,012** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 5A | L313 | 12 | 1,025 | $ 188,000 | $ 56,400 | $ 244,400 | $ 43,992 | $ 7,332 | $ 295,724 | 6-20 | Gresham | SDC/Local |
| | L314-L315 | 8 | 2,240 | $ 264,000 | $ 79,200 | $ 343,200 | $ 61,776 | $ 10,296 | $ 415,272 | 6-20 | Gresham | SDC/Local |
| | L316 | 12 | 1,770 | $ 319,000 | $ 95,700 | $ 414,700 | $ 74,646 | $ 12,441 | $ 501,787 | 6-20 | Gresham | SDC/Local |
| | **Area 5A Subtotal** | | | **$ 771,000** | **$ 231,300** | **$ 1,002,300** | **$ 180,414** | **$ 30,069** | **$1,212,783** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 4B | L207 | 8 | 1,060 | $ 141,000 | $ 42,300 | $ 183,300 | $ 32,994 | $ 5,499 | $ 221,793 | 6-20 | Gresham | SDC/Local |
| | L208 | 8 | 1,005 | $ 168,000 | $ 50,400 | $ 218,400 | $ 39,312 | $ 6,552 | $ 264,264 | 6-20 | Gresham | SDC/Local |
| | **Area 4B Subtotal** | | | **$ 309,000** | **$ 92,700** | **$ 401,700** | **$ 72,306** | **$ 12,051** | **$ 486,057** | **6-20** | **Gresham** | **SDC/Local** |
| Area 4D | L212 | 8 | 720 | $ 97,700 | $ 29,310 | $ 127,010 | $ 22,862 | $ 3,810 | $ 153,682 | 6-20 | Gresham | SDC/Local |
| | L213-L214 | 8 | 2,230 | $ 263,000 | $ 78,900 | $ 341,900 | $ 61,542 | $ 10,257 | $ 413,699 | 6-20 | Gresham | SDC/Local |
| | **Area 4D Subtotal** | | | **$ 360,700** | **$ 108,210** | **$ 468,910** | **$ 84,404** | **$ 14,067** | **$567,381** | **6-20** | **Gresham** | **SDC/Local** |

| | 2004 Cost | Construction Contingency | Construction Cost | Engineering | Admin. | Project Total |
|---|---|---|---|---|---|---|
| **TOTAL PLEASANT VALLEY SERVICE AREA** | **$ 9,408,440** | **$ 2,822,532** | **$ 12,230,972** | **$ 2,201,575** | **$ 366,929** | **$14,799,476** |
| **OFFSITE COSTS (PLEASANT VALLEY SHARE)[1]** | | | | | **$5,369,000** | |
| **TOTAL PROJECT COST** | | | | | | **$20,168,476** |

1. Offsite costs include Jenne/Foster Interceptor, increased capacity at Linnemann Pump Station, and Pleasant Valley share of new interceptor capacity.

## 10.723 STORMWATER MANAGEMENT SYSTEM

SYSTEM DESCRIPTION/CONDITION ASSESSMENT

***Existing Conditions***. Pleasant Valley is a rural area where stormwater is currently conveyed overland in ditches to natural drainageways. Drainage ditches next to public roadways convey runoff from road surfaces, and in some cases from adjacent private properties, to natural stream channels. Some stream channels are in good condition, although many are degraded. Most of the valley, which has shallow soils underlain by hardpan clays, was tilled to drain the native wetland prairies for farming. Many of the area's small tributary streams were either eliminated or excavated for drainage ditches. Most riparian habitat was removed, except in places where steep banks made farming impractical. The result is a significantly altered watershed that now sustains only a fraction of the once abundant fish and wildlife species native to the valley (see the *Evaluation of Aquatic and Upland Habitat for the Kelley Creek Watershed* for more details).

***Planned Improvements***. Urban development has historically had a dramatic adverse impact on watershed health, especially in riparian areas. The recommended stormwater system for Pleasant Valley is intended to minimize this impact and maintain or restore watershed functionality using the goals and recommendations of the Natural Resources/Watersheds Implementation and Green Practices Reports. While urbanization is not anticipated to restore the health of the watershed to pre-development conditions, it may actually improve on current conditions and restore parts of the watershed.

In Pleasant Valley, the envisioned stormwater drainage system will serve an important role as the framework for the community's design. Rather than a conventional approach, which uses storm sewer pipes beneath the street to quickly convey storm runoff to stream channels that are also managed for stormwater conveyance, a more natural system is recommended. In the public right-of-way, adjacent to the area roads, vegetated swales are proposed to convey stormwater. The swales will convey runoff more slowly than a pipe system and provide water quality treatment. These systems cost less to build than an underground pipe system, but are more expensive to maintain.

The swale system will discharge to regional stormwater management facilities that serve two functions. First, they will slow down the stormwater flow and let vegetation in the facility improve water quality by "polishing" the runoff to removing excessive sediment and pollutants. Second, in combination with stormwater management facilities, they will regulate the rate and volume of stormwater discharge to the natural stream channels in the Environmentally Sensitive Restoration Areas ("ESRA") to a level that is no greater than the discharge rate and duration of pre-development conditions to the maximum extent practicable.

Acquiring sites for stormwater management facilities is a high priority in the early years as development takes hold in Pleasant Valley. A map showing the approximate location of the proposed stormwater system improvements is included in Appendix A. The final location of facilities is subject to the outcome of the stormwater master plan.

Finally, within the ESRAs, restoration efforts would be encouraged to improve riparian character and function. This would provide multiple benefits, such as improvements in water quality and fish and wildlife habitat, as well as providing greenway belts throughout the urban landscape. The expected Total Maximum Daily Load limitations for temperature in the Johnson Creek basin

may enable the use of "water quality credits" in the upper part of the watershed to offset development impacts elsewhere in the watershed, which could provide private financing for environmental restoration in the ESRAs.

***Development Regulation***. Development guidelines generally allow, and in some cases require, that runoff from impervious surfaces in residential areas be discharged to the public drainage system. While protective of properties, this practice can result in a significant increase in storm discharge to natural drainages that contribute to bank erosion, scouring and wildly fluctuating stream conditions. Some codes require "on-site" detention to manage the rate of discharge to pre-development conditions for a design storm. The success of these regulations, especially in residential areas, has been mixed. Part of the problem is that "on-site" usually means somewhere in the subdivision, a local detention facility is constructed. Unless these facilities are well maintained, however, they do not function as designed and end up bypassing most of the runoff they were suppose to detain. In addition, detention facilities often manage the rate of flow but not the duration. As a result stormwater can discharge into creeks for longer periods than under natural conditions and cause significant erosion.

In Pleasant Valley, the Concept Plan calls for development codes that will require the on-site management of rain for individual property by offering a menu of stormwater management facilities and landscaping systems designed to allow everyday storm runoff to be infiltrated into the ground or evapotranspired. An overflow system would be designed so that when a larger storm occurs, the runoff would be conveyed through a series of swales in the street right-of-way to the public stormwater facilities. The public system would be oversized to handle larger storm events. It is recommended that the stormwater system serving arterial and collector streets be sized for the 100-year storm. The stormwater systems in other streets could be designed for the nuisance storm that also may be combined with regional stormwater management facilities.

***Implementation***. The stormwater management approach in Pleasant Valley has been designed around a watershed approach. All areas within the watershed need to adhere to the same stormwater management approach for the system to work properly. The stormwater management policies and design guidelines will be incorporated into the SWM plan for the Kelley Creek Watershed. These design guidelines will need to be carefully integrated with street design guidelines. For example, the swale system will have a significant impact on street access from adjoining properties. The whole system will need to be designed differently for pedestrians, cars and trucks, and transit vehicles. To ensure the concept functions seamlessly, both Gresham and Portland will adopt this SWM plan as part of their development code. Both jurisdictions will then enforce the same stormwater design guidelines and regulations.

The stormwater conveyance system will parallel the road system. In addition, the location of regional public stormwater management facilities is only generally known at this time. Their size and how they will work in conjunction with the conveyance system has not been refined to the point where system improvements could be approved for construction. An area stormwater master plan is needed to refine the design concepts for the system to the point where facility design and construction can begin. That planning effort is a critical path element for plan implementation.

## SUMMARY OF FUTURE NEEDS

Stormwater facilities planning needs to be refined for Pleasant Valley in a master plan that more precisely identifies the system design, facility locations, and cost and schedule. The master plan needs to be carefully coordinated with the "green street" transportation system improvements. In addition to facility needs and design goals, the plan also should establish a financing framework for stormwater management in Pleasant Valley. The City of Portland will participate in this planning process because it will be implementing parts of the plan. This planning work is a critical path element for PFP implementation.

Coordination is needed between Gresham, Portland, Multnomah County and Clackamas County regarding stormwater system planning and design guidelines for public roads and stormwater conveyance in Areas A, B, and C. A consistent approach regarding stormwater conveyance standards, development setbacks, allowed uses in the ESRAs, and other issues related to stormwater management should be spelled out in an intergovernmental agreement.

Gresham and Portland need to develop and adopt uniform stormwater management guidelines for residential, commercial, and industrial development in Pleasant Valley as part of the plan district for the area. Portland and Gresham may both wish to extend the district boundaries to encompass areas that are within the Kelley/Mitchell Creek watershed but outside the Pleasant Valley study area boundary.

If a city-wide SDC is preferred (rather than Pleasant Valley-specific SDC), Portland and Gresham will need to modify their SDC improvement fees for stormwater facilities depending on the marginal cost associated with serving Pleasant Valley. Each jurisdiction also will need to modify their SDC improvement fee project list to make near-term priority improvements eligible for financing with SDC revenue.

If a city-wide stormwater utility is preferred (rather than Pleasant Valley-specific rates), Gresham and Portland will need to modify their stormwater utility system to address the added maintenance cost associated with system improvements in Pleasant Valley. An analysis is needed of impacts on existing utility rates, how to phase in rate increases, and how to fairly assess rate adjustments. Both jurisdictions may wish to consider combining stormwater management fees with a street maintenance fee, if available.

Purchase property for regional stormwater management facilities as soon as possible (after completing the Stormwater Master Plan)

## FINANCING PLAN

The following discussion presents the envisioned strategy for financing stormwater service extensions in the Gresham and Portland sections of Pleasant Valley. For analysis purposes, the boundary between Portland and Gresham is presumed to be Mitchell Creek in the west. The Jenne Road area is also presumed to be part of Portland. All other areas are anticipated to be in Gresham. The final boundary will likely shift away from the creek, but at this time, the shift is not expected to significantly alter the relative cost burden depicted for Gresham and Portland. This discussion assumes Gresham will serve the Clackamas County area (Area C). The ultimate service and governance providers for Area C have not been determined and will be the subject of future agreements.

***Stormwater***. Financing the Pleasant Valley stormwater system requires an innovative approach. Gresham and Portland have traditionally relied on developer contributions, SDCs, and street improvements to pay for stormwater improvements. In Pleasant Valley, however, the envisioned "green street" design is significantly different than the system elsewhere in either city. The swale system costs less to build than an underground pipe system connected to storm drains, but has significantly higher operating costs. The swale system has only been conceptually planned and a more detailed stormwater master plan is scheduled to be developed in FY 2003-04. The study also will evaluate existing SDC, utility fees, and other resources to determine how to finance service delivery.

The annexation analysis for Pleasant Valley indicates that even though swale systems are less expensive to build than pipe systems, existing SDCs in Gresham and Portland will not finance the envisioned swale system improvements. The main reason for this is because the cost of storm drains and storm sewers, which constitute most of the drainage conveyance system, is usually embedded in the cost to build roads. In the Pleasant Valley plan, the swale system has been broken out separately. In addition to swales, there are 16 regional stormwater management facilities included in the program costs. The combined shortfall for swales and SWM facilities is around $6 million.

It is likely, therefore, that stormwater system development fees will need to be increased in Pleasant Valley, either by adopting a Pleasant Valley SDC overlay or by treating Pleasant Valley basins as a completely separate drainage system from other parts of Portland and Gresham and developing a separate financing plan for this system that may include SDCs, utility charges, and/or local assessments. The analysis may have consequences for the SDC methodology used in Portland and Gresham.

An even larger shortfall occurs on the operation side, where the difference in operating costs between a pipe system and a swale system is estimated at $1 million per year. At build-out, the operating cost for the storm drainage system is forecast to be between 70% and 80% of the forecast O&M cost for the water system, which could result in a residential service rate as high as $25 per month. One way to offset the difference between existing drainage rates and projected operating costs is to assess Pleasant Valley customers an operating surcharge over and above Gresham's monthly drainage utility fee. Another approach would be to treat Pleasant Valley as a separate drainage district within Gresham (and potentially Portland as well), and establish a basin-wide fee structure for this system. A connection fee also should be considered to finance the initial purchases of specialized equipment for maintaining the swale system.

Finally, financing the stormwater management system will be different than the financing for other infrastructure. As noted above, capital costs for the swale system will likely be significantly less than for a traditional pipe system. Maintenance costs, however, will likely be higher and will affect not only the swale system but also the "green street" system. A financing strategy that examines the feasibility of considering both the capital development as well as the maintenance costs needs to be adopted.

This plan envisions that Pleasant Valley stormwater SDCs will be unique to the area and will pay for constructing both the swale system and the stormwater management facilities. Pleasant Valley residents may also pay a different stormwater utility fee than other areas of Gresham and Portland to recover the higher maintenance costs associated with the swale system. If Gresham

establishes street maintenance fees, it may be possible to combine the SWM fee with a street maintenance fee given the integrated nature of the green street and swale system. At this time, it is anticipated that Stormwater utility will be used to provide maintenance for the green street swale system. The swale system has only been conceptually planned and a more detailed stormwater master plan is being developed in FY 2003-04. The study also will evaluate existing SDC, utility fees, and other resources to determine how to finance service delivery. Preparation of the financing strategy is a critical path element and should be integrated with the SWM master planning process.

Appendix A of this section includes a map showing proposed stormwater system improvements.

## GOALS, POLICIES AND ACTION MEASURES

### GOAL

The Cities shall manage stormwater to minimize impacts on localized and downstream flooding and to protect water quality and aquatic habitat.

### POLICIES

1. Manage stormwater through the use of facilities that rely on infiltration, bio-retention, and evapotranspiration or other processes that mimic the natural hydrologic regime. All local, state and federal permit requirements related to implementation of stormwater management facilities must be met by the owner/operator prior to facility use.

2. Stormwater management shall avoid a net negative impact on nearby streams, wetlands, groundwater, and other water bodies to maximum extent practicable.

3. The quantity of stormwater after development shall be equal to or less than the quantity of stormwater before development, wherever practicable.

    a. Development shall mitigate all project impervious surfaces through retention and on-site infiltration to the maximum extent practicable for up to the nuisance storm event (the nuisance storm is based on a real rainfall event. That closely resembles the 10-year simulated design event). Stormwater discharges from on-site facilities shall be conveyed via an approved drainage facility.

    b. Where lots are too small for on-site stormwater facilities adjacent private developments may manage stormwater in a shared facility that is appropriately sized and meets water quality and flow control design standards.

    c. Public stormwater facilities shall be designed such that the rate and duration of flow discharging from facilities for up to a nuisance storm does not lengthen the period of time the stream channel sustains erosion causing flows.

    d. Conveyance swales and public stormwater facilities shall be designed to provide conveyance for the 100-year storm event.

    e. Public stormwater facilities shall be designed to provide storage for the nuisance storm event. Facility design is based on the following:

| Type of Facility | Design Storm Frequency |
|---|---|
| Arterial or collector | 100 year |
| All others | 10 year |

4. The quality of stormwater after development shall be equal to or better than the quality of stormwater before development, as much as is practicable, based on the following criteria:

   a. Stormwater facilities shall be designed to achieve a jointly adopted SWM Master Plan for the Cities of Portland and Gresham. Presently, Portland requires facilities to be designed to treat at least 70% removal of the Total Suspended Solids ("TSS") from the flow entering the facility for the design storm specified in the City of Portland Stormwater Management Manual. Gresham's requirements use presumptive approach rather than performance approach.

   b. Land use activities of particular concern as pollution sources shall be required to implement additional pollution controls, including, but not limited to, those management practices specified in a jointly adopted SWM Master Plan for Pleasant Valley.

   c. Stormwater facilities shall meet the requirements for established Total Maximum Daily Load limitations, as provided under the Federal Clean Water Act, Oregon Law, Administrative Rules and other legal mechanisms.

5. Stormwater facilities shall be designed to safely convey the less frequent, higher flows through or around facilities without damage to both upstream and downstream properties, including creek channels.

6. Public stormwater facilities shall be designed using approaches that integrate stormwater and vegetation such as swales, trees, vegetated planters and constructed wetlands. Jurisdictional wetlands cannot be used as stormwater treatment facilities.

7. Conveyance of stormwater from on-site facilities to approved public stormwater facilities shall generally take place within the public right-of-way through vegetated swales or other stormwater management and conveyance facilities as specified in Metro's Green Streets Manual or the City of Portland Water Quality Friendly Street Designs or a jointly adopted Pleasant Valley District Plan.

   The encroachment of structures and other permanent improvements over public and private stormwater facilities and within public stormwater easements, drainage ways, creeks, streams, seasonal waterways, seeps and springs is prohibited.

8. Equitable funding mechanisms shall be developed:

   a. For stormwater management facilities maintenance.

   b. To resolve the deficiencies of the existing system and provide adequate stormwater management services to developing areas.

   c. To implement a capital improvement program ("CIP") for the stormwater management system.

9. If agreement between Gresham and the County does not anticipate annexation of Area C to Gresham, it will comply with provisions of ORS 195 for urban service providers.

ACTION MEASURES

1. Update the City of Portland public facility plan to establish stormwater management system improvements serving Area B.

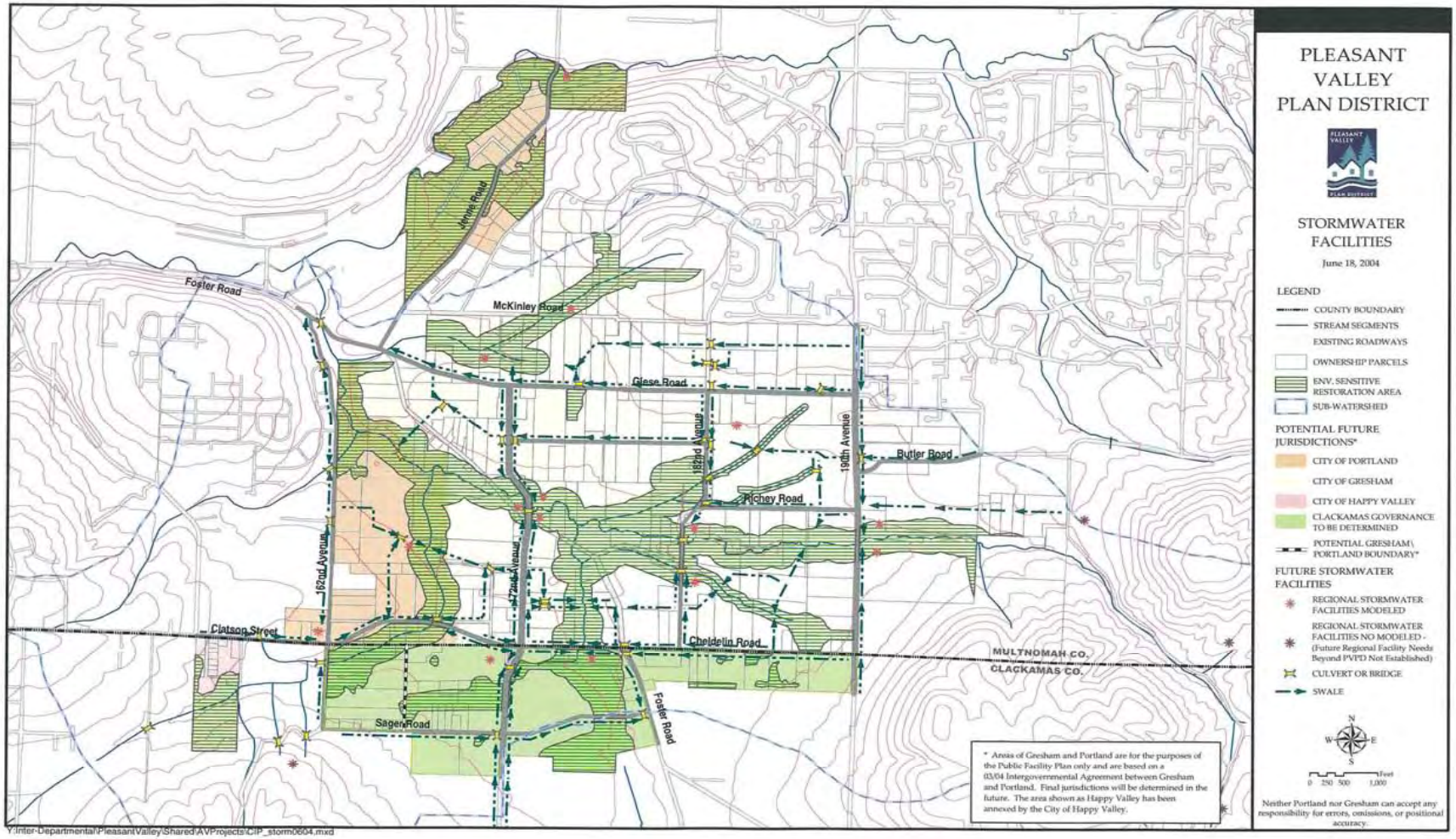
2. Update the City of Gresham stormwater master plan to establish stormwater management system improvements serving Area A and C.

3. Review and, if necessary, update the City of Gresham and Portland system development charges for stormwater. Update the SDC improvement project list to include the relevant Year 1-5 stormwater projects listed in the CIP section of this plan.

4. Update the Portland and Gresham 5-Year Capital Improvement Plan to include critical path stormwater system improvements consistent with the annexation strategy that emerges for Pleasant Valley.

5. Gresham and Clackamas County need to conclude negotiations for territorial expansion and/or service agreements for Area C. Regardless of the solution, the agreement needs to comply with provisions of ORS 195 that relate to urban service providers.

Section 10.723 - Appendix A



## Section 10.723 - Appendix B

## Pleasant Valley Public Facility Plan
## Stormwater Capital Improvements Project List*

| Project # | Project | Description | Linear Feet of Swales | Cost | Timing | Responsible Jurisdiction | Funding Source | Comments |
|---|---|---|---|---|---|---|---|---|
| **Swales** | | | | | | | | |
| **New Road Segments** | | | | | | | | |
| R1 | Foster North | New extension – 1,395 LF | 0 | $0 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| R2 | Giese Ext. | New extension – 2,018 LF | 1,711 | $148,857 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| R3 | Butler Ext. | New extension – 2,835 LF | 1,860 | $161,820 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| R4 | Clatsop Ext. | New extension - 2,938 LF | 2,905 | $252,735 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| R5 | Foster South | New extension – 2,581 LF | 1,237 | $107,619 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| **Road Extensions** | | | | | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On 190th** | | | | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 1 | Segment 1 | Boundary to Butler – improvement to existing – 122,137.5 LF | 1,858 | $161,646 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 2 | Segment 2 | Butler to Richey – improvement to existing – 787.5 LF | 654 | $56,898 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 3 | Segment 3 | Richey to Cheldelin – improvement to existing – 1,912.5 LF | 1,904 | $165,648 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 4 | Segment 4 | Cheldelin to So Boundary – improvement to existing – 600 LF | 557 | $48,459 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On Butler** | | | | | | | |
| 5 | Segment 5 | 190th to Ea. Boundary – improvement to existing – 1,800 LF | 1,596 | $138,852 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On Richey** | | | | | | | |
| 6 | Segment 6 | 182nd to 190th – improvement to existing – 2,325 LF | 2,163 | $188,181 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On 182nd** | | | | | | | |
| 7 | Segment 7 | Giese to Richey – improvement to existing – 2,025 LF | 2,033 | $176,871 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 8 | Segment 8 | Richey to Cheldelin – improvement to existing – 2,362.5 LF | 1,626 | $141,462 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On 172nd** | | | | | | | |
| 9 | Segment 9 | Giese to Butler Ext. – improvement to existing – 900 LF | 1,379 | $119,973 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 10 | Segment 10 | Butler ext. to unknown – | 2,935 | $255,345 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |

| Project # | Project | Description | Linear Feet of Swales | Cost | Timing | Responsible Jurisdiction | Funding Source | Comments |
|---|---|---|---|---|---|---|---|---|
| | | improvement to existing – 1,537.5 LF | | | | | | |
| 11 | Segment 11 | unknown to Cheldelin – improvement to existing – 1,275 LF | 1,945 | $169,215 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 15 | Segment 15 | Cheldelin to Boundary – improvement to existing – 1,800 LF | 2,555 | $222,285 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On Cheldelin** | | | | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 12 | Segment 12 | 172nd to 182nd – improvement to existing – 2,325 LF | 3,703 | $322,161 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 13 | Segment 13 | 182nd to 190th – improvement to existing 2,550 LF | 3,700 | $321,900 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On Clatsop** | | | | | | | |
| 14 | Segment 14 | 162nd to Boundary – improvement to existing – 1,912.5 LF | 1,557 | $135,459 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On 162nd** | | | | | | | |
| 16 | Segment 16 | Foster to unknown – improvement to existing 3,000 LF | 2,843 | $247,341 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 17 | Segment 17 | unknown to Clatsop – improvement to existing – 2,175 LF | 1,413 | $122,931 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 18 | Segment 18 | Clatsop to Boundary – improvement to existing – 1,350 LF | 875 | $76,125 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On Sager Road** | | | | | | | |
| 19 | Segment 19 | 182nd to 172nd – improvement to existing – 2,662.5 LF | 2,176 | $189,312 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 20 | Segment 20 | 172nd to Foster – improvement to existing 2,137.5 LF | 2,143 | $186,441 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On Giese** | | | | | | | |
| 21 | Segment 21 | 172nd to 182nd - improvement to existing – 2,925 LF | 2,584 | $224,808 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 22 | Segment 22 | 182nd to 190th – improvement to existing – 2,175 LF | 1,788 | $155,556 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On Jenne Rd** | | | | | | | |
| 23 | Segment 23 | All – improvement to existing – 4,500 LF | 0 | $0 | 6 to 20 | Portland | SDC/Local | Timing w/ road imp. |
| | | | | | | | | |
| | **Unnamed local connecting streets** | Swales associated w/ unnamed road segments, w/in subarea extent | 33,523 | $2,916,501 | 6 to 20 | Portland/ Gresham | SDC/Local | Timing w/ road imp. |
| | **Outside/Adjacent to PV Plan Area** | Swales may or may not be associated w/ named road, outside | 9,723 | $845,901 | 6 to 20 | Portland/ Gresham | SDC/Local | Timing w/ road imp. |

| Project # | Project | Description | Linear Feet of Swales | Cost | Timing | Responsible Jurisdiction | Funding Source | Comments |
|---|---|---|---|---|---|---|---|---|
| | | subarea context | | | | | | |
| **Culverts**[2] | | | | | | | | |
| | 23 | Various culvert locations @ 100' each | | $462,300 | 6 to 20 | Portland | SDC/Local | Timing w/ road imp. |
| | 44 | Various culvert locations @ 100' each | | $884,400 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| **Regional Detention Facilities**[3] | | | | | 6 to 20 | | SDC/Local | Timing w/ road imp. |
| In Gresham | 13 | Various Locations | | $14,984,000 | 6 to 20 | Gresham | SDC/Utility/ Grants | Timing w/ road imp |
| In Portland | 3 | Various Location | | $3,746,000 | 6 to 20 | Portland | SDC/Utility/ Grants | Timing w/ road imp |
| **Planning Studies** | | | | | | | | |
| Pleasant Valley Stormwater Master Plan | | Combined planning effort | | $250,000 | 1 to 5 | Portland/ Gresham | SDC/Utility | Priority project |
| SDC and Utility rate analysis for SWM | | Separate utility feasibility/rate analysis | | $50,000 | 1 to 5 | Portland/ Gresham | SDC/Utility | Priority project |
| | | | | | | | | |
| **Total swale cost** | | | | $8,260,302 | | | | |
| **Total culvert cost** | | | | $1,346,700 | | | | |
| **Total Regional Detention Facilities** | | | | $18,730,000 | | | | |
| **Total Planning Studies** | | | | $300,000 | | | | |
| **Total Cost** | | | | $28,637,002 | | | | |

[1]Includes construction, engineering, inspection and contract administration
[2]Culvert location will be included in the master plan
[3] Sites for regional detention facilities have not yet been determined

***NOTE: As noted in the text of the PFP, this document is followed by a system master plan. The users are directed to review the Stormwater Master Plan for an up-to-date project list.**

## 10.724 PARKS AND RECREATION SYSTEM

SYSTEM DESCRIPTION/CONDITION ASSESSMENT

***Existing and Planned Facilities***. According to the Parks and Open Spaces Implementation Strategies Report, the goal of the Pleasant Valley Parks and Recreation System is to locate and develop neighborhood and community parks, open spaces and trails throughout the Pleasant Valley community. By identifying critical elements for evaluating parks and making effective use of valuable space, parks and recreational areas can be accessible to everyone.

There are no parks located in the Pleasant Valley plan area. One City of Gresham neighborhood park has been developed in the vicinity of the Pleasant Valley Concept Plan area, Butler Creek Park. Butler Creek Park is 3.6 acres in size, and has a basketball court, play equipment, and a picnic area. It is located south of SW 27th Drive and about ½-mile from the project area. The Butler Creek hiking/walking trail passes through the park. The trail extends north of the Park to the Springwater Trail Corridor and south to just south of SW Willow Parkway. A non-funded CIP project exists to extend the trail south to SW Butler Road. This undeveloped section of the trail passes through Centennial School District property. A portion of the site has been recently developed for a new elementary school.

There is an additional, non-funded CIP project for a second City of Gresham neighborhood park, Jenne Butte Park. This park would be located on the north border of the Pleasant Valley Concept Plan area just west of SW Nancy Drive. Jenne Butte Park would be 6.8 acres in size, with amenities such as a basketball court, a picnic area and possibly a softball and/or soccer field. It would connect to the Jenne Butte trail system to the north, which ultimately connects to the Springwater Trail.

The Springwater Trail Corridor is a paved multi-purpose trail that runs alongside or near Johnson Creek. It runs through the portion of the Pleasant Valley project area intersecting at Jenne Road/174th Avenue. The trail is a 'rails-to-trail' project extending approximately 16.8 miles from McLoughlin Boulevard in Portland, east to the City of Boring. Jenne Road/174th Avenue intersects the trail within the Pleasant Valley Concept Plan area.

Just north of Pleasant Valley is the City of Portland's Powell Butte Nature Park, a 569-acre natural area that was once a dairy farm. Powell Butte is a massive volcanic mound with heavily forested slopes and large expanses of open meadows on top of the lava dome. The park includes over 9 miles of trails that are suitable for mountain biking, horseback riding, and hiking. It includes a .6 mile handicapped accessible paved trail. Powell Butte includes a 50,000,000-gallon underground water reservoir that is part of the Bull Run water system. Master plans call for construction of additional reservoirs and a regional water treatment plant within the park.

***Background***. The Metro Council brought the Pleasant Valley area into the Urban Growth Boundary (UGB) in December 1998. When land is brought into the UGB Title 11 of the Metro Urban Growth Management Functional Plan requires a conceptual public facilities and services plan that provides, among others, for parks and it requires mapping to show the general locations for public open space, plazas, neighborhood centers and parks. Title 11 requires that the City must adopt the parks plan and map as a comprehensive plan amendment before annexation/urbanization.

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary planning goals was developed as part of this process. Elements concerning parks were included in these preliminary goals:

- The natural resources of the area, including the streams, should be coordinated and included in the parks master planning for this area.
- To ensure that each neighborhood develops into a community with an identity, they shall include provision for local shopping and parks.
- Some open space/plaza will be included in the town center area. The town center area should be developed to protect watercourses and sensitive environmental areas.

In December 1998, Gresham and Portland jointly adopted an Intergovernmental Agreement (IGA) regarding Pleasant Valley. The IGA concerns provisions for creating a plan, future annexations and future provisions for urban services. The IGA provides the Gresham and Portland coordination in creating an urban plan. The goals mentioned above were attached to the IGA and are to be considered when creating the urban plan. The IGA also provides that no urban zoning be applied until the urban plan was adopted by Gresham and Portland and approved by Metro.

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The goal for parks was: ***Locate and develop parks and open spaces throughout the community***. *Neighborhood parks, small greenspaces, and open spaces will be within a short walk of all homes. A network of bicycle and pedestrian routes, equestrian trails and multi-use paths will connect the parks and open spaces. The park and trail system will be connected to the Springwater Trail, Powell Butte, and other regional trails and greenspaces.*

***Other goals also addressed parks***. The "Town Center" goal noted "a central green or plaza will be included as a community gathering space." The "Create a Community" goal included "recreational" and "open space" in the wide range of opportunities that will foster a unique sense of community. The "Create a Community" goal noted that community includes Pleasant Valley's "unique areas" and "unique regional landscape."

*The alternatives evaluation generally focused on three components of the park and open space system:*

- ***Neighborhood parks***. These are smaller parks (1 to 13 acres), located within biking and walking distance of users. They provide for basic recreational opportunities. This can include pocket (plaza) parks (usually smaller than 1 acre) that can be located in denser areas.
- ***Community parks***. These are larger than neighborhood parks (13 to 90 acres). They provide active and passive recreational opportunities and accommodations for larger groups. They are intended to serve several neighborhoods.

- ***Open space***. These are areas of natural quality for protection of natural resources, nature-oriented outdoor recreation and trail-oriented activities.

Comparative evaluation measures focused on park and open space acreage per person, proximity and ease of access for neighborhood parks and general locations relative to housing, schools and the town center.

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary, the central theme of the plan is to create an urban community through the integration of land use, transportation and natural resource elements.

*Selected features of the parks concept plan are:*

- ***Nine neighborhood parks*** – These are 1- to 3-acre facilities that provide access to basic recreation opportunities for nearby residents of all ages and contribute to neighborhood identity. They are generally located near the centers of neighborhoods, although a few occupy edge locations to serve adjacent attached housing. A general descriptor for each park is included in Appendix C.
- ***Community Park*** – The 29-acre community park is located between the power line and natural gas line easements east of the town center. The purpose of this community park is to provide active and passive recreational opportunities for community residents and accommodate activities for large groups. Facilities could include a children's play area, competitive sports facilities, off-street parking (must include), permanent restrooms, public art/fountains, group picnic areas, paths, botanical gardens, community centers, amphitheaters, festival space, swimming pools and interpretive facilities.
- ***Plazas*** – Three plazas are proposed – in the town center and in each of the two neighborhood centers. These will serve as focal points for each of the centers and are expected to be relatively small (1/4-acre for the town center and 1/8-acre or smaller for the neighborhood centers). They may be developed as a multi-use paved area, community green or hybrid.
- ***Trails*** – The purpose of trails is to interconnect parks and open spaces to maximize access to programs and facilities; to promote physical fitness and health for a variety of users; to encourage social interaction and community pride; to provide opportunities for rest and relaxation within a natural setting through trail-related recreation; to reduce auto-dependency and enhance connections to transit facilities; to link open space amenities with homes, workplaces and other community facilities; and to provide "outdoor classroom" opportunities for environmental education. About 6.6 miles of regional trails are proposed. These trails connect to the Springwater Corridor, Powell Butte and other regional trails and green spaces. They also connect to major destinations – such as the Community Park, town center, employment districts and elementary/middle school complex.
    - The East Buttes Powerline Corridor Trail follows the BPA powerline easement and provides an important north/south connection from the Springwater Corridor Trail and the proposed Gresham/Fairview Trail to the Clackamas River Greenway near Damascus.

- The East Buttes Loop Trail goes through the heart of Pleasant Valley and parallels Kelley Creek on its north and south sides. The East Buttes Loop Trail connects historic and natural landmarks with the town center and neighborhoods.

- ***Open Space***. The purpose of open space is to set aside natural undeveloped areas for the protection of natural resources, nature-oriented outdoor recreation, and trail-corridors. They provide opportunities for rest and relaxation, protect valuable natural resources, provide wildlife habitat, and contribute to the environmental health of the community. Benchmarks for Pleasant Valley open space areas are:
  - Ten acres of open space per 1,000 residents are protected. [Note: Metro Open Space 1997 benchmark standards are calculated at 20.9 acres of parks and open space per 1,000 population.]
  - Habitat areas are enhanced or restored.
  - It includes streams, creeks, or tributaries that are enhanced or restored.
  - Habitat parks can accentuate open space. Habitat parks are partly habitat and partly Community Park.
  - Open space can also include trails, trailheads and interpretive facilities. Some characteristics of open spaces include:
    - A size large enough to protect the identified resource.
    - Spaces may include trails, trailhead amenities (bike racks, picnic areas, portable restrooms, trash enclosures), benches, interpretive signs, and native plants.

A map of proposed park and open space system improvements is included in Appendix A.

## SUMMARY OF MAJOR ISSUES

*The following are some of the major issues that were considered in a park plan for Pleasant Valley*:

*The Pleasant Valley Concept Plan has an opportunity to plan comprehensively for parks and open spaces and, more importantly, to implement the plan.* An appropriate park system for Pleasant Valley could be developed around three main components:

- Natural areas lands constitute the framework of the open space system. Because of the amount of area involved, the parks system should be organized to complement it and, wherever possible, the land should be used to create opportunities for people to pursue low intensity and low impact recreational activities. However, acquiring and protecting these lands should not be accomplished in lieu of creating other types of recreation spaces.
- A network of neighborhood and community parks equitably distributed and sized to meet demands. The network would provide the majority of recreation opportunities for local residents.
- A series of other parks, such as plazas, boulevards, public gardens and recreation pockets are created to give identify and form to the town center and to define its different precincts. This latter concept can be a powerful tool for creating a memorable and livable new urban community (a potential not often fulfilled).

***Schools and Parks***. Schools and parks can share facilities such as informal soccer/football, etc., fields and basketball hoops. Sharing facilities can reduce maintenance costs and the amount of acreage needed if the fields were not shared.

***Environmentally Sensitive Areas***. Caution should be used in locating improved park space or schools next to natural resource areas. Landscaping requirements (fertilizers, etc.) may conflict with natural resources. Field turf and hardscape areas can result in impervious surfaces that may conflict with natural resources. Spreading out parks in neighborhoods away from natural resources can relieve pressures (such as walking the dog) that otherwise might impact natural resources. Because neighborhood parks generally serve different recreational needs than natural areas, the primary consideration for location should be access to the residents it is intended to serve. Often this coincides with the location of schools. Natural areas next to schools can provide important education benefits. Location should ensure that there is a buffer between areas of high activity and natural areas.

***Open space***. The environmentally sensitive areas do not necessarily provide recreation functions. In some cases, human access should be very limited or prohibited in order to protect natural resource values. Environmentally Sensitive/Restoration Areas (ESRA) should be evaluated for their capacity to support passive recreation use in order to determine whether or not additional open space land is needed to meet projected demands. Given the importance of ESRAs and the fact that it will be a visible identifying feature of the new urban center, it makes sense to locate any additional space adjacent to it. It will be important to identify connected and integrated open space systems within the Kelley Creek/Mitchell Creek system.

***Proximity to Higher Density Areas***. Locating parks adjacent to higher density areas is important. Note that park spaces for high-density areas should either be larger or more frequent than in low-density areas because the service area contains more people. Traditionally these areas have been underserved with parks.

***Trails and Parks***. Opportunities for easy connection of a park to the proposed regional trails should be sought.

***Town Center and Parks***. The town center should include a handsome well-proportioned park or plaza to serve as a focal point for collective civic action. It should be a space that defines a role for the buildings that surround it, rather than being a remnant space left after the buildings have been designed. A public space will help create a community oriented town center and will support retail. A large central park in the heart of the town center may not be appropriate and could dilute its functionality. A better alternative could be a small hardscape plaza or series of plazas immediately adjacent to retail uses. The size and location can vary depending on design objectives, but might be between 1 and 3 acres in size. However, smaller may be better in the core of the town center and could be as little as 1/8 to ¼ of an acre –depending on design.

***Other Centers and Transit Areas***. Consider opportunities for small (less than one acre) urban plazas or recreation pockets at commercial centers and in transit areas. The parks may include multi-purpose paved areas; children's play areas; public art/fountain; seating and basketball hoops.

***The total acreage of neighborhood parks*** should be closer to the benchmark of 1.3 acres per 1,000 residents. A caution utilizing this standard is to consider not only project area but also that adjoining urban neighborhoods might also use the parks.

***The number of neighborhood parks*** should include an easily accessible neighborhood park in every neighborhood. The size and number of parks in any neighborhood should consider the surrounding density.

***Design and size of neighborhood parks and community parks*** should take into account potentially needed recreation facilities. Each park is unique. When designed, parks may include these types of features or other similar features such as: playgrounds, group picnic areas, volleyball courts, basketball courts, soccer fields, football fields, tennis courts, skate park, community garden and/or a community center.

***Consider opportunities for small urban plaza/recreation pocket parks*** at commercial areas and transit areas.

***Identify an open space system*** that will create and connect and integrate an open space network in the Kelley Creek/Mitchell Creek system. The open space should support future Goal 5 (State) natural resources work.

SUMMARY OF FUTURE CIP NEEDS

The Plan Map identifies nine Neighborhood Parks (27.62 acres), one Community Park (29.60 acres) and 441.3 acres of ESRA, or Environmentally Sensitive Restoration Areas. Of the nine Neighborhood Parks, six are proposed to be located in Gresham, one will be situated in Portland and the remaining two will be in Clackamas County. The 29.6-acre Community Park will be sited completely in Gresham. Acreages of the Neighborhood Parks and ESRA parcels cross all areas of governance and have been broken down into the following designations:

| Governance Jurisdiction | Neighborhood Park Acreages | Open Space | ESRA Acreages (Natural Resource Areas) |
|---|---|---|---|
| Clackamas County | 6.96 | 00.0 | 69.60 |
| Gresham | 19.55 | 135.29 | 97.61 |
| Happy Valley | 00.0 | 00.0 | 17.30 |
| Portland North | 00.0 | 00.0 | 90.30 |
| Portland West | 1.11 | 00.0 | 65.50 |
| TOTALS | **27.62** | **135.29** | **323.01** |

City of Gresham Parks and Open Space Standards

- Neighborhood Parks 1.3 acres per 1000 population
- Community Parks 2.0 acres per 1000 population
- Open Space 10.0 acres per 1000 population
- Trails & Connectors ½ mile radius system connects facilities

**Note:** Metro's Open Space standards are 20.9 acres per 1,000 population.

Using the above criteria and applying to the anticipated population trends, the following park needs are illustrated:

| Population | Neighborhood Parks | Community Parks | Open Space |
|---|---|---|---|
| 13,529 | 17.59 acres | 27.06 acres | 135.29 acres |

**Additional Note:** The Pleasant Valley Plan District map shows conceptual and varying sizes for the nine neighborhood parks. For purposes of the CIP list the Neighborhood Park benchmark unit shall be 2.5 acres. Smaller sites tend to lean more towards Urban Plazas. Larger sites may prove to be too costly for acquisition, development and maintenance. Benchmarks will yield minor results than those of standards.

Neighborhood Parks

The Plan District Map illustrates future park properties from A to I and O. Neighborhood parks are intended to serve each residential neighborhood. It is recognized that all acreage, site locations and shapes are considered "floaters" as specific parcels may not be for sale, or purchase costs may prohibit acquisition. Sites have been identified as follows:

Park Site A (2.93 acres) North of Sager Road and west of 172nd Avenue - This park site is the most urban of the neighborhood park system, serving both adjacent residential and commercial components. It should also serve as a visual terminus to the north end of the new pedestrian trail connector over Kelly Creek.

Park Site B (2.87 acres) Nursery Neighborhood between Geise and Richey Roads – Park should be located in the central area of this neighborhood. It is hoped that park edges will connect with two fingers of adjourning ESRA properties.

Park Site C (3.76 acres) An east/west orientation of the park is desired so that it provides a view corridor from the neighborhood. Location as shown also serves as a visual terminus to 182nd Avenue (looking north). This site also provides opportunities for spectacular views "down valley".

Park Site D (3.19 acres) East of 190th near Butler Road – This location is the eastern-most park site. It serves as a pedestrian connector from Butler Road to the East Buttes Loop Trail. The park may be split into two smaller parks, serving north and south neighborhoods.

Park Site E (3.27 acres) South of Cheldelin and East of Foster Road – This site will serve higher residential density neighborhoods. It also is intended as a visual terminus to the south end of 182nd Avenue. This is one of two sites located in Clackamas County.

Park Site F (3.41 acres) West of 190th and north of Cheldelin Road – This park is located between two significant ESRAs in SE Pleasant Valley.

Park Site G (3.39 acres) East of 172nd Avenue and north of Clatsop Street/Cheldelin Road. This park aligns between the ESRA to the east and the Power line Corridor Trail to the west.

Park Site H (1.11 acres) West of Mitchell Creek and adjacent to the planned schools. Located in Portland, this is the smallest park in the inventory. This key site will cross Mitchell Creek and connect with the East Butte Loop Trail.

Park Site I (3.69 acres) North of Sager Road and West of 172nd Avenue – This is the second of two sites located in Clackamas County. Its intent is to connect the two ESRA areas in this SW neighborhood.

### Community Park

Park Site O (29.60 acres) The Community Park is centrally located and will provide a wide variety of recreational opportunities to all residents of Pleasant Valley. The park is sited east of the Town Center, framed on either side by overhead transmission lines and underground natural gas distribution lines. The proposed north/south Power Line Trail lies within its boundaries. The northernmost boundary is north of Giese Road, stretching southerly until it meets up with ESRA lands on the northern bank of Kelly Creek.

## Environmental Sensitive Restoration Areas (ESRAs)

Pleasant Valley contains 475.6 acres of wetlands, streams and stream corridors. Using City of Gresham standards for calculating Open Space, 135.29 acres from the total amount has been so designated. The balance of the ESRAs is labeled Natural Resource Areas. The costs for all land acquisition, conservation easements, restoration and maintenance will be substantial. There is no one method that can or should be used for everything. Discussion is ongoing as to which City Departments would have jurisdiction, or would take the lead on this significant issue.

### Trails

The Plan Map identifies 8.19 miles of trails, including 9 pedestrian bridges over Mitchell, Kelly and two additional un-named tributaries. The vast majority of proposed trails fall within the ESRAs, although some crossings are within existing utility corridors while others alignments are on private property. Whenever possible, it is desirable to connect the trails with the parks and open space system. The preparation of a formal park, trails and open space Master Plan for Pleasant Valley will address many of these concerns.

### FINANCING PLAN

The following discussion presents the envisioned strategy for financing service extensions in the Gresham and Portland sections of Pleasant Valley. For analysis purposes, the boundary between Portland and Gresham is presumed to be Mitchell Creek in the west. The Jenne Road area is also presumed to be part of Portland. All other Multnomah County areas are anticipated to be in Gresham. The final boundary will likely shift away from the creek, but at this time, the shift is not expected to significantly alter the relative cost burden depicted for Gresham and Portland. This discussion assumes Gresham will serve the Clackamas County area (Area C). The ultimate service and governance providers for Area C have not been determined and will be the subject of future agreements.

Gresham and Portland finance park system operations with general fund revenue. SDCs, grants, land dedication, and special G.O. bond measures have traditionally been relied on to finance park

system improvements. Both cities have been successful working with local property owners, developers, civic organizations, and state and federal agencies to create partnerships that have helped develop park and recreation facilities. Metro has been an important partner in this process, especially for the acquisition and development of regional parks and open space facilities.

The analysis indicates that forecast SDC receipts would not be sufficient to finance the planned park and trail improvements and open space acquisition in Pleasant Valley. Nor does the analysis include potential restoration costs for ESRAs. There are, however, fairly significant public benefits that come from the restoration of ESRAs. Some public participation in their restoration seems appropriate.

Financing the park and open space improvements may be more difficult than other public facility system improvements. Several factors contribute to this. On the capital improvement side, SDCs can only finance park system improvements to the existing level of service that is provided in the community. The planned improvements in the Pleasant Valley Community Plan are based on desired service levels, not prevailing service levels. Since prevailing service levels are below the benchmark used in the concept plan, SDC revenues from within Pleasant Valley are understandably below the cost of planned improvements. Some parks in Pleasant Valley will likely provide regional benefits, so investment of SDC resources generated outside Pleasant Valley may be justified. In addition, portions of the trail system in Pleasant Valley connect regionally significant trail systems. This improves the chance that that some contribution from Metro and other outside sources could augment local resources.

On the operation side, the problems and potential solutions are more complex. Gresham is having difficulty maintaining its existing park system. Like many cities in Oregon, Gresham has experienced a reduction in general fund revenue relative to service demands since the passage of Measure 50. Managers and elected officials are beginning to ask if it is appropriate to build park facilities if the revenue is not available to maintain these assets. Solving the operations and maintenance problem is, in many ways, a more complex issue that solving the capital funding problem. Without operating revenues, acquired park sites will remain undeveloped and function only as open space with limited, if any, recreation value. Over time, this results in a lower level of service, which in turn lowers the allowable SDC fee the next time the park SDC methodology is updated. Without a more comprehensive solution to the operating revenue problem, parks will continue to compete with police and fire and other general fund services for limited resources.

## GOAL, POLICIES & ACTION MEASURES

### GOAL

Parks, open space and trails shall be located and developed throughout the Pleasant Valley community.

### POLICIES

1. Neighborhood parks, small green spaces and open spaces shall be within a short walk of all homes.

2. A network of bicycle and pedestrian routes, equestrian trails, walking/hiking trails and multi-use paths will connect the parks and open spaces.

3. The park and trail system will be connected to the Springwater Trail, Powell Butte and other regional trails and greenspaces.

4. The natural area lands will constitute the framework of the open space system. The parks system will be organized to complement the open space system, and, wherever possible, the land should be used to create opportunities for people to pursue low intensity and low impact recreational activities. However, acquiring and protecting these lands should not be accomplished in lieu of creating other types of recreation spaces.

5. There shall be a network of neighborhood parks and a community park equitably distributed and sized to meet demands. The network will provide the majority of recreation opportunities for local residents. A neighborhood park shall be located in every neighborhood. Neighborhood parks and a community park shall be located generally consistent with the preferred concept plan map.

6. A series of other parks, such as plazas, park blocks (boulevards), public gardens and recreation pockets shall be created to give identity and form to the town center. The smaller mixed-use neighborhood centers shall also feature a small park or plaza.

7. There shall be parks located adjacent or near higher density areas.

8. Wherever practical schools and parks shall share facilities such as soccer/football fields and basketball courts. Sharing facilities can reduce maintenance costs and the amount of acreage needed if the fields were not shared.

ACTION MEASURES

1. Amend parks, recreation, open space and trails master plan(s) for Pleasant Valley consistent with the Pleasant Valley Plan District. This includes funding mechanisms and strategies for acquisition, development and operation.

2. Evaluate the natural areas (ESRA) for their capacity to support passive recreation use in order to determine whether or not additional open space land is needed to meet projected demands. The ESRA lands will not necessarily provide recreation. In some cases, human access should be very limited or prohibited in order to protect natural resource values.

3. Conduct a park and recreation needs assessment to more precisely define parks, open space and trails requirements consistent with the Pleasant Valley Plan District plan.

    a. The design and size of parks should take into account potentially needed facilities. These facilities can include features such as, but not limited to, basketball courts, sports fields, picnic facilities, community gardens and community center buildings.

    b. The design and size of open space should take into account the size sufficient to protect resources. A continuous open space network is anticipated for Kelley and Mitchell Creeks. The current city per capita standards for open space acreage is less

than areas identified as state Goal 5 natural resources in Pleasant Valley. Open spaces, in addition to natural resources, can include, but are not limited to, trails, trailhead amenities, benches, interpretative signs and native vegetation.

c. The design and size of trails should take into account the size sufficient to protect resources and accommodate activities. In addition to the actual trails, features can include, but are not limited to, walk-in trailheads, benches, interpretive signs and native vegetation.

4. Develop a strategy to establish the identity, design and funding of the community park. Consideration shall be given to future public involvement strategies including a design charrette.

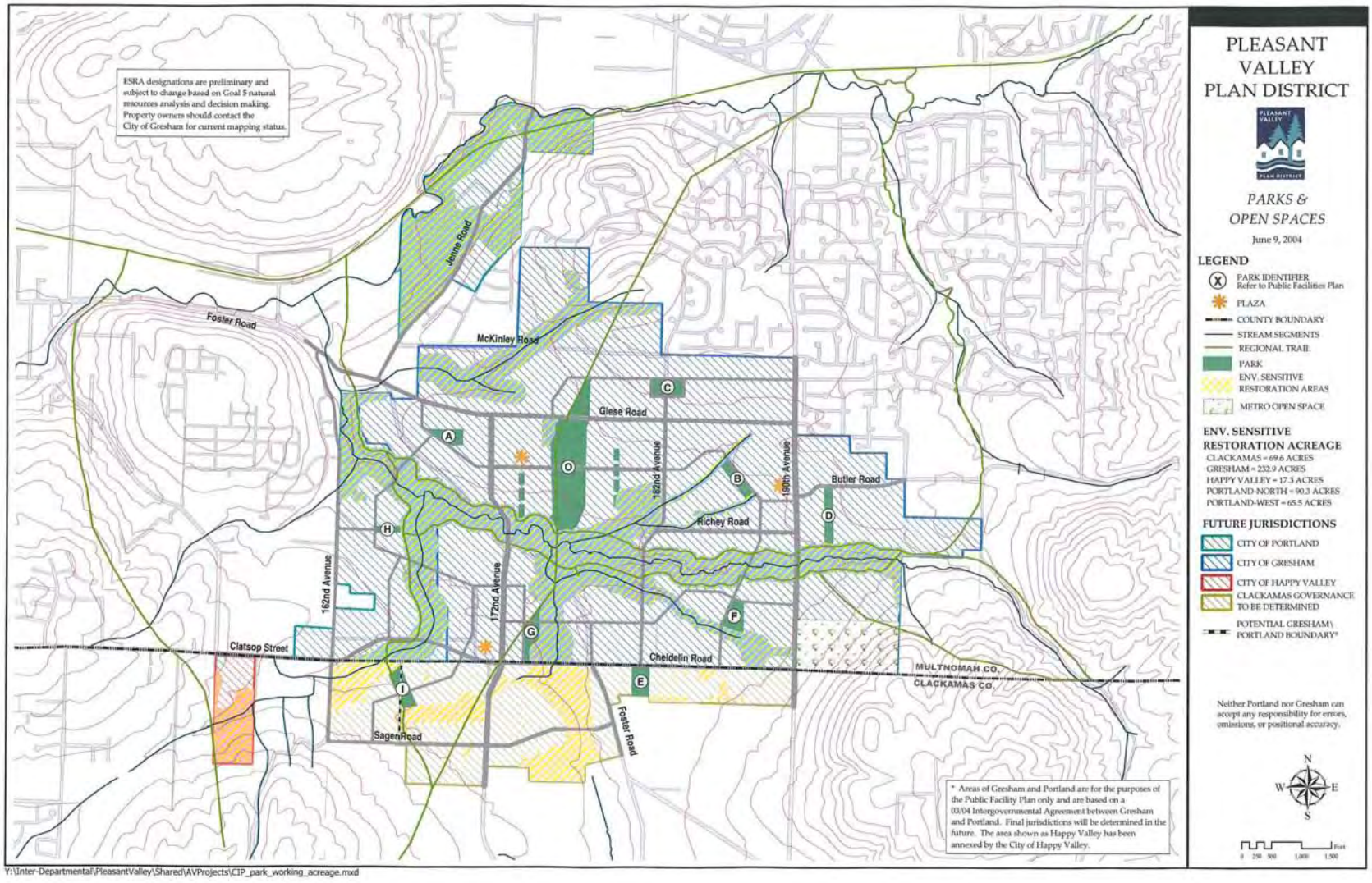
5. Support designation of the Pleasant Valley regional trails system in the Metro Greenspaces Master Plan. Identify funds that can be uses to study the feasibility of the trails, right-of-way acquisition, design and construction. The following have been nominated for inclusion on the Metro Trails and Greenway map:

   a. East Buttes Powerline Corridor Trail. This trail runs north / south partially via the BPA/Northwest Natural Gas line easement. It connects to the Springwater Corridor Trail and the proposed Gresham/Fairview Trail and to the Clackamas River Greenway near Damascus.

   b. East Buttes Loop Trail. The trail runs east / west along both sides of the main stem of Kelley Creek. It runs through the heart of Pleasant Valley and provides connections to the Springwater Corridor Trail; the Gresham Butler Creek Trail and a Metro open space area.

(Sections 10.700 – 10.724 added by Ordinance No. 1597, effective 1/6/05)

Section 10.724 - Appendix A



**Section 10.724 - Appendix B**
**Pleasant Valley Public Facility Plan**

**Parks Capital Improvement Project List**

| Project | Description | Acres/ Length | Cost[1] | Timing | Responsible Jurisdiction | Funding Source |
|---|---|---|---|---|---|---|
| *Parks* | | | | | | |
| A | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham | SDC/Local |
| B | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham | SDC/Local |
| C | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham | SDC/Local |
| D | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham | SDC/Local |
| E | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham/Clackamas | SDC/Local |
| F | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham | SDC/Local |
| G | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham | SDC/Local |
| H | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Portland | SDC/Local |
| I | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham/Clackamas | SDC/Local |
| O | Community park | 29.6 | $20,524,000 | 6 to 20 | Gresham | SDC/Local |
| | | | | | | |
| **Open Space** | | 135.29 | $ 6,764,500 | 6 to 20 | Gresham | SDC/Local |
| | | | | | | |
| **Natural Resource Areas**[2] | | 69.6 | $ 3,480.000 | 6 to 20 | Gresham/Clackamas | SDC/Local/grants |
| | | 97.61 | $ 4,880,500 | 6 to 20 | Gresham | SDC/Local/grants |
| | | 155.8 | $ 7,790,000 | 6 to 20 | Portland | SDC/Local/grants |
| | | | | | | |
| **Trails** | | **Miles** | | | | |
| | BPA Powerline (9005 LF) | 1.71 | $ 1,282,500 | 6 to 20 | Portland/Gresham | SDC/STP/Metro |
| | Kelley Creek trails west of BPA (14,658 LF) | 2.78 | $ 2,085,000 | 6 to 20 | Portland/Gresham | SDC/STP/Metro |
| | Kelley Creek trails E of BPA (6,887 LF) | 1.30 | $ 975,000 | 6 to 20 | Portland/Gresham | SDC/STP/Metro |
| | Western N/S trail (7,858 LF) | 1.49 | $ 1,110,000 | 6 to 20 | Portland/Gresham | SDC/STP/Metro |
| | SE corner trail (1,692 LF) | 0.32 | $ 240,000 | 6 to 20 | Portland/Gresham | SDC/STP/Metro |
| | N trail; Springwater corridor | 0.59 | $ 442,500 | 6 to 20 | Portland/Gresham | SDC/STP/Metro |
| | Pedestrian Bridges | 9 total | $ 2,250,000 | 6 to 20 | Portland/Gresham | SDC/STP/Metro |
| | | | | | | |
| **Grand Totals** | | | | **Gresham** | **Clackamas** | **Portland** |
| **Neighborhood Parks** | | | $10,575,000.00 | $ 7,050,000.00 | $ 2,350,000.00 | $1,175,000.00 |
| **Community Park** | | | $20,524,000.00 | $20,520,000.00 | | |
| **Open Space** | | | $ 6,764,500.00 | $ 6,764,500.00 | | |
| **Trails & Ped. Bridges** | | | $ 8,385,000.00 | $ 5,087,500.00 | $ 940,000.00 | $ 2,357,000.00 |
| **Natural Resource Areas** | | | $16,150,500.00 | $ 4,880,500.00 | $ 3,480,000.00 | $ 7,790,000.00 |
| **Grand Totals** | | | $62,395,000.00 | $44,302,500.00 | $ 6,770.000.00 | $11,322,500.00 |

[1]Cost includes cost for land acquisition and development *Assumptions:*
Neighborhood Park – Acquisition $200,000/acre; Development $270,000/acre
Community Park – Acquisition $200,000/acre; Development $560,000/acre
Open Space – Acquisition $40,000/acre; Habitat Restoration $10,000/acre
Trails – Acquisition $300,000/mile; Development $450,000/mile; Pedestrian Bridge $250,000 each
Natural Resource Areas – Acquisition $40,000/acre; Habitat Restoration $10,000/acre

[2]Areas in excess of Open Space benchmark standard.

# 10.800 SPRINGWATER PLAN DISTRICT

## STATEWIDE PLANNING GOAL 14: URBANIZATION

*"To provide for orderly and efficient transition from rural to urban land use."*

## INTRODUCTION

In 2003, the City of Gresham in partnership with Multnomah County and in cooperation with Metro, Clackamas County and others, embarked in planning for a new urban area – Springwater. Springwater was added to the region's urban growth boundary (UGB) in December 2002 to accommodate forecasted industrial and employment needs for the region. It is 1,405 acres located in Multnomah County south (to the Multnomah/Clackamas County border) and east (as far as 282nd Avenue) of the current Gresham city limits.

Rural residential are the most widespread existing uses in Springwater with a population of 833 (2000 census). Other uses include a portion of a golf course (Persimmons) and few small commercial buildings. The two miles of the main stem of Johnson Creek flows through the site along with an extensive system of tributaries and wetlands. The existing transportation system was designed primarily to serve the rural residential uses and farm to market route for past agricultural uses. The site is served by Highway 26 traveling north to south. There are no public water, wastewater, or stormwater facilities. There are no public parks. The Springwater Corridor trail, a multi-use regional facility, generally parallels Johnson Creek through the site.

New urban areas must be brought into a City's comprehensive plan prior to urbanization with the intent to promote integration of the new land into existing communities. Planning efforts began with the establishment of the Springwater Community Working Group (CWG) which held its first meeting January 2004.

In May 2004, the CWG endorsed a set of goals and policies to guide development of the Springwater Community Plan and subsequent implementation actions. This established essential goals that the Springwater Community would:

- Be economically and environmentally sustainable
- Provide industrial land to generate a variety of family-wage job opportunities
- Foster sustainability through good environmental stewardship
- Have a high quality of life
- Have a well planned transportation system
- Preserve, protect and enhance natural resources

In October 2004, the CWG endorsed the Springwater Concept Plan Draft Map. The central theme of the Plan is to create an urban community for family-wage jobs through the integration of land use, transportation, and natural resource elements and by utilizing sustainable practices. The Council endorsed the Concept Draft Map in November 2004.

Subsequently implement plans and ordinances based on the Concept Plan Draft Map were developed as the Springwater Community Plan. In April 2005 the CWG endorsed the Springwater Community Plan.

An extensive planning process has resulted in the Springwater Plan District. The Springwater Plan District will fulfill the desire that resulted from the planning process to create a quality and sustainable industrial and employment environment, with a sense of place that is unique to Springwater. The Plan District will implement this through its large industrial and office employment districts, its mixed use Village Center and surrounding townhouse district, single family and estate housing neighborhoods; transportation alternatives including trails and transit, improvements to US 26, pedestrian friendly urban design and the integration of the natural environment into the design of the community. Critical to the sense of place in Springwater is Johnson Creek and other natural resources including an extensive network of streams and wetlands. The Plan District, with a focus on sustainability and jobs, will allow it to develop in such a way that minimizes impact on these natural features, while allowing these features to enhance the built environment.

What follows are goals, policies and action measures for each of the major elements that make up the Springwater Plan District. Endorsed by the Community Working Group and refined during the development of ordinances, these statements focus on the key concepts and policy directions for subsequent regulations and implementation efforts to realize the Plan District to provide for an orderly transition of Springwater from rural to urban uses.

## 10.801 CREATE A COMMUNITY

### BACKGROUND

The Metro Council brought Springwater into the Urban Growth Boundary (UGB) in December 2002. When land is brought into the UGB, Title 11 of the Metro *Urban Growth Management Functional Plan* requires that the added territory be brought into a city's comprehensive plan prior to urbanization with the intent to promote the integration of the new land into existing communities.

Title 11 requires a series of comprehensive plan amendments including maps that address provisions for annexation; housing, commercial, and industrial development; transportation; natural resource protection and enhancement; public facilities and services including parks and open spaces; and schools.

Early in the Springwater Community Plan development, a Community Working Group (CWG) was convened to provide input through the planning effort. Together, the CWG and the project team developed a set of goals and policies that were ultimately adopted by the CWG. The purpose of the goals and policies was to identify the City of Gresham's intent to accomplish certain results through the Springwater Community Plan. The following goal was adopted for creating a community:

***The Springwater Community shall be an economically and environmentally sustainable community.*** *The primary focus of the plan will be on providing a high number of industrial and industry-related jobs that enhance the economic viability of Gresham, the greater East County region and its citizens. Industrial and employment lands will be complemented with a village center and housing and will be carefully integrated with the upper Johnson Creek system. Sustainable green building and development practices will enhance the community's unique character, while supporting the protection and restoration of the area's natural resources.*

In the scenario evaluation process, this goal was used as a way to provide a comprehensive evaluation of the number and type of jobs provided by each scenario, the amount of land used for various employment types, the number of households provided, the impact of Springwater's development on the local and city-wide jobs to housing balance, the ability to logically and cost-effectively provide public services to the community, and the ability to integrate sustainable development features such as low impact development practices.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in creating a balanced community for Springwater:

- **Creating a Village Center in an accessible, aesthetically-pleasing location**. The Village Center is located at one of the premier view points in Springwater. The Village Center will have a commercial and mixed-use core, with two sets of park blocks intersecting in a public plaza area. The Village Center will be accessible to nearby residential neighborhoods and to the industrial and employment areas through both improved transportation corridors and new pedestrian/bicycle trail loops.
- **Considering total development costs when developing annexation strategies**. Since Springwater does not currently have urban services, the cost of initial development in the planning area is strongly linked to the proximity to existing public services. The annexation strategy for Springwater considers not only market drivers and industrial land needs, but the infrastructure cost that must be borne by either the city or the developer.
- **Offering flexibility in development opportunities**. To maximize the attractiveness of Springwater to potential developers, there needs to be a range of opportunities available for industrial development. The Springwater Plan locates various industrial development types to best match the local topograph and transportation access, but provides flexibility to accommodate a wide range of potential employers who can bring high-value jobs to the region.
- **Providing a variety of housing options**. With housing options ranging from large lot "estate" housing to high-density, mixed-use areas, Springwater will provide housing in close proximity to industrial areas for a range of employees.
- **Protecting natural resources as an amenity to the region**. There are many high value natural resources in Springwater that should be protected or enhanced to protect the riparian and upland species in the region and increase the attractiveness of Springwater to

developers and residents. This will be achieved through a natural resource management plan that outlines priorities for protection and enhancement activities, and a trail plan that provides access to the riparian areas while minimizing the impact to the natural resources.

- **Providing adequate school facilities**. The Gresham/Barlow School District identified the need for two additional schools in the Springwater area. Approximately 25 acres are needed to site one elementary and one middle school. Although a specific site was not selected, the preference would be to locate the school within walking distance of the Village Center and adjacent residential areas.

## GOALS

1. The Springwater Community shall be an economically and environmentally sustainable community.

2. Springwater will provide a high number of family-wage jobs that enhance the economic viability of Gresham, the greater East County region and its citizens.

3. Industrial and employment lands will be complemented with a village center and housing, and will be carefully integrated with the Johnson Creek system.

4. The Springwater Community Plan shall result in a strong rural/urban edge.

## POLICIES

1. The Springwater Community Plan will serve as the basis for the City's comprehensive plan amendments and implementing measures that will guide future urbanization.

2. The Springwater Community Plan will carefully consider Springwater's relationship to adjoining communities and especially its role for economic development as annexations and extensions of public facilities occur.

3. The Springwater Community Plan will provide for full public services including transportation, surface water management, water, sewer, fire and police services, schools, recreation and parks facilities, and connections to open spaces.

4. Urbanization shall be guided by an urban services and financial plan that will ensure that annexation, service provision and development occur in a logical, efficient, and cost-effective manner; that major public facilities are provided at the time they are needed; and that economic development is maximized.

5. Sustainable development will be promoted through a combination of incentives, regulations, and recruitment.

6. The Plan shall create a permanent hard-line UGB edge west of the Orient Rural Center/282$^{nd}$ Avenue.

7. The Plan must comply with State, Regional and Local goals and requirements.

8. The Plan must comply with the Intergovernmental Agreement between the City of Gresham and Multnomah County.

### ACTION MEASURES

1. Update the City of Gresham's Sewer, Water, and Stormwater Master Plans to reflect the infrastructure needs associated with urbanization in Springwater

2. Implement recommendations of the Water and Wastewater SDC study being conducted concurrently with the completion of this Plan. Update the SDC improvement project list to include the relevant near-term projects listed in the CIP section of this plan.

3. Establish equitable funding mechanisms to implement the recommended CIP for the stormwater management system, and provide adequate funding for stormwater management facility maintenance.

4. Continue discussions with Clackamas County and the City of Damascus regarding service provision in the Sunshine Valley area of Damascus, and negotiate service agreements as appropriate. Regardless of the solution, the agreement needs to comply with provisions of ORS 195 that relate to urban service providers.

5. Establish a Plan District. A Plan District designation provides a means to create unique zoning districts and development regulations that address the specific opportunities and problems identified in the Springwater Community Plan.

## 10.802 ECONOMIC DEVELOPMENT

### BACKGROUND

Bringing industrial development and family-wage jobs to east Multnomah County was one of the primary drivers for bringing the Springwater area into the UGB. Gresham offers several advantages as an employment center, including a skilled manufacturing workforce, close proximity to the Portland International Airport and regional rail hubs, a respected community college system, and a strong economic development program backed by committed leadership. The Springwater area has scenic views and access to high-end recreational amenities such as the Springwater Corridor Trail, Mt. Hood, and the Columbia River Gorge.

An economic and industrial employment site study, a Village Center study, and a residential housing study were completed to help inform the land use and economic planning for Springwater. They have informed the planning process and helped shape the scenarios and the concept and the final Plan.

The CWG and planning team developed the following Plan goal related to economic development:

***The Springwater Community shall provide industrial land that will generate a variety of family-wage job opportunities.*** *Job creation is aimed at correcting the imbalance between the number of households and the number of jobs in the East Metro region and increasing the City's economic strength. The plan will actively encourage businesses with an interest in sustainability and protecting the community's rich natural resources. Springwater will include a village center that can serve residents, employees, and businesses.*

## SUMMARY OF MAJOR ISSUES

*Industrial Development – Current and Projected Employment Trends*

While recent employment growth trends in the region have reflected the recession, economic indicators show that the Portland area is in a good position relative to other urban areas to take advantage of industrial growth as the economy recovers. Furthermore, based on its 2025 forecast, Metro clearly sees the East Multnomah County area emerging as more of a job center than it has been in the past, with the area forecast to gain more than 20,000 jobs in the 2000-2010 period. This is more than one-fifth of all new jobs in Multnomah County and 8 to 9 percent of all new jobs metro wide during the decade. Another 30,000 jobs are anticipated for East Multnomah County over the following 15 years, from 2010 to 2025.

However, Metro's forecast suggests that traditional manufacturing will not be a significant factor in the region's job growth. East Multnomah County currently has less than 5 percent of the metro wide industrial employment, and this share is only projected to rise modestly over the next 20 years. As a percent of total jobs added, industrial employment falls from 1 in every 3 jobs added in the 2000-2005 period (32.3 percent) to roughly 1 in 7 by 2020-2025 (13.7 percent).

In addition to global trends affecting manufacturing expansion in general, one reason for the area's relative lag in anticipated industrial job growth may be its occupational structure. Although Gresham does have a skilled blue-collar labor force, these existing skill sets may not be compatible with the new technology job growth (such as those in advanced processing, and computer and design, for instance) that the metro area – and Gresham – hopes to attract in the coming years.

*Telecommunications*

The telecommunications component of the North/South Corridor Plan identified several elements that may be useful for the purposes of the Springwater Community Plan. First, the one corridor without any substantial high capacity (fiber) telecommunications services is Hogan Road - 242nd Avenue. This is also the one corridor that extends south into the new communities of Springwater and Damascus, and, therefore, has the highest potential for new additional services. The land uses adjacent to the 242nd Avenue corridor could benefit from this in terms of the timing of new improvements, and the likelihood that high-quality telecommunications services would come through this route. Also, the study recommends that all arterial and highway improvement projects include, at a minimum, a conduit to carry future telecommunications facilities to be installed by the private service providers. This would significantly simplify future telecommunication system expansion.

*Target Industries*

The team used a combination of quantitative and qualitative methods to identify appropriate industrial targets for Springwater. The target industry list is based on consideration of:

- Existing regional industries and their support services as revealed by an analysis of historical and projected employment patterns in the region and interviews with local economic development and industry professionals
- National growth trends and current market conditions
- A review of published reports and industry cluster studies completed by other researchers and economic development organizations for the region and the state
- The limitations and advantages presented by the Springwater site
- The experience of the project team

The target industries were selected based on existing industry strength in Multnomah County and the Metro region, local industry growth trends higher than those seen nationally, potential to leverage existing research initiatives in the region, ability of the industry to bring high-wage occupations, and the interest of state and local officials in targeting the industry.
Based on this analysis, the target industry list in Table 4 was prepared. Each of these industry targets is profiled in detail in a Target Industry Matrix included in the Reference Documents.
For purposes of this table, "Short-term" timeframe refers to 1 to 3 years, "Mid-term 3 to 5 years, and "Long-term greater than 5 years.

Table 4. Summary of Target Industries

| Target | Appropriate for Springwater? | Timeframe |
|---|---|---|
| Advanced Materials | Yes | Short-term |
| Medical Devices | Yes | Mid-term |
| Specialized Software Applications | Yes | Short-term |
| Forestry & Agricultural Biotechnology | Yes | Mid-term |
| Nanotechnology | Yes | Long-term |
| Recreational Equipment/Recreation Technology | Yes | Short-term |
| Headquarters | Yes | Short-term |
| Professional Services | Yes | Short-term |
| Specialty Food Processing | Possible | Short-term |
| Transportation Equipment/Technology | Possible | Short-term |
| Logistics | Not Likely | Short-term |
| Renewable Energy Technology | Yes | Mid-term |

Core industries (those companies already established in the region) represent the first tier of economic development opportunity. However, the ability to retain "traditional manufacturing," even if successfully lured to an area, is increasingly unlikely. With increasingly advanced fabrication requirements, manufacturing should be seen in a new light. Industries were once thought of as the working of raw material, but are now a matter of design, process control, and assembly. Therefore, identifying companies employing specialized engineering and advanced manufacturing processes should be part of a successful recruitment strategy for Springwater. Within this broad concept, a few specific industries are worthy of consideration, including medical devices, advanced materials, recreational technology, and specialized software applications.

An additional target, corporate headquarters, is also recommended for the study area. There are several obvious benefits from professional service employment, especially when connected with a corporate center. These include environmental friendliness, highly educated workers, and the prestige factor associated with a corporate "brand." Add to these the potential cluster effect of additional professional activity, such as the need for ancillary services in legal, marketing and accounting activity and the argument becomes stronger.

Portions of the Springwater area are in many ways extraordinarily well suited for a corporate center. The quality golf course, the beauty of the setting, and the availability of housing all come into play. In addition, corporate center recruitment in other parts of the country has resulted in the ability to attract manufacturing, distribution, and commercial development in near proximity. Recruiting a corporate headquarters may prove to be the signature project by which the Springwater study area can become known throughout the State.

*Village Center*

Workers and residents of the Springwater community will require supporting commercial services. The development of a Village Center is one means for accomplishing this goal. Two important assumptions guided planning for the Village Center:

- The design of the Village Center should meet the needs of future area industries, businesses and residents, as well as nearby existing urban and rural residents. It should not compete directly with existing retail centers in the Gresham area, such as Historic Downtown, the Rockwood Town Center and planned new areas such as the Pleasant Valley Town Center.
- The Village Center should be a walkable, mixed-use district, including medium-density housing, retail and commercial areas.

An assessment was made of the current retail environment in Gresham and the broader region, and of national data on shopping center characteristics to develop an understanding of uses typically found in neighborhood-serving retail areas. There was an evaluation of whether projected population growth in east Multnomah County and expected increases in retail spending would be sufficient to support a Village Center.

The market assessment indicates sufficient demand in east Multnomah County to support the retail portion of the proposed Village Center. The analysis of market demand, coupled with the

City's vision for the area, and Metro's regulations governing neighborhood-serving retail developments, suggests that an incremental, long-term build-out of the Village Center may be the best strategy for serving the needs of future area industries, businesses, and residents, as well as nearby existing urban and rural residents. The use of an incremental build-out plan would allow specific phases that could be triggered by certain population and employment thresholds.

*Residential*

Springwater was envisioned as a community in which people could live, work, and play. Accomplishing this vision requires some level of housing. As part of the planning process the characteristics of housing needed for the Springwater community and crafting an overall strategy for housing within the area were assessed.

Based on the average number of jobs per household in the region, it would take more than 10,000 households to provide the targeted 15,000 employees in Springwater. While some of these jobs could be filled by current residents of Gresham and Springwater or residents of nearby communities such as Pleasant Valley, it is unlikely that all of them would be. Furthermore, one of the key planning requirements was that the commercial and retail services in Springwater would not compete with adjacent centers. For Springwater's commercial and retail services to be self-supporting, a minimum population of approximately 3,000 people is required. While some of the support for the Village Center may come from outside Springwater, it is difficult to estimate the extent to which existing residents would help support the Village Center. Both of these issues point to the need, and capability, of Springwater to support a certain level of housing.

Housing demand within Springwater is likely to be driven to some extent by the industry targets chosen and the City's success in attracting specific companies to the area. However, given the City's goals and the characteristics of the property, the team views some executive housing as a logical strategy for Springwater. The topography of the site, particularly the buttes on the western edge, and the abundant natural features make it an appealing site for high-end residential development. Existing amenities, such as the Persimmon Golf Course and access to Mt. Hood, make the area attractive to outdoor enthusiasts. With the right mix of uses and scale, the Village Center development could be an important element in creating the "complete environment" for corporate executives and upper-level management.

**GOALS**

1. The Springwater Community will provide industrial land that will generate a variety of family-wage job opportunities.

2. The Plan will actively encourage businesses with an interest in sustainability and protecting the community's rich natural resources.

3. Springwater will include a village center that can serve residents, employees, and businesses.

## POLICIES

1. Maximize the land area and accessibility for industrial and industry-related jobs.

2. Develop a feasible recruitment and marketing plan for short, medium and long-term phasing.

3. Ensure that the site has adequate communication technologies, such as broadband Internet access.

4. Be forward thinking in identifying Springwater industrial job opportunities in anticipating viable opportunities in the short, medium and long-term.

5. Define industrial jobs to include a variety of industrial sectors.

6. Provide for a range of job opportunities, catering to various skill sets and building on the skills of workers in the East Metro region.

7. Consider the relationship of industrial opportunities in Springwater to other employment opportunities including the Oregon Science and Technology Partnership (OSTP), Rockwood Urban Renewal and potential new industrial areas to the south in Clackamas County (Springwater/Damascus) and other new planning areas such as Pleasant Valley.

8. Foster industrial opportunities by enhancing the quality of the built environment.

9. Create a high-quality village center as well as high-quality neighborhoods with a mix of housing options to help foster industrial opportunities.

10. Recruit businesses with a sustainable ("green") philosophy.

11. Provide many diverse opportunities for family-wage jobs.

12. Work to correct the imbalance of jobs to housing within Gresham and the East Metro region.

13. Work with Mt. Hood Community College to ensure that the training and education needs of incoming business and industry are met.

## ACTION MEASURES

1. Initiate a target marketing campaign for Springwater in the context of the City of Gresham's marketing and economic development initiatives.

2. Develop marketing materials (including a brochure, web page, and target industry letters) that reflect a preferred approach and marketing theme. A specific marketing and advertising strategy should be developed with a tracking system that enables the City to

evaluate the effectiveness of each marketing channel (mail-outs, telemarketing, trade events) and adjust marketing activities accordingly

3. Conduct parcel-level inventory for all land within industrial and commercially zoned tracts of Springwater. This inventory should result in the creation of "land briefs" for each parcel that describes all available information on the property, including: ownership, assessed valuation, current sales listing, and available infrastructure.

4. Prepare a list of brokers and owners based on the parcel inventory. Set out a meeting schedule with those brokers and owners to establish interest levels in participation.

5. Identify developer candidates and solicit a request for proposal for specific sites within Springwater. The Village Center should be considered as a pilot project.

6. Work with selected developer(s) to identify and market potential anchor companies. This work should be part of a prospect management system that coordinates the efforts of East County organizations, such as local governments and OSTP.

7. Develop a public relations strategy for Springwater and East County, including the creation of an East County Ambassador program and the preparation of a regional profile.

8. Determine the required level of public commitment to Springwater, including assessing options for public involvement in specific projects and developing an incentive package for Springwater.

9. Ensure that the City development plan code provides for farmers markets as appropriate in the Springwater area.

10. Develop an economic linkage between new Springwater industries and the nursery industry.

11. Consider including conduit for future fiber optic cable as a component of roadway improvements in Springwater.

## 10.803 SUSTAINABILITY

### BACKGROUND

The City of Gresham's goal for Springwater is to develop an economically, environmentally, and socially sustainable community. Providing sustainable development will help integrate the quality of life with the quality of the community that develops as Springwater is urbanized and annexed. The philosophy of sustainable development starts at the community planning level and continues through the design and construction of individual buildings. Each element along the continuum from community to structure is critical to this systematic model. This approach seeks to balance the use of natural resources with the creation of spaces and places needed to meet the community's social, functional, and economic needs.

Early in the Springwater Community Plan development, a Community Working Group (CWG) was convened to provide input through the planning effort. Together, the CWG and the project team developed a set of goals and policies that were ultimately adopted by the CWG. The purpose of the goals and policies was to identify the intent of the City of Gresham to accomplish certain results through the Springwater Community Plan. The following goal was adopted for sustainability:

> ***The Springwater Community shall foster sustainability through encouraging businesses, industries and homes that are designed and built with good environmental stewardship****. This shall be accomplished through green practices that provide for energy efficiency, water conservation, reduced pollution, and avoid environmentally harmful materials and processes. The Springwater Community strives to be a model for successful sustainable industrial development. Development shall also preserve, restore, and enhance natural resources by meeting or exceeding local and regional standards. Land uses, transportation systems and natural resources shall be carefully integrated and balanced.*

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in planning for sustainable development in Springwater. These issues represent the full range of sustainable development opportunities, from the community level to the building level.

**Economic Development**. Positioning Springwater as a sustainable community can take several approaches, all of which should be considered during implementation of the Plan.

- Targeting companies that produce environmentally-friendly or holistic products
- Targeting groups of industries that would benefit from co-location and collaboration in the management of resources and environmental concerns such as energy, water, and materials management
- Promoting or requiring green building practices for industrial, commercial, and residential development. The U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Green Building Rating System includes standards for building construction and operation that aim to improve occupant well-being, environmental performance, and economic returns of buildings. The LEED program uses both established and innovative practices, standards, and technologies to improve the environment for building occupants and minimize the impact of building construction. Incorporating elements of the LEED program in the Springwater code and supporting developer participation in the U.S. Green Building Council's LEED Program will result in a more sustainable built environment in Springwater, as well as supporting other sustainability goals.

**Site Development Practices**. Green site development practices are implemented through a combination of techniques that minimize the impact of development on the natural areas and surrounding communities. Green site development incorporate the following elements:

a. *Stormwater Management.* The high level of industrial and urban development planned for Springwater will increase stormwater runoff and pollutant load beyond what is currently

experienced. Green or low impact development uses a system of landscaping features that treat and infiltrate stormwater on the development site instead of using a traditional piped collection and conveyance system. Stormwater that is not managed on individual sites will be conveyed using Green Street swales rather than a conventional piped system. The benefit of green development is that it minimizes the production of stormwater runoff and manages it close to the source. These practices mimic the natural hydrology of the area, minimizing erosion and enhancing water quality in the streams. Green development practices include the following:

i. Minimizing impervious surface coverage

ii. Using ecoroofs to absorb precipitation and reduce runoff from developed areas.

iii. Maximizing tree canopy through preserving and planting trees in landscaped areas and parking lots, on residential property, in street medians, and in neighborhood and community parks

iv. Using onsite stormwater treatment techniques such as bioswales and landscape planters.

v. Using Green Streets for all streets that do not have a high level of on-street parking (as in the Village Center).

b. *Xeriscape Landscaping*. Xeriscape landscaping promotes water conservation by minimizing the amount of native vegetation removed, limiting new vegetation to native or drought tolerant vegetation, and limiting irrigation. This approach also supports and encourages protection and restoration of natural areas where development occurs on parcels adjacent to Environmentally Sensitive Resource Areas.

c. *Minimizing Night Sky Impacts*. Urbanization of Springwater will result in new lighting sources that could increase night sky illumination and impact the nocturnal environment. Applying site lighting restrictions reduces the development impact by avoiding off-site lighting and night sky pollution.

**Water Reuse**. The high density of proposed industrial development, distance from the City of Gresham's existing wastewater treatment plant, and potential demand for reclaimed water for either non-contact industrial uses or environmental benefits (such as aquifer recharge, streamflow augmentation, etc.) support investigating wastewater reuse in Springwater.

## GOAL

1. The Springwater Community shall strive to be a model for successful, sustainable, industrial development, and foster continued sustainability through encouraging businesses, industries and homes that are designed for and built with good environmental stewardship.

## POLICIES

1. Create a sustainable community through business practices, philosophies, and strategies that reduce environmental impacts; for example, using techniques like Leadership in Energy Efficiency and Design (LEED) criteria and renewable energy sources.

2. Target environmental businesses and encourage businesses to use green practices that reduce waste and pollution; avoid waste, pollution, and environmentally harmful materials and processes; conserve water and energy; and protect and enhance the environment, biodiversity and the ecosystem.

3. Utilize green development practices, including green streets. Community design and infrastructure plans should enhance the natural hydrologic system as a fundamental part of managing stormwater and water quality.

4. Create interpretive educational opportunities that allow residents to experience and understand the diverse ecosystem that they are a part of.

5. Preserve, restore and enhance natural resources in ways that help ensure its long-term economic, social and environmental benefits as Springwater urbanizes.

6. Consider wastewater management alternatives other than conveyance to and treatment at the City's existing wastewater treatment facility on Sandy Boulevard.

7. Develop a transportation system that promotes improved air quality and reduced energy consumption by providing alternatives to replace long vehicle trips with shorter trips or with transit or walking/biking trips.

8. Encourage the planting and preservation of trees.

9. Utilize land as efficiently as possible.

10. Encourage diverse economic activities within the context of industrial and industry-related activities and promote the integration of the Springwater economic development community into the greater Gresham and surrounding East Metro community.

11. Incorporate an integrated Pest Management Program for the entire Springwater Community.

**ACTION MEASURES**

1. Develop regulations, incentives, and development standards that include measures to protect and augment the natural stream system with a vegetated buffer system along streams and wetlands that are critical to the ecological health of the watershed.

2. Develop regulations, incentives, and development standards for managing stormwater on-site through green development practices that rely on infiltration, bio-retention and evapotranspiration, or other processes that enhance the natural hydrologic system.

3. Incorporate green streets designs as described in Metro's handbook entitled *Green Streets: Innovative Solutions for Stormwater and Stream Crossings* and as designed in the Pleasant Valley Plan District area.

4. Develop regulations, incentives, and development standards to provide for the planting and preservation of trees throughout the study area, including street rights-of-way, community open spaces, parking lots, and other landscaped areas. Include an enforcement program.

5. As industries begin to locate in Springwater, investigate wastewater discharge or non-potable water demands to assess the potential for a water reuse program.

6. Initiate discussions with the Oregon Department of Environmental Quality (DEQ) to investigate the regulatory precedence for or requirements associated with using treated effluent for environmental benefits such as streamflow augmentation and aquifer recharge.

7. Explore the use of chemical free maintenance in City-owned or maintained parks.

## 10.804 LIVABILITY

### BACKGROUND

The result of developing a complete, sustainable community in which the City's needs for economic development are balanced with natural resource protection and infrastructure development can be summarized in one word: *livability*. The CWG and the project team characterized the livability goal for Springwater as follows:

> ***The Springwater community shall have a high quality of life****. This will be accomplished through compact and sustainable development; a range of housing choices; walkable neighborhoods; access to natural resources and open spaces for employees in the community; preservation of natural resources; and a variety of transportation choices. The community will encompass a village center, or series of village centers, that provide needed services for employees and residents in an attractive human-scale environment. A range of housing choices will be provided within close proximity to services and/or employment areas. Overall, the community shall be a unique environment that creates a sense of place for both residents and businesses, and acts as an economic attractor*.

In the scenario evaluation process, compliance with this goal was measured by miles of trails and greenway connectivity provided, acres of the Plan area allocated to parks and open spaces, park and open space accessibility (number of households within a 5- or 10-minute walk), net residential and job densities, and households in proximity to the Village Center.

### SUMMARY OF MAJOR ISSUES

Primary elements of the Plan that contribute to the livability of Springwater include the following:

**Planning a community- and pedestrian-friendly Village Center**. Two sets of park blocks are planned for the Village Center – one along a north/south axis bordered by high-density residential housing, and one along an east/west axis bordered by mixed and commercial uses.

These park blocks will intersect in a Village Center park and plaza that will help create the identity of the Village Center and provide a community gathering place. These spaces will produce a pedestrian way through the heart of the Village Center. The Village Center and housing areas are located such that over 75% of the residents of Springwater will be located within a quarter mile walk of the Village Center.

**Developing a trail network that provides access to natural resources and employment areas throughout Springwater**. Two trail loops are proposed: a Village Center loop offering views of the riparian areas on the west side of Johnson Creek, and an Employee loop trail offering access to industrial and employment areas on the east side of Johnson Creek. These trails will connect with each other and with existing trails in the region, supporting multimodal transportation.

**Offering a range of housing options to meet a variety of needs.** With a modest number of new households in Springwater, a variety of housing options will be available to meet a range of needs. A portion of the property in Springwater has been designated for large-lot " housing. This area has views of Mt. Hood and/or abuts natural resource areas and will provide opportunities for employees to locate near prospective industrial development sites. A range of townhomes, mixed-use, and single family homes will also provide housing for potential Springwater employees.

**Providing parks that build on the area's natural features and provide appropriate amenities**. Two parks with different uses and amenities are proposed for Springwater. The nature-oriented Springwater Community Park is envisioned to be located along the Johnson Creek Corridor and adjacent to the residential districts. It will provide two youth sports fields, and a regionally significant natural park area, providing interpretive educational opportunities. The athletic facility-oriented East Springwater Park will be located east of US. 26, and will provide two to three adult sports fields for employee recreational opportunities as well as for the adjacent neighborhood to the north.

## GOALS

1. The Springwater Community shall have a high quality of life provided through compact and sustainable development; a range of housing choices in close proximity to services and/or employment areas; walkable neighborhoods; access to natural resource areas, parks, and greenways for employees in the community; preservation of natural resources; and a variety of transportation choices.

2. The park, trail, and open space network shall provide a variety of recreational opportunities for residents, employees, and neighbors of Springwater.

3. The community shall be a unique environment that creates a sense of place both for residences and businesses, and acts as economic attractor.

## POLICIES

1. Provide a variety of high-quality housing choices to include opportunities for large-lot housing within compact and walkable neighborhoods.

2. Promote a high standard for development practices. Promote developments and buildings that are pedestrian friendly.

3. Create a sense of place with respect to the community's cultural and natural history. Incorporate the natural environment into the design of the community.

4. Create a Village Center that serves local residents, businesses and employees. The design of the streets and buildings of the Village Center should emphasize a pedestrian-oriented character where people feel safe.

5. Create a walkable community with an urban form that increases walking, biking and transit options. Access and connections to the Springwater Corridor Trail shall be emphasized as a unique characteristic of the Springwater Community.

6. Locate parks and open spaces throughout the community. Neighborhood parks, small green spaces and open spaces shall be within a short walk of all homes.

7. The park and trail system shall be connected to the Springwater Corridor Trail and connect to other regional trail systems where feasible.

8. The Village Center shall include a plaza, pocket park or other forms or combinations of parks to provide identify and form to the center as well as assembly space.

9. Identify opportunities and needs for civic uses and work with the Gresham/Barlow School District and Mt. Hood Community College to identify the area's education needs.

10. Build upon Springwater's unique characteristics and location, such as its proximity to and views of Mt. Hood.

**ACTION MEASURES**

1. Modify System Development Charges for Springwater to allow acquisition and development of the proposed park areas.

2. Implement design standards for the Village Center that emphasize a human-scale and pedestrian-friendly environment.

3. Seek opportunities for synergies between other city agencies, such as shared park/school sites, regional stormwater management facilities, and trail corridors along transportation routes.

4. Expand on recommended park facility programs to meet the needs of the future residents by holding community workshops and planning days to involve the community in the design process.

5. Look for state and federal funding assistance to help preserve natural resources beyond that open space which will be purchased through Parks fees.

## 10.805 TRANSPORTATION

### BACKGROUND

A well-planned transportation system is critical to both attracting economic development to Springwater and to achieving the area's goals for livability and sustainable development. The team developed the following goal for transportation:

***The Springwater Community will encompass a well-planned transportation system that supports the Springwater Community Plan, while promoting transit, walking, and bicycling.*** *Good design can avoid the effects of heavy traffic on neighborhood safety and the natural environment. A well-connected transportation system using trails, bicycle routes and a variety of street types reinforces a sense of community and provides adequate routes for travel. The site should provide good connections to and from the employment areas and the surrounding community, as well as regional freight and transportation centers.*

The transportation plan for Springwater was developed in compliance with transportation plans adopted by the State of Oregon, Metro, Multnomah County and the City of Gresham. Guidelines from these entities were used as a primary resource to develop the policy framework for the mobility standards and street spacing set forth in the Springwater Transportation System Plan (TSP). Review of the Gresham and Multnomah County Transportation System Plans also revealed the current street functional class designations for existing streets and highways, any planned pathways or trails, and any planned transportation improvements within or close to the Springwater area that should be included in the basic framework of the new planning area.

Key features of the Transportation element of the Plan are:

- Create a network of arterials, collectors, community streets, and local streets that accommodates travel demands and provides multiple routes for travel. Key new street extensions and connections include:
    - Two new east-west arterial connections from 242nd Avenue to Telford Road between Rugg Road and 252nd Avenue.
    - A new grade-separated interchange at US 26 in the Springwater Area.
    - A new street connection to Orient Drive around the east side of the existing Gresham neighborhoods.
- Upgrade existing streets and design all new streets to accommodate biking and walking, with special pedestrian amenities on transit streets. Upgrade intersections with safety issues identified as part of the inventory work.
- Provide regional and community transit service on key roads in Springwater, with direct connections to Gresham, Sandy, Clackamas regional center, Damascus, the Columbia

Corridor, and downtown Portland. Planned transit streets include 242nd Avenue, Orient Drive, and US 26.

- Provide a logical and connected street system that connects directly to community destinations while also avoiding the ESRA where possible. Mitigate where not possible. Plan for a local street system that complements the arterial and collector street system and meets regional connectivity requirements within the residential and mixed use areas of the plan.
- Provide for direct and convenient access to employment centers that lead to regional facilities, and reduce the possibility of traffic intrusions into neighborhood and rural areas.
- Use Green Street designs that are an integral part of the stormwater management system and provide walkable, tree lined streets.
- Plan for a long-term arterial connection from Hogan Road to US 26 north of the Springwater Corridor Trail, to serve long-term regional mobility needs.

## SUMMARY OF MAJOR ISSUES

Major issues faced in the transportation planning for Springwater are described below.

**Develop a network of arterial and collector streets adequate to serve future growth in Springwater, while protecting environmentally sensitive areas and adjacent neighborhoods and rural areas from the effects of urbanization.**

Traffic analysis conducted as part of the update to the Regional Transportation Plan (RTP) demonstrated that future growth in Springwater would likely have widespread effects on the regional transportation system, despite significant improvements to the primary routes serving the area. Springwater's transportation plan must support the land use goals of the community, protect the natural features that define the area, and improve community access by all modes of travel by providing a variety of travel choices.

**The availability of alternative arterials and highways leading away from Springwater are limited.**

The rural Springwater community today, in general, is adequately served by US 26, and several city and county two-lane arterial roadways. Recurring congestion occurs during peak periods at major intersections along Burnside Road, Hogan Drive and Powell Boulevard just north of Springwater inside city limits, but delays are within acceptable levels according to city and state standards.

The planned job growth in will create much higher demand for regional travel to I-84, I-205 and the future Sunrise Corridor. A long-time need for freight traffic on US 26 has been more direct and reliable routes connecting to Interstate 84 and Interstate 205. The current adopted plan that provides this type of facility and service expansion is 242nd Avenue and a new connection to I-84 (the 242nd Avenue connector). On-going work by the City of Gresham and East Multnomah County communities on a parallel study to the Springwater Master Plan is reconsidering the North-South Corridor issue. A separate study is also being conducted to examine options for

access to US 26 within Springwater. Gresham's ongoing participation in these studies is critical to coordinate the studies' evaluations and outcomes with needs for Springwater.

**The existing street system is not adequate to serve future growth. Connect Springwater to major streets in Gresham, Pleasant Valley, and Damascus/Boring in a manner that provides alternatives to US 26 while protecting existing neighborhoods from traffic infiltration.**

Additional connections and improvements to existing streets are needed to increase access from Springwater to other parts of the region. However, evaluation of appropriate north/south street connections needs to address the potential impact of traffic generated in Springwater area on adjacent neighborhoods. The Transportation System Plan must balance the need to provide appropriate connectivity between Springwater and the surrounding neighborhoods while minimizing "through" traffic from Springwater to residential Gresham neighborhoods and maintaining a "hard urban edge" at the eastern boundary of the community as required by Gresham's intergovernmental agreement with Multnomah County.

## GOAL

The Springwater Community will encompass a well-planned transportation system that supports the Springwater Community Plan, while promoting transit, walking and bicycling. The road and trail network will provide good connectivity within Springwater, with existing neighborhoods, and with the regional trail network.

## POLICIES

1. Incorporate the North/South Transportation Study into the implementation of the Springwater Plan to identify better connections between Springwater and I-84 and I-205.

2. Incorporate green streets designs as described in Metro's handbook entitled *Green Streets: Innovative Solutions for Stormwater and Stream Crossings* and as designed in the Pleasant Valley Plan District area.

3. Provide trail and pedestrian connections between residential and employment centers in the district.

4. Design road crossings of the Springwater Corridor Trail to minimize the impact to the greatest practical extent.

5. Develop transportation corridors and associated right-of-way widths for Green Street swales that efficiently convey developed stormwater runoff to the stream system.

6. Create streets for people as well as cars.

7. Encourage alternative modes of transportation within the Springwater community.

8. Provide good connectivity and access to practical destinations.

9. Provide safe and convenient access to and from employment areas, including freight access.

10. Incorporate adequate public safety access.

11. Provide for public transit options, such as bus, streetcar and/or light rail within the Springwater community and for east/west and north/south connections to the greater region.

12. Consider traffic impacts on surrounding rural areas and existing City of Gresham neighborhoods.

13. Manage and preserve the function of rural roads for rural traffic access and circulation by directing new urban industrial and residential traffic away from the rural area.

14. Provide pedestrian and bicycle connections within the Springwater community and to the greater region.

15. Plan roads to accommodate the movement of goods and services (truck traffic).

16. Consider environmental barriers and constraints.

17. Address existing transportation safety issues.

18. Identify and promote the quality and level of telecommunication services needed to serve industrial and other uses in the Springwater Community.

19. Identify improvements to Highway 26 that enhance access and mobility to and through the Springwater Community plan area to support industrial and employment development. Design elements are to be compatible and supportive of the Springwater Community Plan.

20. Create a transportation system that enhances mobility, reliability, and convenient connections to regional destinations.

**ACTION MEASURES**

1. Coordinate Springwater development with future recommendations for improved North/South access between I-84 and the Sunrise Corridor in Damascus.

2. Implement recommended changes to the City's Transportation System Plan, and plan for funding requirements associated with transportation improvements and maintenance.

3. Coordinate Springwater development with the recommendations of the US 26 Access Study, and provide an implementation strategy that maximizes industrial development opportunities in Springwater.

4. Adopt a future street plan and street connectivity standards that meet regional and local connectivity requirements.

5. Work with TriMet to develop a plan for Springwater that provides connection to local regional centers, with service through the industrial areas and Village Center.

6. Future CIP Joint Study with Multnomah County to evaluate Access Management Control along 282nd to lessen the impacts on this facility and retain its rural character.

7. Identify all Arterial and Collector projects that are not currently in the RTP and submit a project list for inclusion in a RTP amendment.

## 10.806 NATURAL RESOURCES

### BACKGROUND

The Springwater Plan area has an extensive natural resource system that includes a two-mile section of mainstem Johnson Creek, four miles of major tributaries, and other unique habitat such as the steep slopes of Hogan Butte. The Johnson Creek Watershed Council has characterized one reach of Johnson Creek (JC16) that flows through Springwater as one of the watershed's highest quality reaches.

To comply with Title 11 of Metro's Urban Growth Management Functional Plan in bringing the Springwater area into the UGB, Gresham's planning for this area must include:

> *Identification, mapping, and a funding strategy for protecting areas from development due to fish and wildlife habitat protection, water quality enhancement and mitigation, and natural hazards mitigation. A natural resource protection plan to protect fish and wildlife habitat, water quality enhancement areas and natural hazard areas shall be completed as part of the comprehensive plan and zoning for lands added to the Urban Growth Boundary prior to urban development. The plan shall include preliminary cost estimates and funding strategies, including likely financing approaches for options such as mitigation, site acquisition, restoration, enhancement, or easement dedication to ensure that all significant natural resources are protected.*

The Natural Resources Plan must also comply with Metro Ordinance 02-969B, Exhibit M regarding the inclusion of the project area in the UGB, and an Intergovernmental Agreement (IGA) between the City of Gresham and Multnomah County establishing guidance for Springwater development planning. Specifically, the IGA states that the Springwater Plan shall:

> *Establish a consistent and comprehensive plan for urban and rural watershed management of stormwater, stream corridors and confluences, and riparian areas for the Upper Johnson Creek Basin (upstream of the 2002 Gresham city limits). Utilize the City's Johnson Creek Master Plan, Metro Goal 5 requirements (which consider the Endangered Species Act, Clean Water Act, and Statewide Goal 5 planning provisions), and habitat protection measures that are at least equivalent in the level*

*of protection to the County's West of Sandy River Rural Area Plan in development of the watershed plan.*

Early in the Springwater Community Plan development, a Community Working Group (CWG) was convened to provide input through the planning effort. Together, the CWG and the project team developed a set of goals and policies that were ultimately adopted by the CWG. The purpose of the goals and policies was to identify the City of Gresham's intent to accomplish certain results through the Springwater Community Plan. The following goal was adopted for natural resources:

> ***The plan will preserve, protect, and enhance natural resources****. It will define, protect, restore and enhance significant natural resources, including stream corridors, wetlands, and forested areas. Resource areas will provide the basis for identifying development constraints as well as serving as open space amenities for the Springwater Community. Resource protection and enhancement will be a shared responsibility of property owners, developers and governments.*

The Natural Resource team used this goal as a basis for defining the Environmentally Sensitive Resource Areas (ESRAs). After a thorough inventory of resources in the study area, the work team presented their findings through a series of inventory maps at public meetings. Local residents made additions and corrections to the maps. This information, combined with extensive field studies conducted by the project team, formed the basis for assigning significance levels to each resource in the study area. The final ESRA was determined through an Environmental, Social, Energy and Economic (ESEE) study to determine where urban development in resource areas should be allowed, limited, or prohibited.

Selected characteristics of the ESRA include:

- Wetlands, riparian habitat, and upland habitat offering both opportunities for protection of high value resources, and opportunities for enhancement of degraded resources.
- Habitat migration routes along the waterways and between the buttes.
- Buffers adjacent to the resources of up to 200 feet, depending on the type of resource.
- Implementation strategies including planning-level project cost, funding strategies, regulatory and incentive options, and restoration priorities.

## SUMMARY OF MAJOR ISSUES

Major issues associated with natural resource planning and enhancement in Springwater are related to the existing rural development and agricultural practices in the area. MacDonald Creek (Badger) has been modified by Telford Road, and urban development at the headwaters of Botefuhr Creek has changed the flow regime of the creek channel. A Himalayan blackberry monoculture has been established in the area west of Hogan Road, and an incised channel has minimized the channel's connectivity to its floodplain. Open (ditched) stormwater systems and failing subsurface wastewater disposal systems contribute negatively to water quality in Johnson Creek and the other tributaries in the study area.

Some of the Springwater riparian reaches have relatively intact diverse, mature riparian growth, however many areas lack high-quality riparian vegetation. Areas that appear as wide canopy trees in aerial photography hide understory that has been cleared, with significant streambank erosion occurring.

**GOAL**

The plan will preserve, protect and enhance natural resources.

**POLICIES**

1. The Springwater Community Plan shall recognize the importance of the upper Johnson Creek system for Gresham, the Portland Metro region and the Willamette Valley.

2. Mitigation for any impacts of development in Springwater to stream corridor function shall be prioritized first on the same tributary within Springwater, secondly in Springwater on Johnson Creek or a tributary, or thirdly as close to the impact area as possible within the Johnson Creek basin.

3. The Plan will result in a green infrastructure that will provide regional natural amenities for future generations.

4. The plan will identify potential opportunities for “natural park” facilities that would enhance the sense of place for economic developments and that could be an attraction for residents and businesses.

5. Stream crossings will be minimized to the greatest extent feasible.

6. Road and pedestrian crossings of the natural resources areas shall be designed for the least impact practical.

7. The entire Johnson Creek Watershed and ecosystem will be considered.

8. To the extent practical, watershed functions and sensitive/natural species will be restored.

9. Barriers to wildlife habitat corridors, such as bridges and roads, shall be designed to provide proper opportunities for wildlife migration.

10. The urbanization of the Springwater Community shall be balanced with the protection of sensitive species and habitat, water quality, and groundwater resources.

11. The urbanization of the Springwater Community shall achieve, to the maximum extent practical, low levels of effective impervious surfaces, high levels of tree protection and reforestation, management of stormwater as close to the point of origin as possible, improved hydrology and flood protection, and removal of barriers to fish passages.

12. Urbanization of the Springwater Community shall provide appropriate erosion control and shall control sedimentation through the use of green development practices, context sensitive design, and appropriate construction management practices, re-vegetation of disturbed areas, and regular maintenance and monitoring.

13. Lands with slopes of 25 percent or above shall be protected.

14. The use of native plants shall be a priority for re-vegetation and Green Streets.

15. The development code for Springwater shall maintain fish and wildlife habitat protection measures that are at least as protective as those adopted by Multnomah County for the West of Sandy River Plan Area upon annexation.

**ACTION MEASURES**

1. Add the Springwater Community Plan area to the Community Development Hillside Special Purpose District Map.

2. Examine habitat between Botefur Creek & Hogan Creek to identify a potential corridor that may be recommended for preservation for wildlife habitat.

3. Examine habitat between Sunshine Creek & buttes to south of Springwater to identify a potential that may be recommended for preservation for wildlife habitat.

4. Evaluate availability of grant funding to support recommendations in the Springwater restoration program.
5. Continue to evaluate long-term funding opportunities for natural resource preservation, enhancement, and maintenance.

6. Coordinate with stormwater and transportation project implementation to maximize benefits to the natural resources.

7. Coordinate with Multnomah County for adoption of Goal 5 resource map and local wetland inventory.

8. Continue to work with the City of Damascus and other stakeholders to coordinate resource preservation and enhancement efforts.

9. Identify funding sources for implementing Natural Resource goals and programs.

## 10.821 PUBLIC FACILITIES

### BACKGROUND

This section addresses water, wastewater, stormwater and park public facilities. It is intended to amend the City's public facilities plans for each facility. Amendments to the Public Facility Plan for transportation are located in a separate amendment to the City's Transportation System Plan.

The Metro Council brought Springwater into the Urban Growth Boundary (UGB) in December 2002. When land is brought into the UGB, Title 11 of the Metro *Urban Growth Management Functional Plan* requires that the added territory be brought into a city's comprehensive plan prior to urbanization with the intent to promote the integration of the new land into existing communities.

Title 11 requires conceptual public facilities plans for each of these services that demonstrate how Springwater can be served. The conceptual plans are to include preliminary cost estimates and funding strategies, including likely financing approaches and maps that show general locations of the public facilities.

Conceptual public facility plans were developed for water, wastewater, stormwater, and parks during the *Concept Plan* phase of the project. The planning area used for development of public facility alternatives included four distinct areas, shown graphically on Figure 1:

- Approximately 1,152 acres of unincorporated Multnomah County which was included in the 2002 Urban Growth Boundary (UGB) expansion. This is the primary area referenced as the "Springwater Site".
- Approximately 140 acres of unincorporated Multnomah County located at the foot of the buttes west of Hogan Road. This area is within Gresham's UGB and its Urban Services Boundary, but planning for urban services has never been provided. This area is also included in the Springwater Site.
- The "Brickworks" site, which is 183 acres of land north of the Springwater area. It is zoned as Heavy Industrial (HI) and is currently within the City of Gresham. It is included in the Springwater Community Planning area to explore redevelopment opportunities in conjunction with the new annexation area.
- Approximately 139 acres located in Clackamas County. This area was also included in the 2002 UGB expansion, and is now part of the newly-incorporated City of Damascus.

The 2002 UGB expansion also included a "Springwater Phase 2" area, which is primarily the area encompassed by the new City of Damascus. Public facility planning conducted as part of this project considered likely service extensions to the Phase 2 area. Potential service provision for the Phase 2/Damascus area is discussed separately for each utility considered in the public facilities plan.

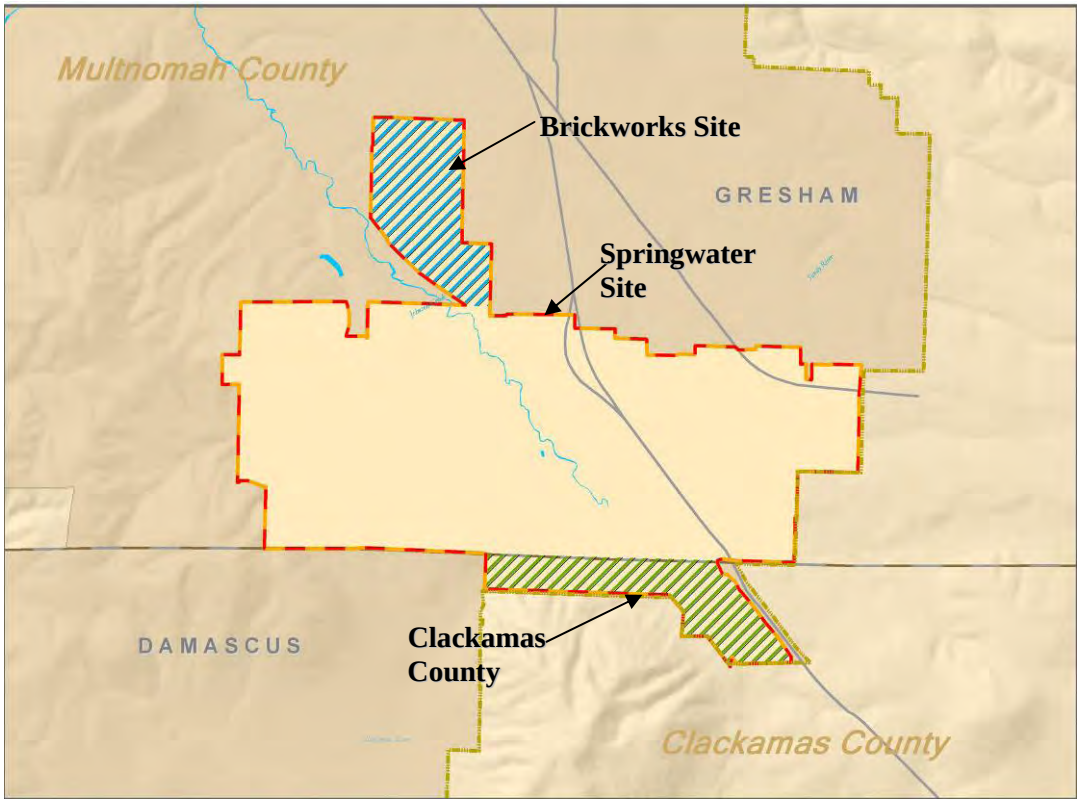



**Figure 1. Springwater Planning Area Elements**

The general steps in generating the conceptual public facilities plans were:

- Developing an inventory of the existing system
- Performing a needs analysis based on planned future uses
- Developing a conceptual system layout for each planning scenario, including facility needs and cost estimates
- Evaluating each conceptual public facility system with respect to project evaluation criteria
- Creating a preferred public facility alternative based on the preferred land use, transportation, and natural resource concepts and the scenario evaluation results
- Refining facility needs, cost estimates, and funding strategies for the recommended plan

The *Concept Plan* also included the Community Working Group's adoption of plan goals. No specific goals were developed for water, wastewater, stormwater, or parks public facilities. However, evaluation measures associated with these public infrastructure areas were incorporated into evaluation measures for the broader community goals (i.e., create a community, livability, sustainability, etc.).

The *Concept Plan* work was the basis for the Public Facilities Plans that are included in this document. These Public Facilities Plans describe the elements necessary to comply with

Statewide Planning Goal 11 and OAR 660-011-0000 necessary to amend the City's Public Facility Plan for each of the public facilities:

660-011-0010

(1) The public facility plan shall contain the following items:

a. An inventory and general assessment of the condition of all the significant public facility systems which support the land uses designated in the acknowledged comprehensive plan;

b. A list of the significant public facility projects which are to support the land uses designated in the acknowledged comprehensive plan. Public facility project descriptions or specifications of these projects as necessary;

c. Rough cost estimates of each public facility project;

d. A map or written description of each public facility project's general location or service area;

e. Policy statement(s) or urban growth management agreement identifying the provider of each public facility system. If there is more than one provider with the authority to provide the system within the area covered by the public facility plan, then the provider of each project shall be designated;

f. An estimate of when each facility project will be needed; and

g. A discussion of the provider's existing funding mechanisms and the ability of these and possible new mechanisms to fund the development of each public facility project or system.

**Service Delivery Overview**

Like most rural development in the area, most residents of Springwater are largely responsible for their own water supply, wastewater treatment, and stormwater systems. Water is currently accessed via underground wells and wastewater is primarily treated in subsurface disposal systems. Stormwater runoff is conveyed to natural drainage areas or to drainage ditches adjacent to local roads. There are no public parks in Springwater. A portion of the Springwater Trail – a multi-use regional trail developed as part of Metro's Greenspaces program – runs through the study area adjacent to Johnson Creek.

**Future Public Facilities Provider Overview**

The Springwater area that was added to the UGB in 2002 lies primarily in unincorporated Multnomah County. The southern portion of Springwater is located in the newly-formed City of Damascus in Clackamas County. The City of Gresham will be responsible for the provision of urban services for areas annexed into Gresham. The portion of Springwater in Clackamas County was included in the Public Facility Plan development for planning purposes, although the ultimate service provider for this area has not been determined.

As part of the 2002 UGB expansion, Metro also added land known as "Springwater Phase 2" that is located entirely within Clackamas County. It is assumed that water service for this area would not be provided by the City of Gresham, as it is unlikely that the Gresham would annex the area. However, the natural drainage of the region slopes toward Gresham, and therefore it may be logical for Gresham to provide wastewater conveyance and treatment for a portion of the Phase 2 area as it currently does for the Cities of Fairview and Wood Village. The portion of the Phase 2 area that drains by gravity to Gresham is known as "Sunshine Valley." The Public Facility Plan for wastewater identifies the infrastructure requirements associated with this scenario as a basis for further intergovernmental discussions regarding logical service providers for the Phase 2 area. It is also assumed that stormwater service for this area would most likely not be provided by the City of Gresham. Because of the natural drainage, however, planning for the area downstream of the Sunshine Valley has utilized the assumption that no additional flow and pollutant will be discharged. A set of planning assumptions has been transmitted to Clackamas County and the City of Damascus. The success of stormwater facilities within the Gresham boundary will depend directly on whether planning efforts for the Sunshine Valley area adhere to these or more restrictive assumptions.

## 10.822 WATER SYSTEM

### System Description/Condition Assessment

***Existing Conditions.*** The Springwater area is currently rural in nature, with some residential development and limited commercial development. Currently, water supplies in the area are served through individual wells that tap into the groundwater aquifer beneath the Springwater area. In addition, there is no domestic water distribution system in place in Springwater. As the area is developed to the level of urban development proposed in the Concept Plan, Gresham's water distribution system will need to expand to provide service to this area.

The City of Gresham provides water to its customers through a wholesale water supply agreement with the City of Portland Water Bureau (PWB) and an intergovernmental agreement with the Rockwood Water People's Utility District (RWPUD). Water is provided through seven metered connections by the PWB and one metered connection from the RWPUD. In addition to the purchased water, the City plans to use groundwater to supplement the current water supply sources. It is anticipated that the Sunrise Water Authority will serve that portion of Springwater located within Clackamas County.

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***Water Distribution.*** The Springwater water distribution system will be an extension of the City's current distribution system and add to the existing network of pipes, valves, pump stations, and reservoirs. Currently the City is divided into seven service levels that provide water to the various parts of the City. The service levels are supplied either by direct gravity from PWB and RWPUD connections, or through pump stations pumping directly from the PWB conduits or booster pump stations located in the system.

The Springwater planning area abuts three of the City's Service Levels: South Hills, Intermediate, and Lusted. These three service levels will be expanded into the Springwater area. The South Hills Service Level currently comprises of about 533 acres and includes the South

Hill Reservoir. This reservoir has a capacity of 2.6 million gallons (MG). Water is supplied to this service level through the Regner Road Pump Station #8 with a current capacity of 2,200 gallons per minute (gpm).

The Intermediate Service Level currently covers approximately 2,977 acres and includes two reservoirs: the Butler Road Reservoir (4.0 MG) and the Regner Reservoir (6.0 MG). This service level is supplied by connections to PWB conduits through the Division Street Pump Station from Conduit #4 with a current capacity of 4,000 gpm and the Main Street Pump Station from Conduit #3 with a current capacity of 3,800 gpm.

The Lusted Service Level is currently about 1,112 acres and is served by the Wheeler Road Reservoir (3.2 MG) and the Lusted Tank (1.2 MG). This service level is supplied through the Powell & Barnes Road Pump Station from Conduit #3 with a current capacity of 1,600 gpm. The Salquist Pump Station has a current capacity of 3,825 gpm and pumps water from the Intermediate Service Level into the Lusted Service Level. The Salquist Pump Station has been constructed with a provision for connecting to a future Conduit #5.

### System Analysis

Water demand from the proposed development was generated by applying an estimated demand per acre of new developable land based on the *1998 Water System Master Plan.* The demands for each service level from the *1998 Water System Master Plan* were projected over a 20-year planning horizon. These projected demands were divided by the current service level acres to obtain a demand per acre for each service level. This value was then used with the new service level areas to estimate the Springwater demand. The area of each new service level did not include land use designated as wildlife preserve, open space, or environmentally-sensitive areas.

Based on the demands projected from the *1998 Water System Master Plan*, the anticipated average day demand generated from the Springwater development totals 1.0 million gallons per day. Table 2 shows the results of this analysis for the three service levels.

**Table 2: Projected Springwater demand based on projected flows in existing service levels**

| Service Level | Existing Area (acres) | Projected 2025 Average Day Demand (mgd) | Projected 2025 Average Day Demand per Acre (mgd/acre) | New Springwater Area (acres) | Projected Springwater Average Day Demand (mgd) |
|---|---|---|---|---|---|
| Lusted | 1,112 | 0.88 | 0.000795 | 212 | 0.17 |
| Intermediate | 2,977 | 3.01 | 0.001167 | 535 | 0.62 |
| South Hills | 533 | 0.91 | 0.001167 | 177 | 0.21 |
| **TOTAL** | **4,622** | **4.80** | | **924** | **1.00** |

Maximum day demands were estimated from the projected average day demands by using a peaking factor of 2.3, the same as the one used in the *1998 Water System Master Plan.*

A new master planning effort is currently underway. Associated with this effort, demand projections are being revised. The Springwater demand projections should be revised based on this new analysis once the information is available.

One difference between Springwater and the existing City is the level of industry anticipated. Industrial customers can have a wide range of water demands and wastewater generation rates. Water demands from large industrial developments can have a significant impact on water infrastructure needs. In addition, industrial customers typically have a higher demand for fire protection. For the Springwater development, fire flow demands for each broad land use type were assumed to be:

- 3,500 gpm for Commercial and Industrial customers
- 1,750 gpm for Medium Density Residential customers
- 2.500 gpm for High Density Residential customers
- 1,750 gpm for Low Density Residential customers with homes larger than 3,600 square feet
- 1,000 gpm for Low Density Residential customers with homes at or less than 3,600 square feet

The following process was used to evaluate water demands associated with Springwater:

- Establish new service level boundaries within the planning area to determine the area to be added to the existing South Hills, Intermediate, and Lusted Service Levels. The shape of the new service levels was determined based on area topography and location to the existing service levels.
- Define pipe networks and projected flows for the land use concepts developed during planning. The networks were designed to provide as much system looping as possible, and to locate mains in existing or proposed road right-of-way to the greatest extent possible.
- Determine the pipe size for the distribution network in Springwater.
- Evaluate the system to determine whether adequate fire protection is available.
- Evaluate the system to determine whether adequate storage is available.

Based on these assumptions, Table 3 below shows the general system components required for the Springwater area. These are also shown in Figure 2.

**Table 3: Springwater water system facilities**

| **New Facilities** | |
|---|---|
| Total Length of New Pipe (LF) | |
| 12-inch diameter (LF) | 39,100 |
| 16-inch diameter (LF) | 47,036 |
| 18-inch diameter (LF) | 19,858 |
| New Pressure Reducing Valves | 3 |
| New Wheeler Road Reservoir (MG) | 3.2 |
| New South Hills Reservoir (MG) | 2.6 |
| | |
| **Upgrades to Existing Facilities** | |
| Replace 8-inch with 12-inch diameter (LF) | 290 |
| Replace 12-inch with 16-inch diameter (LF) | 1,330 |
| New Pumps at Regner Pump Station | 2 @ 1,100 gpm each |

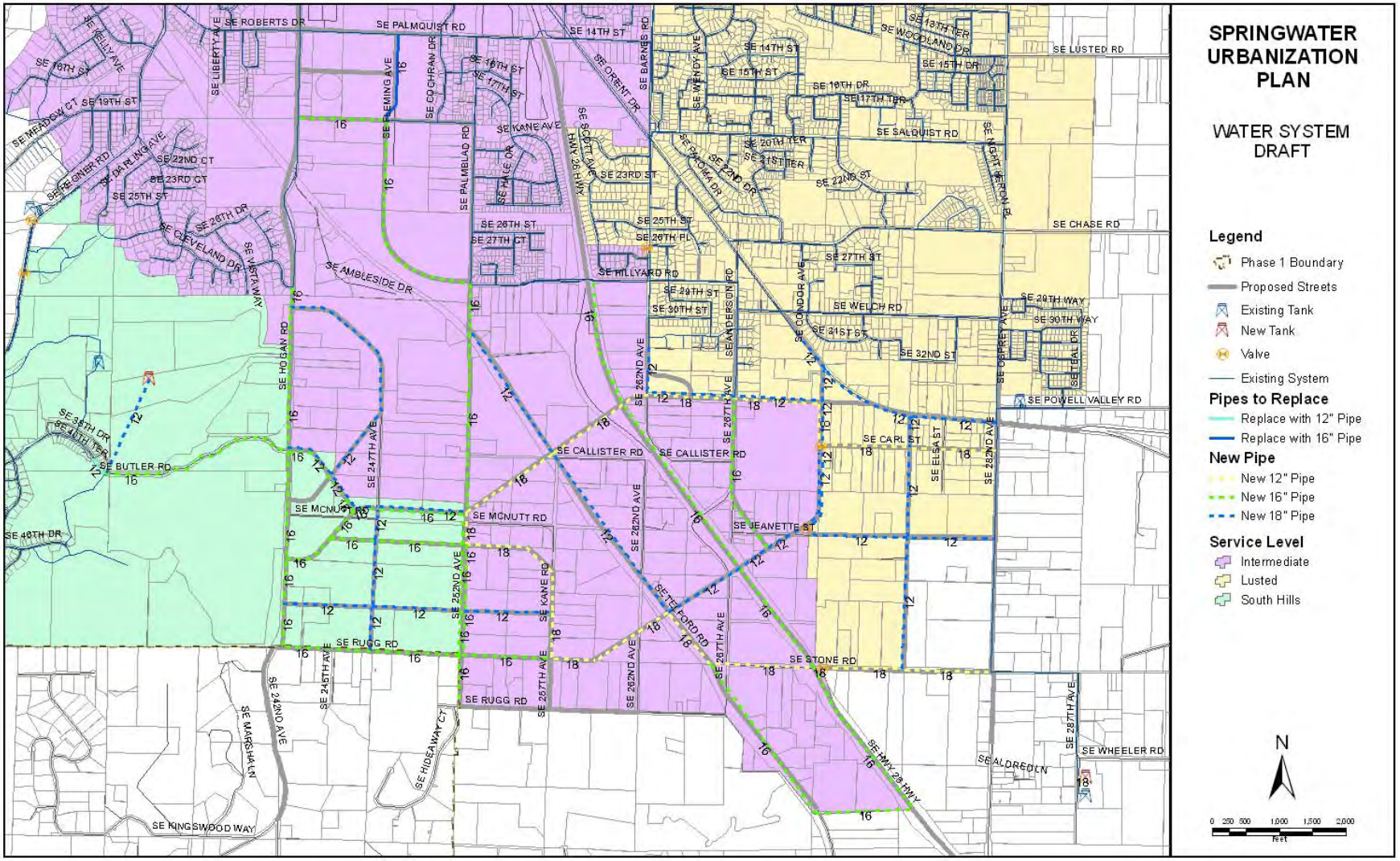



Figure 2 – Proposed Water System Improvements

### Summary of Future Needs

Based on the analysis of the proposed water distribution system, recommendations for water system improvements were developed. These recommendations include a distribution network to serve the Springwater community, and improvements to existing infrastructure in the City to provide additional flow to Springwater from the City's current sources. To maintain consistency with the City's current practices, parallel piping is provided in areas adjacent to two pressure zones to minimize the use of pressure reducing valves (PRVs) where possible. Improvements are summarized below.

- The Springwater system is divided into three service levels – extensions of the South Hills, Intermediate, and Lusted service levels. Within each service level there is a network of distribution mains ranging in size from 12-inch to 18-inch. These mains are looped to the maximum extent possible.
- Existing 8-inch and 12-inch mains in two areas will need to be upsized to accommodate the demands anticipated in Springwater.
- Two new pumps will need to be added to Regner Pump Station. These pumps are to be of similar capacity to those existing at the pump station (1,100 gpm capacity).
- Two new reservoirs will be required. One will be located near and of a similar size as the existing South Hills Reservoir (2.6 MG) and the other will be located near and of the same size as the existing Wheeler Reservoir (3.2 MG). Controls at the Regner, Barnes, and Salquist Pump Stations will have to be modified to incorporate these new tanks.

No provisions are included in the recommended plan to serve the Phase 2 Springwater area. The City of Gresham is participating in ongoing discussions with Clackamas County, the City of Damascus, and the Sunrise Water Authority to determine the appropriate service provider for the Phase 2 area.

Recommended capital improvements and associated costs are shown in Table 4 on the following page. Costs are based on the annexation subareas described in the Summary Report.

Table 4. Projected Water System Costs

| Annexation Subarea | Timing (Years) | Springwater Service Level | Length of Pipe (ft) | Storage (MG) | Other Facilities | Total Project Cost | Funding Source |
|---|---|---|---|---|---|---|---|
| 1 | 0-5 | Intermediate | 5,966 | 0.0 | | **$ 1,061,000** | SDC/Local |
| 2 | 0-5 | South Hills | 4,806 | 2.6 | 2 New Pumps | **$ 7,545,700**[1] | SDC/Local |
| 3a | 0-5 | Intermediate | 2,402 | 0.0 | | **$ 427,200** | SDC/Local |
| 3b1 | 0-5 | Intermediate | 4,420 | 0.0 | | **$ 589,500** | SDC/Local |
| 3b2 | 6-20 | Intermediate | 9,453 | 0.0 | | **$ 1,515,500** | SDC/Local |
| 4a1 | 6-20 | South Hills | 8,885 | 0.0 | | **$ 1,559,200** | SDC/Local |
| 4a2 | 6-20 | Intermediate | 2,530 | 0.0 | | **$ 506,300** | SDC/Local |
| 4b | 6-20 | South Hills | 9,882 | 0.0 | | **$ 1,566,800** | SDC/Local |
| 4c | 6-20 | Intermediate | 6,898 | 0.0 | | **$ 1,227,400** | SDC/Local |
| 5a | 0-5 | Intermediate | 3,179 | 0.0 | | **$ 593,200** | SDC/Local |
| 5b1 | 0-5 | Lusted | 3,296 | 0.0 | | **$ 439,600** | SDC/Local |
| 5b2 | 6-20 | Lusted | 6,102 | 0.0 | | **$ 1,166,900** | SDC/Local |
| 5c | 6-20 | Lusted | 8,028 | 0.0 | 1 New PRV | **$ 1,279,100** | SDC/Local |
| 6a | 6-20 | Intermediate | 5,918 | 0.0 | | **$ 922,100** | SDC/Local |
| 6b1 | 6-20 | Intermediate | 2,592 | 0.0 | | **$ 345,700** | SDC/Local |
| 6b2 | 6-20 | Lusted | 5,504 | 0.0 | 1 New PRV | **$ 817,100** | SDC/Local |
| 7a | 6-20 | Intermediate | 5,824 | 0.0 | | **$ 1,039,800** | SDC/Local |
| 7b | 6-20 | Lusted | 4,474 | 0.0 | 1 New PRV | **$ 846,500** | SDC/Local |
| 8a | 6-20 | Intermediate | 762 | 0.0 | | **$ 135,500** | SDC/Local |
| 8b | 6-20 | Intermediate | 6,694 | 0.0 | | **$ 1,190,400** | SDC/Local |
| Wheeler Res | 6-20 | Lusted | 380 | 3.2 | | **$ 7,615,000** | |
| **TOTAL PROJECT COST** | | | | | | **$32,389,500** | |

Costs based on ENR 20-City Construction Cost Index (CCI) of 7297
1. Includes land acquisition of 3 acres at $150,000/acre, plus 14% administrative markup

**Funding Plan**

The following discussion presents the envisioned strategy for funding water service extensions in Springwater. Gresham relies on developer contributions, system development charges (SDCs) and retained earnings from the utility to finance expansion. In the past, Gresham has borrowed against future utility revenues to finance major improvements in storage and transmission facilities.

Depending on the location of initial development, it may be difficult for Gresham to finance water system improvements in the short-term. Funding needs will be minimized if the initial development all occurs within a single service area, and is close to an existing water storage tank. Over the long-term, assuming the City adopts adequate SDCs to cover the required capital

improvement projects, SDCs should generate enough revenue from within Springwater to capitalize system improvements.
Gresham has recently undertaken a separate effort to evaluate water and wastewater SDCs. This project is examining options for both city-wide and area-specific SDCs, and will make recommendations regarding potential changes to the existing SDC methodology, especially in the improvement fee, to ensure that the fee is adequate to recover forecast capital improvement needs in Springwater.

### GOALS AND POLICIES

Applicable goals and policies that relate to the provision of public facilities in the existing comprehensive plan for the City of Gresham also apply to the Springwater PFP.

### ACTION MEASURES

1. Implement recommendations of the Water and Wastewater SDC study being conducted concurrently with the completion of this PFP.

2. Update the SDC improvement project list to include relevant near-term projects.

3. Continue to coordinate with the Clackamas County, the City of Damascus, the Sunrise Water Authority, and other stakeholders to establish plan for providing water service for the Phase 2 area.

4. Review options to incorporate a “purple pipe” system where water reuse is encouraged and promoted.

## 10.823 WASTEWATER SYSTEM

### System Description/Condition Assessment

***Existing Conditions.*** The Springwater area is currently rural in nature, with some residential development and limited commercial development. Sanitary sewage generated in the Springwater area is currently treated by on-site subsurface disposal systems. When the area is developed to the level of urban development proposed in the Concept Plan, this type of treatment will not be adequate.

The City of Gresham owns and operates a wastewater treatment facility that treats wastewater for over 107,000 residents, businesses, and industries in the City, as well as the Cities of Fairview and Wood Village. Wastewater receives a high level of secondary treatment at the City’s facility on NE Sandy Boulevard and is discharged to the Columbia River. Due to the topography of Springwater, all wastewater generated from the urban development would naturally drain by gravity to the existing wastewater treatment plant.

For planning purposes, it was assumed that all wastewater generated in Springwater would be conveyed to the City of Gresham’s existing collection system and ultimately to the City’s

treatment plant. A portion of the Springwater study area is within the new City of Damascus and Clackamas County (as shown in Figure 1) and therefore could potentially be served by conveying wastewater to the County's treatment plant operated by Water Environment Services of Clackamas County. This option, however, would require pumping to lift wastewater into the County's existing collection system. The City of Damascus potentially could provide wastewater services via creation of a new wastewater utility. Final determination of the appropriate service provider for the Clackamas County portion of Springwater will be determined as the Damascus urban planning efforts are completed.

***Sewage Collection.*** The proposed sewage collection system will be a network of pipes used to convey wastewater from the Springwater planning area to the City's existing system. In general, the most cost-effective and reliable method of conveying wastewater is to locate new pipes in existing or proposed road right-of-way, to use gravity conveyance of wastewater to the greatest extent possible, and to minimize the number of stream crossings.

The Springwater planning area abuts three sewage collection basins in the City of Gresham: Johnson Creek basin, East basin, and Kelly Creek basin. The Johnson Creek basin comprises 4,040 acres and includes the area roughly east of Powell Boulevard from the western City limits to 252$^{nd}$ on the east. This basin is served by a main interceptor (Johnson Creek interceptor) that follows the alignment of the Springwater trail. The interceptor ranges in size from 15- to 42-inches in diameter, and terminates at approximately the intersection of 252$^{nd}$ and Telford Road. Wastewater from this interceptor discharges to the Linneman Pump Station, which conveys the wastewater through a force main and into the main interceptors that deliver wastewater to the treatment plant. Because the Springwater area naturally drains to the Johnson Creek interceptor, and because the 2001*Wastewater System Master Plan* showed significant capacity limitations in the upstream portions of interceptors in the East and Kelly Creek basins, alternatives involving routing flow from Springwater through these basins were not examined.

Analysis of in the 2001 *Wastewater System Master Plan* showed that upstream of Regner Road, the Johnson Creek interceptor has just adequate capacity to serve existing residents through build-out of the service area. Downstream of Regner Road the size of the interceptor increases significantly, ranging from 30 inches immediately downstream of Regner Road to 42 inches upstream of the Linneman Pump Station. Preliminary analysis in the Master Plan indicated that this portion of the interceptor can accept up to 10 cubic feet per second (cfs) of additional flow (from outside of the current service area) without exceeding the hydraulic capacity of the system. The Master Plan indicated that additional improvements would be required in the Linneman Pump Station and downstream force main and interceptors to the treatment plant to accommodate additional flows from outside of the current service area.

### System Analysis

Sewage flows from the proposed development were generated by applying unit flow factors to various land use types, and adding infiltration and inflow (I/I) associated with the 1 in 5 year rainfall event. This "design storm" is established in the Oregon Administrative Rules (OAR) 340-041-120 sections 13 and 14 as the minimum condition under which the City must be able to convey and treat wastewater with no overflows. Unit flow factors and I/I assumptions were similar to the 2001 *Master Plan* and the 2004 *Pleasant Valley Master Plan.*

The primary difference between Springwater and the existing City is the level of industry anticipated. Industrial customers can have a wide range of water demands and wastewater generation rates. Wastewater discharges from large industrial developments can have a significant impact on wastewater infrastructure needs. However, these high discharges are often accompanied by high water and wastewater charges for industrial customers, and therefore many large industries employ on-site water conservation measures which reduce the volume of wastewater discharged.

A large discharger in Springwater would also present a potential opportunity for the City to implement a small-scale reuse program and provide reclaimed water to other industrial customers in Springwater; for example, public uses in and adjacent to Springwater (public parks, the Persimmon golf course, etc.), or agricultural uses in Damascus. Wastewater from such a large discharger (or several large dischargers in close proximity) could be treated in a small package treatment facility. With appropriate treatment to meet the State of Oregon's requirements for reclaimed water quality, effluent from such a treatment plant could be used to offset local water demands through direct reuse, or possibly through aquifer storage and recovery (ASR). Solids from the treatment facility would enter the sewer system for conveyance to and treatment at the City's existing wastewater treatment plant. Pursuing these opportunities, either through onsite conservation programs with individual industries or through a local reuse program, is consistent with the objective of providing a sustainable development in Springwater. Planned infrastructure was sized based on average industrial discharge rates. This assumption reflects a balance between high volume wastewater dischargers and ultimate implementation of some level of local greater recycling or small-scale effluent reuse.

The following process was used to evaluate wastewater needs associated with Springwater:

- Establish sewershed boundaries (sewer service sub-areas) within the planning area to define areas tributary to the model nodes (manholes). The shape of the sewersheds was determined based on projected future land use and area topography.
- Define pipe networks and projected flows for each of the three land use concepts developed during planning. The networks were designed to use gravity for conveyance to the greatest extent possible, and to locate sewers in existing or proposed road right-of-way to the greatest extent possible.
- Determine pipe size and slope for the three collection system networks associated with the three land use concepts.
- Compare alternatives based on evaluation criteria established in project goals and policies.
- Apply evaluation results to selected Concept Plan land use and transportation network to develop final recommendations for wastewater system improvements.

The three land use scenarios resulted in similar wastewater system needs and costs.

**Summary of Future Needs**

Based on the analysis of the three sewer system scenarios and the final Concept Plan map, recommendations for sewer system improvements were developed. These recommendations include a gravity collection system to serve the Springwater community, and improvements to existing infrastructure in the City to convey the additional flow from Springwater to the City's treatment plant. Improvements are summarized below and shown in Figure 3.

- The backbone of the Springwater collection system is the extension of the Johnson Creek interceptor along Telford road. The interceptor will extend from the terminus of the existing system at 252nd/Telford Road to approximately Stone Road/Telford Road. The interceptor size will range in diameter from 12 inches at Stone Road to 21 inches at the connection to the existing system.
- A series of 8-inch to 18-inch gravity sewers will convey wastewater from the development areas to the interceptor extension. These new sewers will be routed in existing or proposed roadways.
- Two new 8-inch collectors are required to facilitate proposed development on the Brickworks site.
- Several new sewers will discharge directly to the existing Johnson Creek interceptor. These include the collectors from the Village Center area, the residential neighborhood north of the Village Center.
- Downstream of discharges into the Johnson Creek interceptor, several existing pipes will need to upsized from 15 inches to 21 inches in diameter. These upgrades include pipes 3655-4-001, 3654-4-160, 3654-4-150, 3554-4-220, 3554-4-160, 3554-4-150, and 3554-4-140.
- The capacity of the Linneman Pump Station will need to be increased by 7.2 cfs (4.7 mgd) to provide adequate capacity for flows from Springwater. This is in addition to the capacity increase at Linneman required due to growth within the city limits and the addition of Pleasant Valley.
- A second, parallel 18-inch force main will need to be added downstream of the Linneman Pump Station to maintain acceptable velocities when flows from Springwater and Pleasant Valley are added to the system.

Preliminary infrastructure improvements to serve Springwater Phase 2 (southwest of the current planning area) were developed. These improvements are based on the assumption that all of the area that drains by gravity from Springwater will be served by the City of Gresham. The topography in the Phase 2 area results in gravity wastewater flow being conveyed along Sunshine Creek. The location of the Sunshine Creek drainage area within Damascus/Springwater Phase 2 is shown in Figure 4. It is anticipated that flow from the Phase 2 area would enter the Springwater system at approximately the intersection of 252nd and Rugg Road. In order for the City of Gresham to provide service to this area, the main interceptor through Springwater would need to be upsized, and a new interceptor provided to route this flow from approximately the intersection of 252nd and Telford Road to the treatment plant. An alignment study for this new

interceptor would need to be provided in the future to determine the optimal routing of such an interceptor.

Additional capacity at the City's wastewater treatment plant on NE Sandy Boulevard will also need to be allocated to flow generated in Springwater. Planning for future wastewater treatment improvements are addressed in the City's Wastewater Facility Plan.

Recommended capital improvements and associated costs are shown in Table 5. Pipe costs are based on the Tabula 1.0 Conveyance System Cost Estimation software made available by King County, Washington. Costs are based on an Engineering News Record (ENR) 20-City Construction Cost Index (CCI) of 7297.

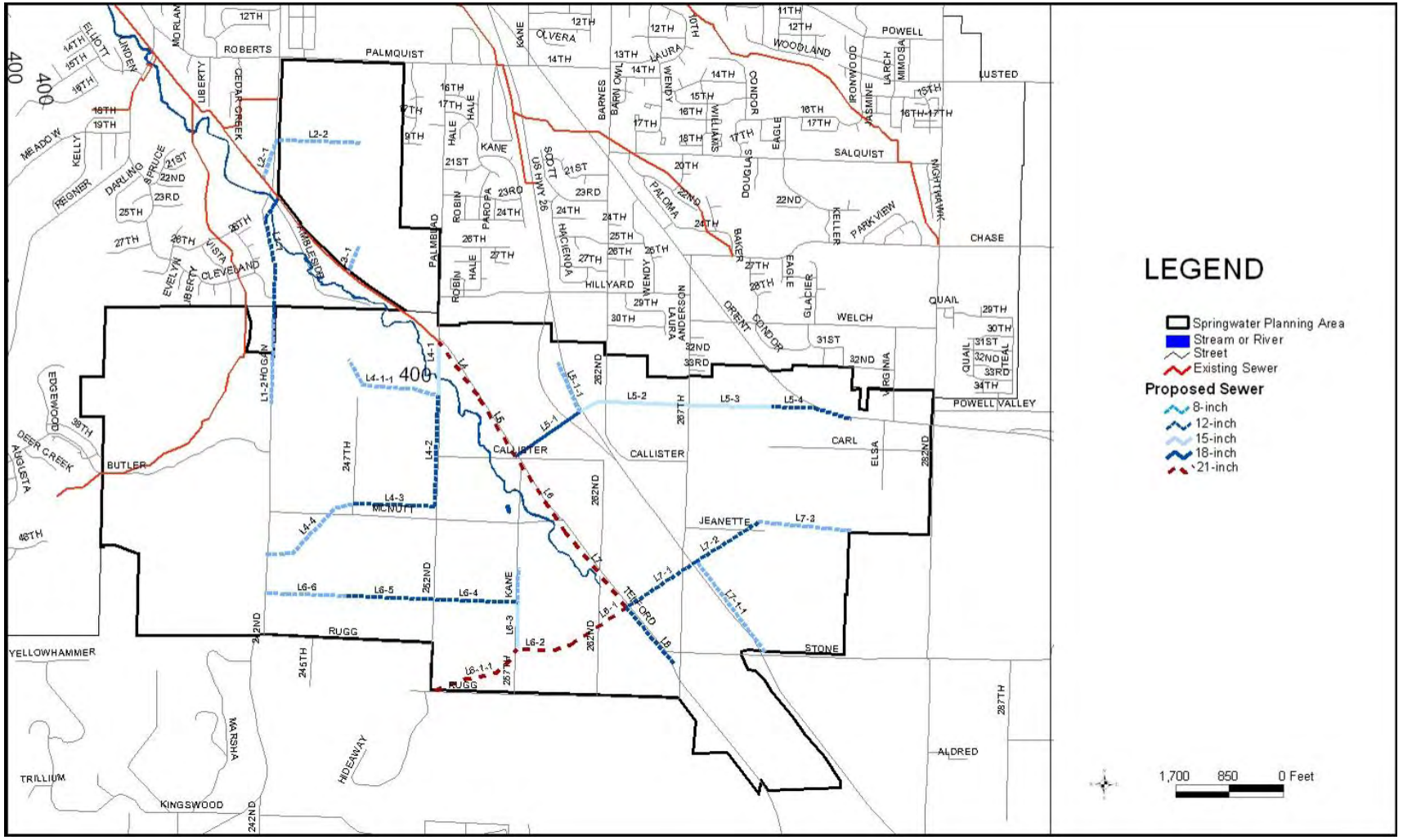


Figure 3 – Proposed Sewer System Improvements

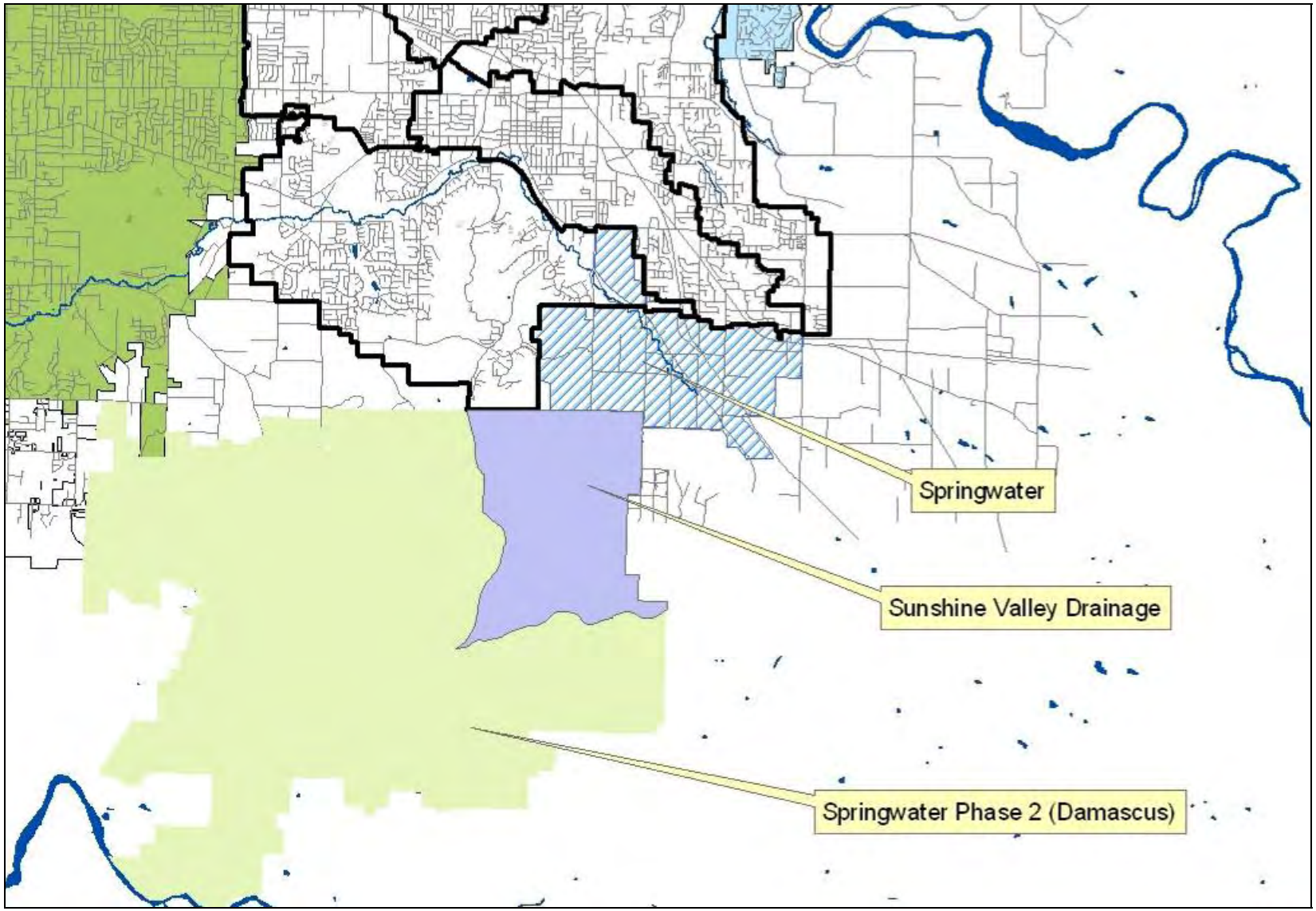


Figure 4 – Springwater Phase 2 and Sunshine Valley Drainage Area

**Table 5. Capital Costs of Wastewater Collection and Conveyance Improvements[1]**

| Pipe ID | Pipe Length (ft) | Pipe Size (in) | Timing (years) | Total Project Cost | Responsible Jurisdiction | Funding Source |
|---|---|---|---|---|---|---|
| **New Pipes in Springwater** | | | | | | |
| L6-1-1 | 1525.5 | 21 | 6-20 | $ 1,325,100 | Damascus | SDC/Local |
| L6-2 | 864 | 21 | 6-20 | $ 1,108,600 | Gresham | SDC/Local |
| L6-3 | 738 | 15 | 6-20 | $ 582,300 | Gresham | SDC/Local |
| L6-1 | 1,066 | 21 | 6-20 | $ 691,500 | Gresham | SDC/Local |
| L8 | 1,178 | 12 | 6-20 | $ 671,500 | Gresham | SDC/Local |
| L7 | 1,524 | 21 | 6-20 | $ 1,126,600 | Gresham | SDC/Local |
| L7-1 | 1,337 | 12 | 6-20 | $ 756,200 | Gresham | SDC/Local |
| L7-1-1 | 1,817 | 8 | 6-20 | $ 923,900 | Gresham | SDC/Local |
| L7-3 | 1,490 | 8 | 6-20 | $ 582,800 | Gresham | SDC/Local |
| L7-2 | 1,169 | 12 | 6-20 | $ 525,500 | Gresham | SDC/Local |
| L5-4 | 1,294 | 12 | 6-20 | $ 581,600 | Gresham | SDC/Local |
| L5-3 | 1,333 | 15 | 6-20 | $ 670,200 | Gresham | SDC/Local |
| L5-2 | 1,777 | 15 | 6-20 | $ 893,200 | Gresham | SDC/Local |
| L5-1 | 1,243 | 18 | 1-5 | $ 671,600 | Gresham | SDC/Local |
| L6 | 1,467 | 21 | 1-5 | $ 868,400 | Gresham | SDC/Local |
| L5 | 1,126 | 21 | 1-5 | $ 666,800 | Gresham | SDC/Local |
| L4-4 | 1,712 | 8 | 6-20 | $ 669,700 | Gresham | SDC/Local |
| L4-3 | 1,293 | 12 | 6-20 | $ 581,000 | Gresham | SDC/Local |
| L6-6 | 1,261 | 8 | 6-20 | $ 493,400 | Gresham | SDC/Local |
| L6-5 | 1,368 | 12 | 6-20 | $ 614,800 | Gresham | SDC/Local |
| L6-4 | 1,363 | 12 | 6-20 | $ 528,600 | Gresham | SDC/Local |
| L4-2 | 1,765 | 12 | 1-5 | $ 793,500 | Gresham | SDC/Local |
| L4-1 | 893 | 15 | 1-5 | $ 583,500 | Gresham | SDC/Local |
| L4 | 1,107 | 21 | 6-20 | $ 655,400 | Gresham | SDC/Local |
| L4-1-1 | 1,681 | 8 | 6-20 | $ 657,600 | Gresham | SDC/Local |
| L1-2 | 1,355 | 8 | 6-20 | $ 530,200 | Gresham | SDC/Local |
| L1-1 | 2,175 | 12 | 6-20 | $ 977,700 | Gresham | SDC/Local |
| L6-2-1 | 550 | 8 | 6-20 | $ 180,200 | Gresham | SDC/Local |
| L5-1-1 | 865 | 8 | 6-20 | $ 338,500 | Gresham | SDC/Local |
| **New Pipes in Existing City Limits** | | | | | | |
| L3-1 | 458 | 8 | 6-20 | $ 232,900 | Gresham | SDC/Local |
| L2-2 | 1,336 | 8 | 6-20 | $ 522,700 | Gresham | SDC/Local |
| L2-1 | 693 | 8 | 6-20 | $ 352,700 | Gresham | SDC/Local |
| ***Subtotal Springwater Planning Area*** | | | | ***$ 21,358,200*** | | |
| | | | | | | |
| **Offsite Upgrades** | | | | | | |
| Linneman Pump Station Upgrade | | | 6-20 | $ 2,033,500 | Gresham | SDC/Local |
| Parallel Force Main | | | 6-20 | $ 1,836,100 | Gresham | SDC/Local |
| Upsize Existing Pipes | | | 6-20 | $ 1,486,000 | Gresham | SDC/Local |
| ***Subtotal Offsite Improvements*** | | | | ***$ 5,355,600*** | | |
| | | | | | | |
| ***Total Wastewater Improvements*** | | | | ***$ 26,713,800*** | | |

1. Does not include Wastewater Treatment Plan infrastructure required by Springwater.

Additional future needs include:

- Updating the City's Master Plan to include both capital improvements within Springwater and capital improvements downstream in the City's existing system required as a result of development in Springwater.
- Updating the City's sewer SDC improvement fees to provide adequate funding for improvements resulting from development in Springwater.
- Determining the appropriate service provider for the portion of Springwater Phase 1 located in Clackamas County.
- Coordinating with the City of Damascus regarding wastewater system planning and design guidelines for the portion of the study area in Damascus (south of Rugg/Stone roads).
- Continuing to investigate the opportunity for wastewater reuse through satellite wastewater treatment systems in Springwater. Satellite wastewater treatment is becoming more cost-effective for onsite treatment of sanitary wastewater from large industrial sites. There could be multiple benefits of satellite treatment in Springwater, including:
    - Providing irrigation water for public parks or other public areas (schools, government facilities, etc.)
    - Providing flow augmentation in Johnson Creek
    - Providing irrigation water for nursery or agricultural land outside of the study area in exchange for water rights

In addition to these benefits, satellite treatment and effluent reuse is consistent with the desire to make Springwater a green development. Use of satellite or onsite treatment could even be incorporated in a public demonstration project in a highly visible area such as the Village Center to educate the public and further promote sustainable development in the community. The Master Plan should include provisions to allow the City to evaluate the viability of satellite treatment and effluent reuse associated with the unique needs and features of developments in Springwater.

### Funding Plan

The following discussion presents the envisioned strategy for funding wastewater service extensions in Springwater. Gresham relies on developer contributions, system development charges (SDCs) and retained earnings from the utility to finance expansion. In the past, Gresham has borrowed against future utility revenues to finance major improvements in wastewater treatment capacity. This approach required wastewater rate increases for existing customers to finance these improvements. The City has not utilized this capital investment acquisition strategy to finance new pipelines or pipeline capacity projects.

Depending on the location of initial development, it may be difficult for Gresham to finance wastewater system improvements in the short term. There are no initial strategic investments that must occur prior to any wastewater system expansion in Springwater. However, since the closest connection to the existing gravity sewer system is in the northwest portion of the study area,

parts of Springwater adjacent or close to this existing system would be the easiest to fund in the short term. Furthermore, the main interceptor through Springwater will be along Telford road. If initial development occurs in the southeastern portion of the Plan District (away from the existing system) or toward the eastern or western boundaries of the Plan District (away from Telford), the cost of initial system improvements will increase and may be difficult for the City to fund in the short term. Over the long term, assuming the City adopts adequate SDCs to cover the required capital improvement projects, SDCs should generate enough revenue from within Springwater to capitalize system improvements.

Gresham has recently undertaken a separate effort to evaluate water and wastewater SDCs. This project is examining options for both city-wide and area-specific SDCs, and will make recommendations regarding potential changes to the existing SDC methodology, especially in the improvement fee, to ensure that the fee is adequate to recover forecast capital improvement needs in Springwater.

## GOALS AND POLICIES

Applicable goals and policies that relate to the provision of public facilities in the existing comprehensive plan for the City of Gresham also apply to the Springwater PFP.

## ACTION MEASURES

1. Implement recommendations of the Wastewater SDC study being conducted concurrently with the completion of this PFP.
2. Continue to coordinate with the City of Damascus and/or Water Environment Services of Clackamas County to determine the appropriate service provider for Sunshine Valley.
3. If Gresham is to provide treatment for any portion of flow from the City of Damascus, participate with City of Damascus and/or Water Environment Services of Clackamas County on an alignment study to identify the appropriate alignment for a new interceptor to convey wastewater to Gresham's wastewater treatment plant.
4. Conclude Gresham and Clackamas County negotiations for service agreements for the portion of Springwater Phase 1 located in Clackamas County. Regardless of the solution, the agreement needs to comply with provisions of ORS 195 that relate to urban service providers.
5. Investigate wastewater discharge or non-potable water demands as industries begin to locate in Springwater to assess the potential for a water reuse program.
6. Initiate discussions with the Oregon Department of Environmental Quality (DEQ) to investigate the regulatory precedence for or requirements associated with using treated effluent for environmental benefits such as streamflow augmentation and aquifer recharge.

## 10.824 STORMWATER MANAGEMENT SYSTEM

### System Description/Condition Assessment

***Existing Conditions.*** Springwater is a rural area where stormwater is currently conveyed overland in ditches to natural drainages. Natural drainages include approximately 2.5 miles of Johnson Creek (ODFW reaches 16 through 19), and eight tributaries, four each on the northeast and southwest sides of the mainstem Johnson Creek. Drainage ditches next to public roadways convey runoff from road surfaces, and in some cases from adjacent private properties, to natural stream systems. Some stream channels are in good condition, although many are degraded. Predominant soils in the area include Cascade Silt Loam, Wolent Silt Loam, Powell Silt Loam, and Wapato Silt Loam. These are generally considered hydric soils with poor drainage characteristics. Many properties in Springwater have been tiled to drain the native wetland prairies for farming. Some riparian habitat has been removed, predominantly in flat areas where farming is prevalent.

***Design Criteria.*** Regional stormwater management facilities (detention ponds) were designed to include adequate volume for water quality, flood control, and channel stability. The water quality volume is defined as 1/3 of the two-year storm. The flood control volume includes the additional volume of runoff under developed conditions from the 10-year nuisance storm (146-hour storm event). The channel stability volume includes additional volume required to limit release rates to less than the geomorphically significant flow (i.e., flow capable of moving sediment). In this case, the channel stability volume was 50% of the two-year storm under existing conditions. Swales, swale culverts, and drainage channels were designed to carry the 10-year nuisance storm. Stream crossings were designed to convey the 100-year storm for streets identified as arterials and collectors. All other stream crossings were designed to carry the 10-year nuisance storm.

***Planned Improvements***. Springwater is a rural area where historical drainage practices have resulted in a significantly altered watershed and have had a dramatic adverse impact on watershed health, especially in riparian areas. The recommended stormwater system for Springwater is intended to minimize the impact of development and maintain or restore watershed functionality using the goals and recommendations described below.

Stormwater management in Springwater is based on green practices that include both onsite stormwater management and public infrastructure facilities. Both components use techniques and processes that mimic natural hydrology to the greatest extent practical, reducing impacts of runoff to pre-development conditions, or improving over current conditions.

Rather than routing runoff to underground pipes for conveyance, runoff will be conveyed through green street swales and swale culverts, or through drainage channels in areas that do not drain to roadways. Vegetated swales located between the roadway and sidewalks and drainage channels located along environmentally sensitive resource areas (ESRAs) will slow the flow of runoff and also provide some infiltration, reducing the quantity of stormwater that must be managed in regional facilities. Figure 5 shows the proposed location of CIP swales, swale culverts, and drainage channels. These swales and drainage channels will generally have an 8-foot top width, 2-foot bottom width, and 4:1 side slope. In areas where the standard swale

geometry does not provide adequate capacity, a 10-foot top width will be provided. Approximately 150,000 lineal feet of swale and drainage channel improvements are recommended.

Twenty-one stream crossings have been identified. These crossings will be a combination of reinforced concrete box culverts, circular culverts, and bridges. All crossings were assumed to provide fish passage. Costs of the culverts or bridges have not been included in the stormwater CIP but will be included in the transportation CIP.

Regional facilities will control the flow of runoff back to the streams in order to regulate the rate and volume of flow entering the stream. In addition, vegetation in the facility will improve water quality by "polishing" the runoff to remove excessive sediment and pollutants[1]. Twenty two new regional stormwater facilities have been identified for the Springwater planning area, as shown in Figure 5. Most (20) of the regional facilities are currently planned to be ponds, and two facilities (located on or adjacent to the mainstem of Johnson Creek) will be dedicated water quality treatment swales. The 22 new facilities includes two facilities in the Brickworks area in the existing City limits, one facility at the base of the Persimmon Country Club, and 19 facilities within the area added as part of the 2002 Urban Growth Boundary expansion. All of the proposed facilities are located in Multnomah County. The facilities range in size from 4 acre-feet to 22 acre-feet, providing volume for flood control, channel stability enhancement, and water quality enhancement.

Siting for the stormwater facilities is an important consideration; by optimizing the location of facilities, the City's investment can be used to maximize public benefit. All of the facilities are located in proposed ESRAs, and acquisition of the property for these facilities will provide the additional benefit of promoting natural resource enhancement or restoration. For example, the ESRA in the vicinity of the Highway #1 regional facility and the drainage channel immediately upstream along the North Fork Johnson Creek has been identified for riparian rehabilitation, and the Highway #2 pond could be developed as part of the Johnson Creek/ Highway 26 wetland complex and floodplain reconnection project identified in the Natural Resource Management Plan. As specific stormwater projects are designed and implemented, the City should refine the stormwater conveyance, detention, and treatment facilities to maximize the opportunity to acquire ESRAs through the stormwater management program and to support implementation of the Natural Resource Management Plan. One of the facilities is located adjacent to a proposed Community Park location north of the Village Center, and could be used to promote public education regarding stormwater management and watershed protection issues. Two of the facilities (Springwater Trail #2 and #3) are located adjacent to the Village Center Loop Trail. Land acquisition costs for these facilities could be offset by Parks department purchase of the ESRA adjoining the trail.

[1] Pleasant Valley Implementation Plan Report, December 2003.

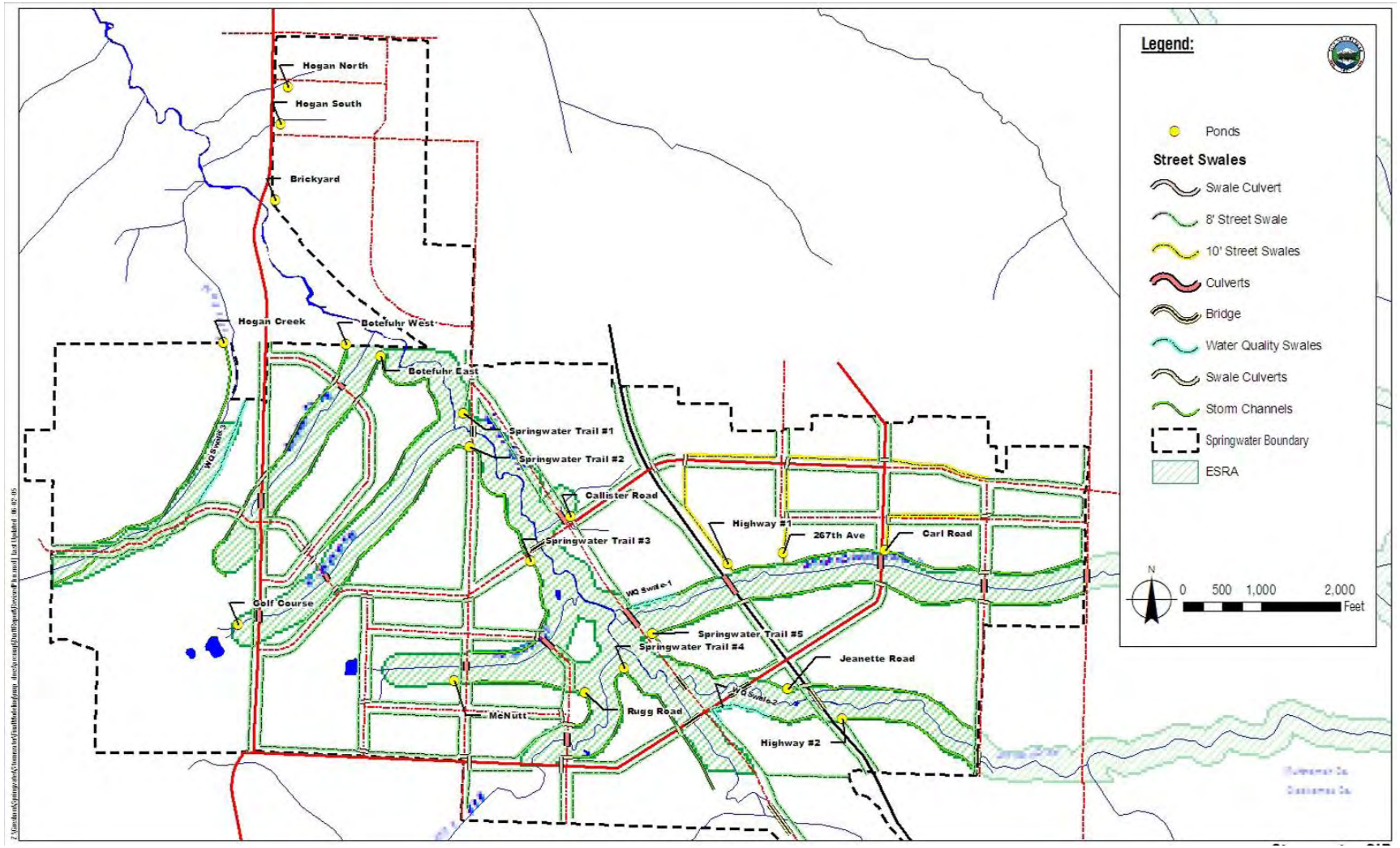


Figure 5. Proposed Stormwater Facilities

With proper maintenance, the drainage channels will provide water quality treatment prior to discharge of stormwater to the regional facilities. However, if maintenance proves to be difficult due to the location of the drainage channels, appropriate treatment will be provided in the regional facilities. This allows for a wide variety of vegetation in the drainage channels, to ease the City's ability to maintain the facilities.

Costs associated with the public stormwater infrastructure recommended in Springwater are shown in Tables 6 and 7 below. Costs are based on the annexation subareas described in the Summary Report. These costs were developed using the same unit cost assumptions as used in the Pleasant Valley Stormwater Master Plan, and are based on an ENR 20-City Construction Cost Index (CCI) of 7297. Land acquisition costs are included for the regional detention facilities, and vary depending on whether or not the facility is located in an ESRA. Costs associated with stream crossings (culverts and bridges shown on Figure 5) are included in transportation CIP costs[2]. The total cost of recommend stormwater improvements in Springwater is $27.7 million.

**Table 6. Regional Stormwater Facility Cost Summary**

| Pond Name | Total Volume (CY) | | Cost Estimate | Timing | Jurisdiction | Funding Source |
|---|---|---|---|---|---|---|
| 267th Ave | 30,336 | $ | 2,418,400 | 6-20 | Gresham | SDC/Local |
| Carl Road | 17,041 | $ | 1,368,000 | 6-20 | Gresham | SDC/Local |
| Jeanette Road | 20,946 | $ | 1,676,600 | 6-20 | Gresham | SDC/Local |
| Highway #2 | 6,804 | $ | 558,400 | 6-20 | Gresham | SDC/Local |
| Highway #1 | 25,601 | $ | 2,044,300 | 6-20 | Gresham | SDC/Local |
| Hogan South | 14,868 | $ | 1,196,300 | 6-20 | Gresham | SDC/Local |
| McNutt | 16,192 | $ | 1,672,200 | 6-20 | Gresham | SDC/Local |
| Springwater Trail #4 | 10,343 | $ | 838,400 | 6-20 | Gresham | SDC/Local |
| Golf Course | 14,588 | $ | 1,174,100 | 6-20 | Gresham | SDC/Local |
| Springwater Trail #3 | 9,869 | $ | 800,900 | 6-20 | Gresham | SDC/Local |
| Hogan North | 20,827 | $ | 1,667,200 | 6-20 | Gresham | SDC/Local |
| Callister Road | 19,410 | $ | 1,555,300 | 6-20 | Gresham | SDC/Local |
| Rugg Road | 19,955 | $ | 1,598,300 | 6-20 | Gresham | SDC/Local |
| Springwater Trail #2 | 8,468 | $ | 690,100 | 0-5 | Gresham | SDC/Local |
| Springwater Trail #1 | 18,226 | $ | 1,461,600 | 0-5 | Gresham | SDC/Local |
| Hogan Creek | 7,641 | $ | 624,600 | 6-20 | Gresham | SDC/Local |
| Botefuhr West | 10,878 | $ | 880,700 | 0-5 | Gresham | SDC/Local |
| Botefuhr East | 5,904 | $ | 487,200 | 0-5 | Gresham | SDC/Local |
| Springwater Trail #5 | 16,508 | $ | 1,325,900 | 6-20 | Gresham | SDC/Local |
| Brickyard | 14,071 | $ | 1,133,200 | 6-20 | Gresham | SDC/Local |
| | **308,476** | **$** | **25,172,000** | | | |

[2] Costs were calculated for informational purposes, and are included in the Reference Documents.

Table 7. CIP Swale and Drainage Channel Cost Summary

**8' Top Width Swale Cost Summary**

| Annex Area | Length | Total Cost ($) | Timing (years) | Jurisdiction | Funding Source |
|---|---|---|---|---|---|
| 1 | 179 | $ 3,000 | 6-20 | Gresham | SDC/Local |
| 2 | 8,249 | $ 136,500 | 6-20 | Gresham | SDC/Local |
| 3a | 5,676 | $ 93,900 | 6-20 | Gresham | SDC/Local |
| 3b1 | 8,783 | $ 145,300 | 0-5 | Gresham | SDC/Local |
| 3b2 | 12,339 | $ 204,100 | 0-5 | Gresham | SDC/Local |
| 4a | 4,385 | $ 72,500 | 6-20 | Gresham | SDC/Local |
| 4b | 9,437 | $ 156,100 | 6-20 | Gresham | SDC/Local |
| 4c | 7,332 | $ 121,300 | 6-20 | Gresham | SDC/Local |
| 5a | 7,706 | $ 127,500 | 0-5 | Gresham | SDC/Local |
| 5b | 9,041 | $ 149,500 | 0-5 | Gresham | SDC/Local |
| 5c | 10,396 | $ 172,000 | 6-20 | Gresham | SDC/Local |
| 6a | 2,930 | $ 48,500 | 6-20 | Gresham | SDC/Local |
| 6b | 6,164 | $ 102,000 | 6-20 | Gresham | SDC/Local |
| 7a | 3,489 | $ 57,700 | 6-20 | Gresham | SDC/Local |
| 8a | 3,534 | $ 58,500 | 6-20 | Damascus | SDC/Local |
| 8b | 1,354 | $ 22,400 | 6-20 | Damascus | SDC/Local |
| | | **$ 1,670,800** | | | |

**10' Top Width Swale Cost Summary**

| Annex Area | Length | Total Cost ($) | Timing (years) | Jurisdiction | Funding Source |
|---|---|---|---|---|---|
| 5b | 4,814 | $ 93,000 | 0-5 | Gresham | SDC/Local |
| 5c | 2,815 | $ 54,400 | 6-20 | Gresham | SDC/Local |
| 6a | 93 | $ 1,800 | 6-20 | Gresham | SDC/Local |
| | | **$ 149,200** | | | |

**Drainage Channels**

| Annex Area | Length | Total Cost ($) | Timing (years) | Jurisdiction | Funding Source |
|---|---|---|---|---|---|
| 2 | 4,125 | $ 74,600 | 6-20 | Gresham | SDC/Local |
| 3a | 4,080 | $ 73,800 | 6-20 | Gresham | SDC/Local |
| 3b1 | 6,644 | $ 120,100 | 0-5 | Gresham | SDC/Local |
| 3b2 | 3,380 | $ 61,100 | 0-5 | Gresham | SDC/Local |
| 4a | 1,702 | $ 30,800 | 6-20 | Gresham | SDC/Local |
| 4c | 3,839 | $ 69,400 | 6-20 | Gresham | SDC/Local |
| 5b | 1,451 | $ 26,300 | 0-5 | Gresham | SDC/Local |
| 5c | 2,258 | $ 40,800 | 6-20 | Gresham | SDC/Local |
| 6a | 3,485 | $ 63,000 | 6-20 | Gresham | SDC/Local |
| 6b | 3,811 | $ 68,900 | 6-20 | Gresham | SDC/Local |
| 7a | 2,575 | $ 46,600 | 6-20 | Gresham | SDC/Local |
| 7b | 3,449 | $ 62,400 | 6-20 | Gresham | SDC/Local |
| | | **$ 737,808** | | | |

***Onsite Practices***. Onsite stormwater management in Springwater requires green development practices. Green development practices are a set of techniques that mimic and incorporate the predevelopment hydrology of a site into future development. Green development practices include site management techniques that minimize (1) disturbance to existing soils, tree canopy,

and other sensitive natural resource features and (2) impervious surfaces, to reduce the production of surface runoff. They also manage runoff through techniques that use natural areas and landscaping to treat, retain, attenuate, and infiltrate stormwater within each development site instead of using traditional piped collection and conveyance systems. Stormwater management plans relying on green development practices accommodate onsite facilities using the hydrology processes of infiltration to soil and evapotranspiration to atmosphere.[3]

An approved Stormwater Management Plan will be required under the new Springwater code. Stormwater management plans provide a mechanism for the City to review how development proposals for stormwater facilities meet the requirements for onsite stormwater management practices. The intention is that the stormwater management plans be submitted and approved along with site plan or preliminary development plat approval. Stormwater management considerations should be included in the City's business recruitment program for Springwater.

### Summary of Future Needs

- Coordination is needed between Gresham and the new City of Damascus regarding stormwater system planning and design guidelines for the portion of the study area in Damascus (south of Rugg/Stone roads). A consistent approach regarding stormwater conveyance standards, development setbacks, allowed uses in ESRAs, and other issues related to stormwater management should be identified in an intergovernmental agreement.
- Modification of the SDC improvement fee may be necessary to fund required improvements in Springwater.
- Purchase of properties required for regional stormwater management facilities should transpire as soon as the Master Plan is completed, adequate funding is secured, and successful acquisition negotiations completed.
- The City of Gresham will not be responsible for NPDES and TMDL compliance for Springwater until areas are annexed to the City. Prior to annexation, regulatory permitting requirements need to be addressed.

### Funding Plan

The following discussion presents the envisioned strategy for funding stormwater service extensions in Springwater. Gresham relies on developer contributions, system development charges (SDCs) and retained earnings from the utility to finance expansion. In the past, Gresham has borrowed against future utility revenues to finance major improvements in stormwater facilities needs.

Depending on the location of initial development, it may be difficult for Gresham to finance stormwater system improvements in the short term. There are no initial strategic investments that must occur prior to any stormwater system development in Springwater. However, since the likely initial annexation areas are located to the east and west of Johnson Creek adjacent to the existing City limits, the City may want to prioritize the Springwater Trail Ponds #1 and #2 for

[3] Pleasant Valley Stormwater Master Plan, CH2M Hill, July 2004.

early funding. Likewise, CIP swales located along 252nd should be prioritized for early funding to support the potential annexation of these areas.

## GOAL

The City of Gresham shall manage stormwater to minimize impacts on localized and downstream flooding and protect water quality and aquatic habitat.

## POLICIES

The following policies are made part of this plan:

1. Manage stormwater through green development practices that rely on infiltration, bio-retention and evapotranspiration or other processes that enhance the natural hydrologic system.

2. Incorporate green streets designs as described in Metro's handbook entitled *Green Streets: Innovative Solutions for Stormwater and Stream Crossings* and as designed in the Pleasant Valley Plan District area.

3. Design culvert improvements for existing and proposed stream crossings to eliminate barriers to fish passage.

4. Ensure that the quantity of stormwater after development will be equal to or less than the quantity of stormwater before development, wherever practicable.

5. Ensure that the quality of stormwater after development will be equal to or better than the quality of stormwater before development, wherever practicable.

6. Design public stormwater facilities using approaches that integrate stormwater vegetation such as swales, trees, vegetated planters and wetlands.

7. Prohibit the encroachment of structures and other permanent improvements over public and private stormwater facilities and within public stormwater easements, drainage ways, creeks, streams, seasonal waterways, seeps and springs.

8. Develop equitable funding mechanisms to implement a CIP for the stormwater management system and provide adequate funding for stormwater management facility maintenance.

## ACTION MEASURES

1. Implement an SDC policy to provide adequate funding for stormwater facilities in Springwater.

2. Review stormwater utility rates and modify as appropriate to support maintenance of facilities in Springwater.

3. Coordinate with the Parks Division to ensure that development of the Village Center Loop trail is adequately protective of natural resources.

4. Look for opportunities to enhance natural resource areas through the construction and maintenance of stormwater facilities.

5. Update the City's onsite stormwater management program to address land use types in Springwater.

6. Coordinate with the Parks Division to investigate the option of combining drainage channels and multi-use trails if the Employee Loop trail is located along stream corridors.

## 10.825 Parks, Open Space and Trails System

### System Description/Condition Assessment

There are currently no parks in Springwater. There is one trail – the Springwater Trail – which bisects the planning area. Both regional and site conditions directly affect the potential of parks, open space, and trails in Springwater. These regional and site conditions are described below.

***Regional Connections.*** The expansion of the Urban Growth Boundary places Springwater at the southeast gateway into the Portland metro area, within a short drive of over 1.5 million residents. Major population centers include: Downtown Portland (14 miles to the west), downtown Gresham (2 miles to the north), and downtown Sandy (9 miles to the southeast). Primary regional access routes include US Highway 26, Hogan Road running north-south through Springwater, and Butler Road which is planned to connect Springwater to Pleasant Valley.

***Regional Natural Connections.*** The buttes and Johnson Creek create a very diverse landscape throughout the region. Intertwined with the natural features are several regional trails that have been outlined by Metro's Trails Master Plan. Their pattern, along with the open space that has been assembled, is directly correlated to the creeks and buttes in the region. Listed below are several of the regional trails that will potentially link to Springwater's local trail system. Major trails include the following:

- **Springwater Trail**, the nation's 499$^{th}$ rail to trails conversion, is one of the most significant trails in the state connecting west from the study area to Milwaukie, OR. It is planned to extend east beyond the study area to Estacada and the Mt. Hood National Forest to connect to the Pacific Coast Trail.
- **40 Mile Loop Trail**, which was part of the original Olmsted Brothers Master Plan, will be located less than a mile to the northeast of the study area along Beaver Creek creating a 160 mile continuous trail.

- The proposed **East Buttes Loop Trail**, which will be located directly to the west of the study area, will connect the Springwater Trail to the **Scouter Mountain Trail** and will loop back to the Springwater. Unlike the Springwater Trail, both of these trails travel along butte peaks offering more intensive hiking.

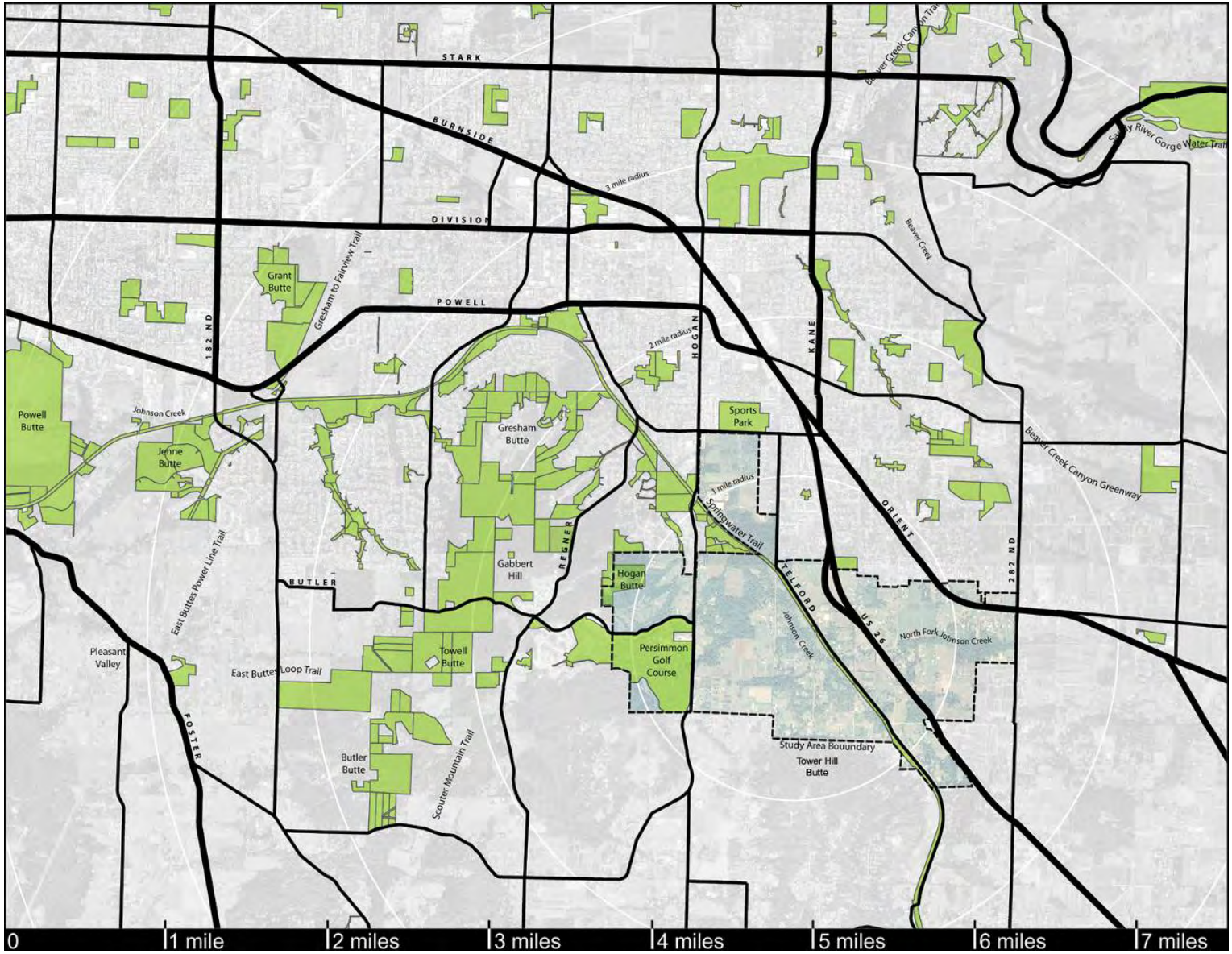


Figure 7. Regional Access and Open Space Diagram

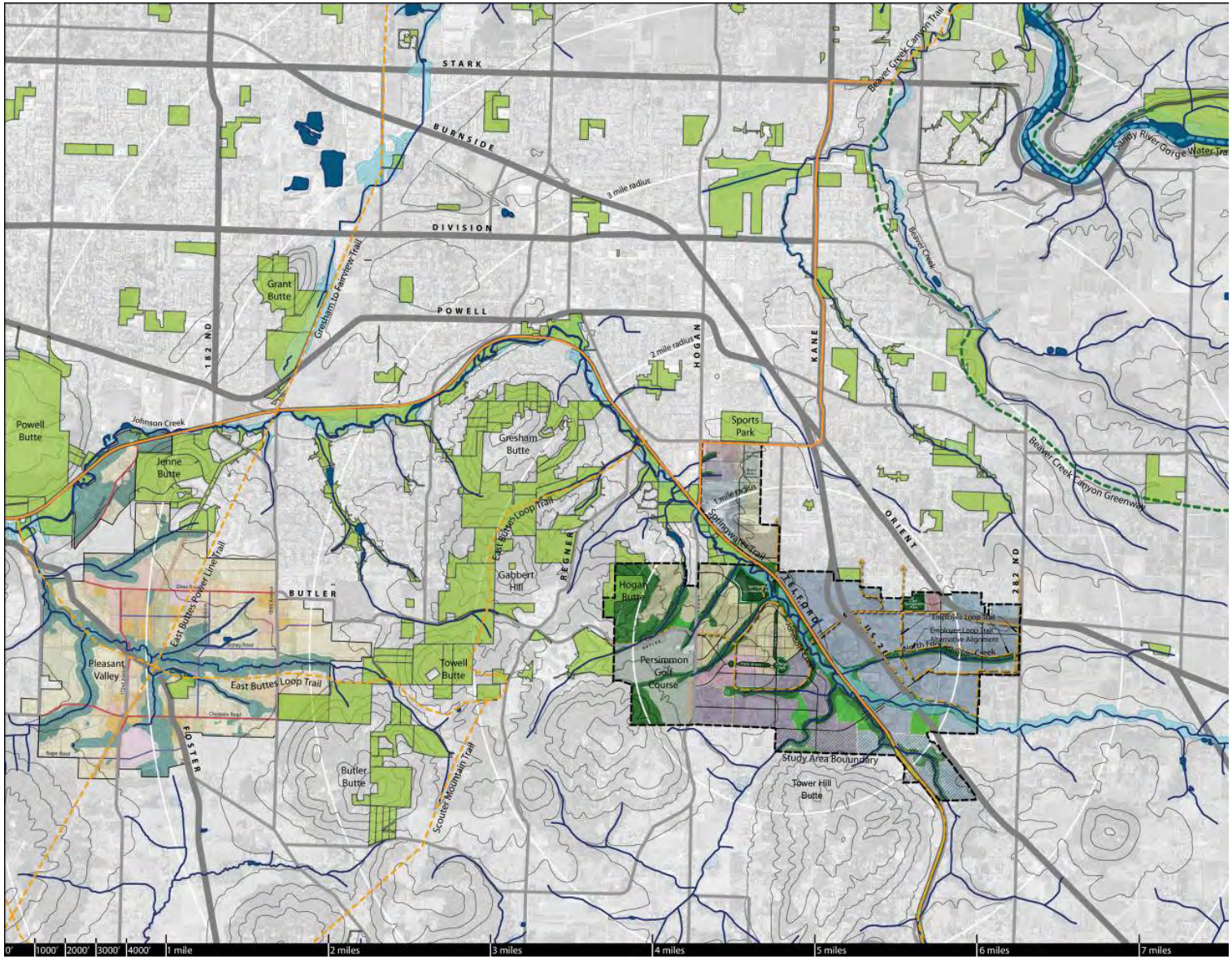


Figure 8. Regional Natural Connections and Trails Diagram

***Natural Features.*** The physical features of the site can easily be seen in the topographic map below. Johnson Creek is the lowest elevation in Springwater, with the east and west portions of the site sloping down toward it. The best views in the area are from the high points between tributaries of the buttes surrounding the site. Looking into the site the best views are from the buttes to the west and south. In addition to these long views, incidental views into the creeks occur frequently along corridors. Specific natural features in the study area include:

- **Buttes** – Hogan Butte is the only butte actually in the study area. Along with the two other buttes to the south it forms an impressive backdrop for views out of Springwater and creates the potential for trails and view points into the study area from their summits.
- **Johnson Creek and Tributaries** – The corridors define the low points on the map below. It is easy to see how the creek corridors have divided the districts into several smaller parcels, especially Johnson Creek and the east-west division it creates.
- **Forested Areas** – The most significant forested areas are along the creek corridors. However there are several forest stands that are important to habitat, recreational activities and educational opportunities outside the creek corridors that should be considered for possible open space acquisition. The graphic below shows the five most significant stands outside the creek corridors. See the Springwater Natural Resources Report for more information.

***Parks and Open Space.*** There are several parks and open space areas adjacent to Springwater. These are described below:

- **Sports Community Park** is a 33.35 acre youth recreation facility within a 30-minute walk of most future residents of Springwater and will help meet future active recreation needs for the district.
- **Southeast Neighborhood Park** is an undeveloped 6.15-acre neighborhood park located directly north of the project boundary adjacent to US 26.
- **Southeast Community Park** is an undeveloped 10-acre community park that may be developed in conjunction with a proposed school adjacent to the site.
- There is a large amount of **open space along the Springwater Corridor** directly to the northwest of the study area, which will play into the overall open space system for Springwater. Most of this land is owned by the City of Gresham and Metro.
- **Persimmon Golf Course**, while privately owned, offers a visual amenity as well as a recreational opportunity not serviced by the City. Connections to it from adjacent neighborhoods could expand the open space system beyond the public parks open space and trail system.

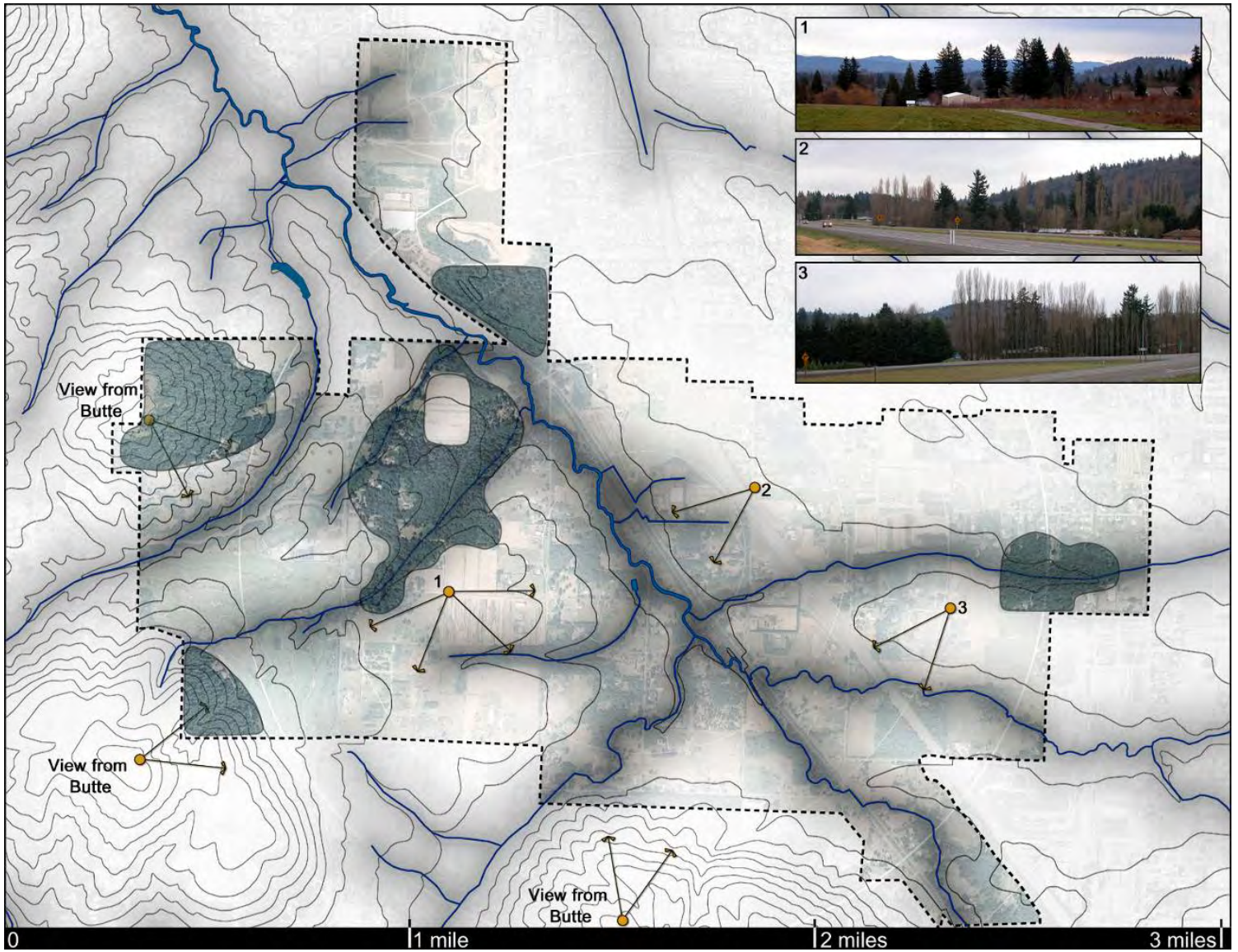


Figure 9. Natural Features and View Corridors Diagram

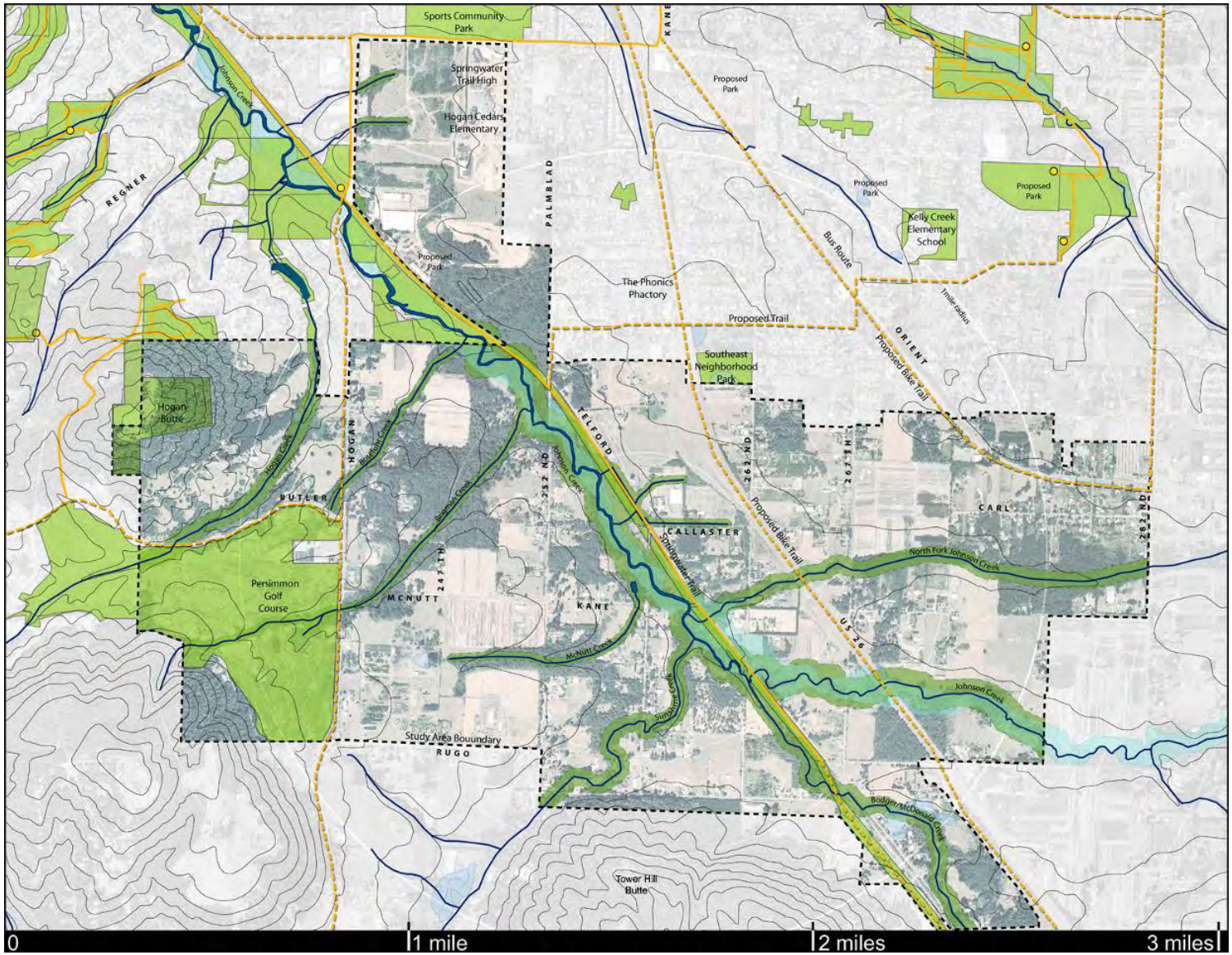



Figure 10. Local Parks, Open Space and Trail Connections Diagram

## System Analysis

### Springwater Levels of Service

Parks, open space and trails standards are intended to facilitate the creation of public amenities for the enjoyment of passive and active recreational activities by the residents and employees of a particular area. This plan has made recommendations for the level at which each type of amenity is offered based on comparisons to national standards and benchmarks created by the National Recreation and Park Association, and Gresham's previous master planning documents.

Level of Service or LOS is the tool by which the amount of a particular park type is measured to meet the needs of the community. It is calculated by dividing the area, number or length of an amenity by the number of residents in the same district. LOS is usually calculated as a total (usually acres) per 1000 residents.

### Springwater Standards

The following LOS recommendations and resulting amenity totals have created the framework by which parks and open space have been allocated in the Springwater district. Park placement and sizing has been considered in reference to the total acres or miles of amenities listed below. Because there has been a range of housing population proposed for Springwater the resulting park amenities has also been listed as a range. These totals are a reference point based on the land use planning process's best estimate for an eventual total build-out for the district. As Springwater develops, the parks department will have to balance funding resources with existing and future demands to implement the master plan as closely as possible.

The following table is based on the City of Gresham's adopted list of park types, open spaces and trails, but has been modified for the needs and conditions of Springwater. The totals are based on estimated population ranges of 2,500 to 3,500 households and 17,000 employees at final build-out.[4]

Table 8. Springwater Parks, Open Space, and Trails Level of Service

| Facility | Size/Placement | Benchmark | Total Acres/Miles |
|---|---|---|---|
| **Neighborhood Park** | .25 to 13 acres, within ¼ mile of residents being served. | 1.3 acres/ 1000 residents | 8.80 - 12.30 acres |
| **Community Park** | 5 to 50 acres for active recreation, but may be smaller for alternative functions. | 2 acres/ 1000 residents including employees equaling .32 residents. | 24.40 – 29.80 acres |
| **Open Space** | Varies | 10 acres/ 1000 residents including employees equaling .32 residents. | 121.90 – 148.90 acres |
| **Trails and Connectors** | Connections from neighborhoods and employment centers to all major green space and civic amenities. | Based on 1/2 mile walk radius from neighborhoods and employment centers. | Estimated 6.2 miles |

[4] To calculate total residents, households are multiplied by 2.7 residents per household.

### Modifications to Springwater's Standards from Gresham's Adopted Standards

The following items have been modified or added from the City of Gresham's Standards because of the unique development conditions of Springwater.

- **Removal of Urban Plazas** – Gresham's standards define urban plazas as a separate category without a specific LOS assigned to it. Because of the low densities in Springwater the category was removed. However, in the Village Center, a plaza and park block will be considered a neighborhood park and the size allocated for each will be removed from the overall neighborhood parkland available.
- **LOS Calculation for Community Park** – Based on the population range being proposed in Springwater, an LOS of 2 acres per 1000 residents would create 13.5- 18.0 acres of community park. A park this size would not support many of the land intensive activities usually associated with community parks, nor would it allow for any facilities to support the 17,000 employees expected to be working in the district. By including employees in the LOS calculation as being equivalent to 0.32 residents, the available area of community park land increases to a size able to support a nature-oriented community park and an employee-focused adult sports park.
- **LOS Calculation for Open Space** –Much like the community park calculation, the area of land available for protection of natural resources and for trail connectivity is limited using the existing residential LOS calculation. By including employees in the LOS calculation as being equivalent to 0.32 residents, open space will be able to be preserved in residential and employee districts to provide trail connections and natural resource protection. The comparison to Pleasant Valley, provided as an appendix, illustrates the need for including employees in the calculation. By using the 0.32 resident equivalents for employees, the total acreage for open space in Springwater is comparable to the total acreage that will be provided for the primarily residential Pleasant Valley district.

### Neighborhood Parks
### General Description

The purpose of neighborhood parks is to provide access to basic recreation opportunities for nearby residents of all ages and contribute to neighborhood identity. They should be located within biking and walking distance of all users. Neighborhood parks may be urban plazas in denser areas to provide space for community events. Neighborhood parks include the following general characteristics:

- Size and Location: 0.25 - 13 acres, within ¼ mile of residents being served.
- May include: a children's play area, a multi-purpose paved area, non-organized sports facilities, seating, picnic areas, paths, public art, permanent restrooms, and community gardens.
- Typically would not include off-street parking.

### Plan Recommendations

Use the available neighborhood park area to create a unique identity for the Village Center. Two park blocks are proposed along the north-south and east-west axis of the Village Center. These will connect to a Village Center Park and Plaza that will serve as the primary public park for the district.

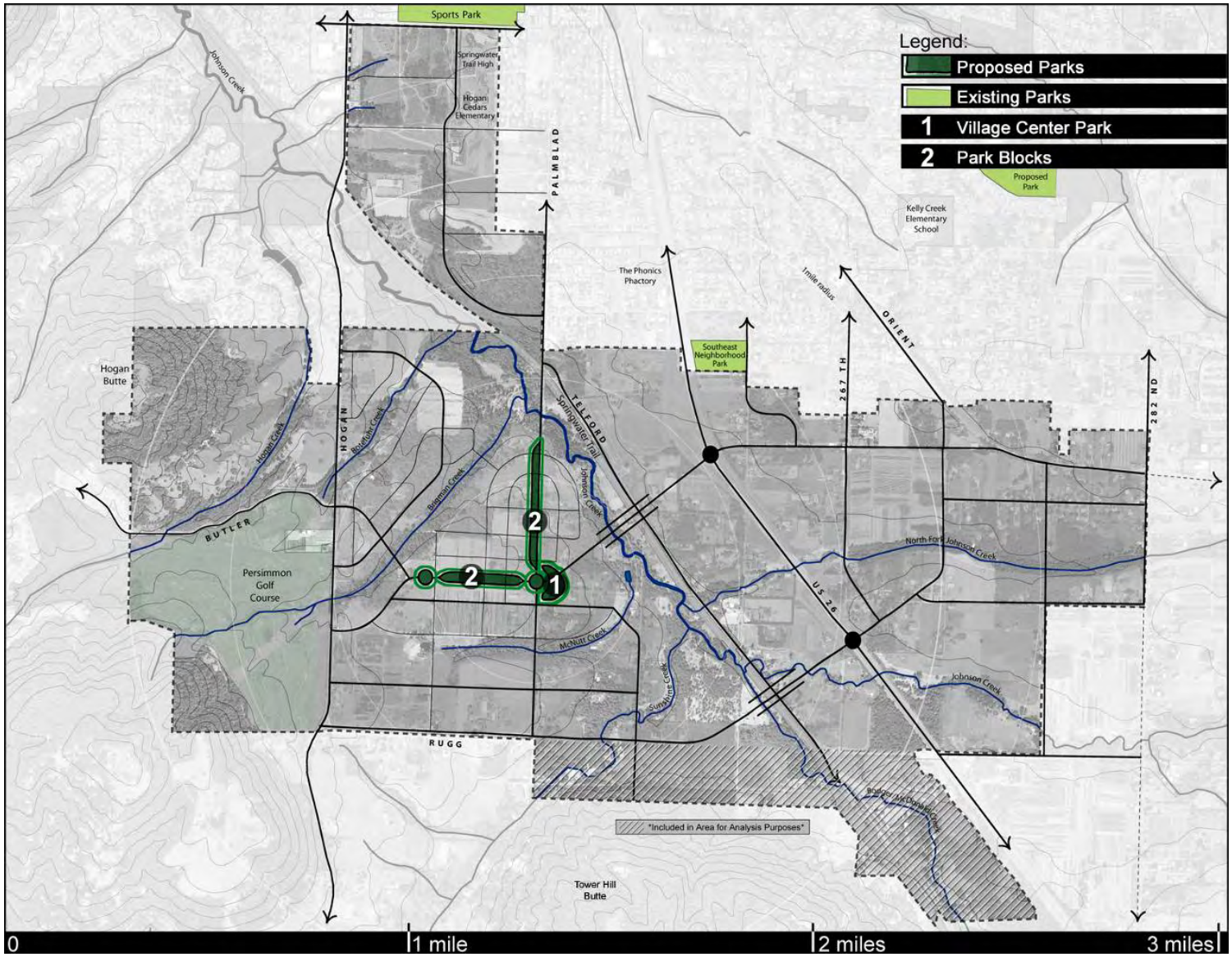



Figure 11. Proposed Neighborhood Parks Diagram

### Park Blocks

The west end of the east-west park block is located at the highest point in the Village Center. From this point there is an unobstructed view of Mt. Hood across the project area. Through selective planting, it is envisioned that this view is preserved along the length of the park blocks. The east-west park blocks will be surrounded by mixed-use and commercial uses, in contrast to the north-south park blocks, which will be bordered primarily by dense residential housing. These blocks will define a linear center for the Village Center and a pedestrian way through the heart of the district.

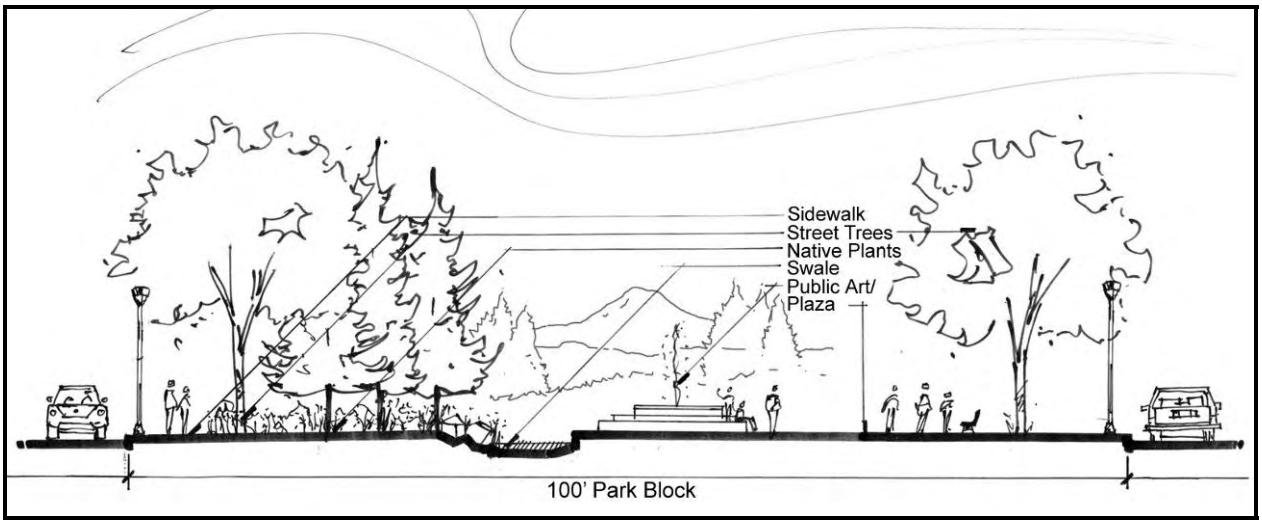
**South Park Blocks, Portland**

**Size:** approximately 100’ curb to curb.

**Program Elements:** seating, small performance space, public art, pedestrian walks, children’s play equipment, and small-scale sports facilities such as basketball and bocce ball.

### Potential Synergies:

- Stormwater Management – look for opportunities to incorporate best management practices into the park blocks.
- Transportation – bicycle transportation may be incorporated into the park blocks.




Typical Park Block Section

## Village Center Park and Plaza

It is proposed that the Village Center Park and Plaza will be located at the intersection of the north-south and east-west park blocks. They will help to create the identity for the Village Center and should be named accordingly. The plaza should be located adjacent to the densest development in the Village Center creating a transition into the larger neighborhood park site.

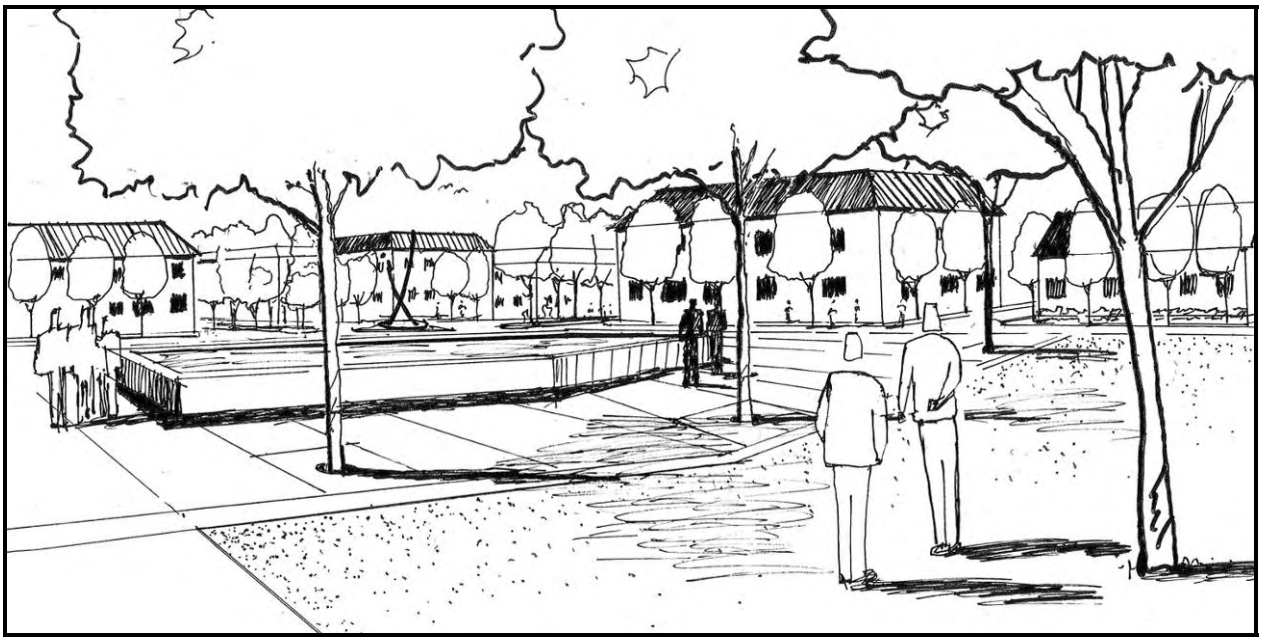
**View to Mt. Hood from proposed Village Center Park site**

**Size:** 3-5 acres plus a ½ acre plaza.

**Program Elements:** multi-use plaza, seating, public art, pedestrian walks, permanent restrooms, children's play equipment, and non-organized sports facilities.

**Potential Synergies:**

- Stormwater Management – look for potential regional detention facilities to be located adjacent or inside the park site.
- School Sites – if an elementary school is located in the Springwater district, locating it adjacent to the park could eliminate the need for another play area adjacent to the school.



Village Center Park Character Sketch

**Community Parks**
**General Description**

The purpose of a community park is to provide active and passive recreational opportunities for all city residents and employees. Community parks accommodate larger group activities, provide a variety of accessible recreation opportunities for all age groups, offer environmental education opportunities, serve the recreational needs of families, and create opportunities for community social activities. Characteristics of community parks include:

- Size: 5 to 50 acres in size
- May include: children's play area, competitive sports facilities, off-street parking, permanent restrooms, public art, group picnic areas, natural areas, paths, botanical gardens, community centers, amphitheaters, festival space, swimming pools, and interpretive facilities

**Plan Recommendations**

Create two new community parks, located adjacent to natural resources and/or in areas with good vehicular accessibility. The nature-oriented Springwater Community Park is envisioned to be located along the Johnson Creek Corridor and adjacent to the residential districts. It will provide two youth sports fields, and a regionally-significant natural park area, providing interpretive educational opportunities. The athletic facility-oriented East Springwater Park will be located east of US. 26, and will provide two to three adult sports fields for employee recreational opportunities as well as facilities for the adjacent neighborhood to the north.

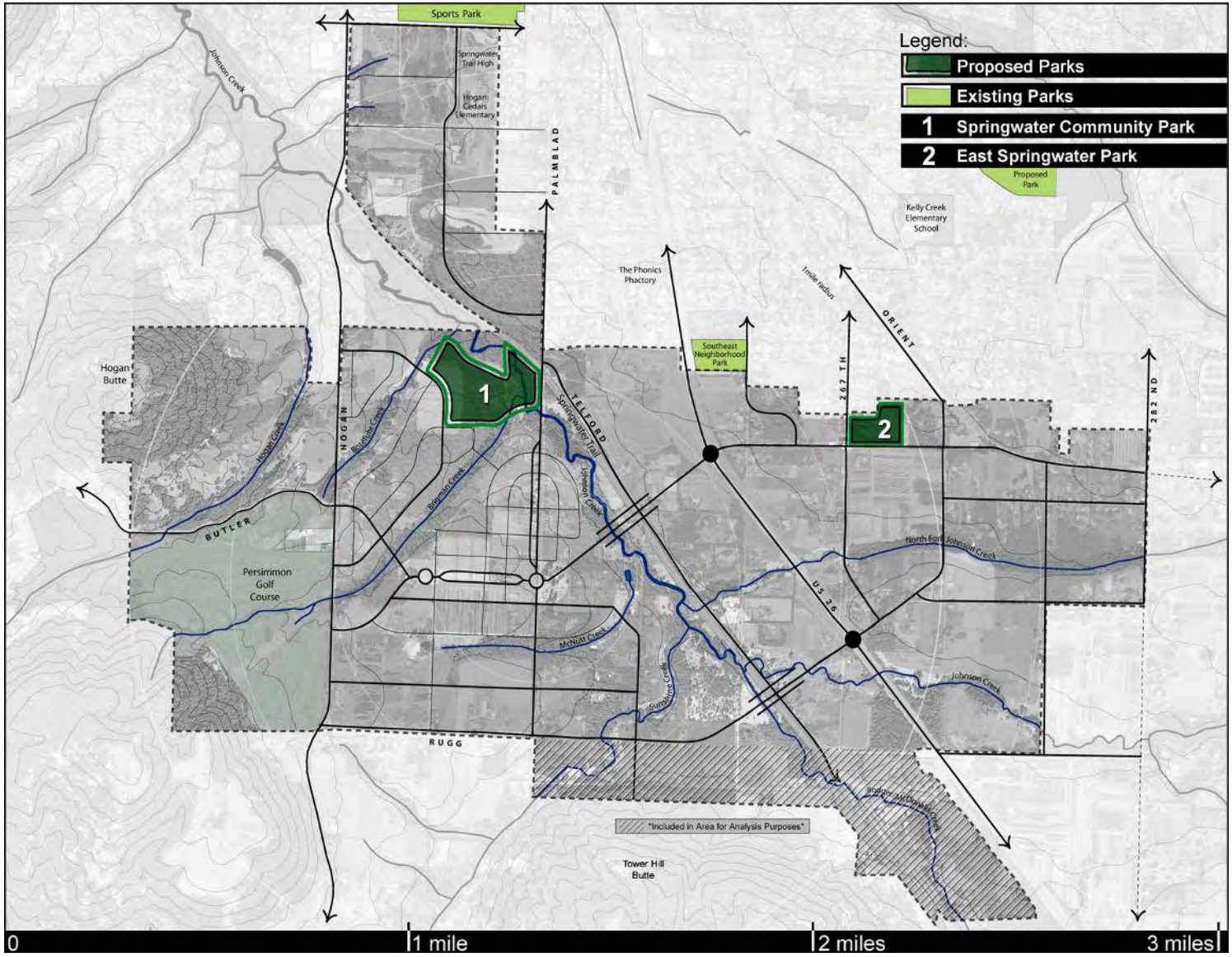



Figure 12. Proposed Community Parks Diagram

**Springwater Community Park**

The proposed Springwater Community Park is intended to tie together open space, trails, and interpretive opportunities into a respectful and educational encounter with the natural environment. By locating the park along the Johnson Creek and Springwater Trail corridor, visitors would be able to enjoy the natural features of the district and become informed of the challenges facing the overall watershed. It is envisioned that this park become the identity of the district. The larger district goals of sustainability should be expressed in the design and implementation of the park.

**Fairview Community Park, Fairview**

**Size:** 20-25 acres

**Program Elements:** Two youth sports fields in the upland area of the park, children's play area, off-street parking, permanent restrooms, public art, group picnic areas, interpretive trails, nature center, and amphitheater

**Potential Synergies:**

- Stormwater Management - look for potential regional detention facilites to be located adjacent or inside the park site.
- School Sites – if an elementary school is located in the Springwater district, locating it adjacent to the park would eliminate the need for another play area adjacent to the school.

**East Springwater Park**

A new community park on the east side of US 26 will serve the existing neighborhood to the north of the project boundary and the future employee population to be concentrated to the south of the proposed park location. The park is intended to be a community-wide resource with organized sports fields for adults and youth, and therefore be accessible by pedestrians, bicyclists and motorists.

**East Delta Park, Portland**

**Size:** 5-10 acres

**Program Elements:** Two to three adult/youth sports fields, off-street parking, permanent restrooms, seating, pedestrian walks, and children's play equipment

**Open Space**
**General Description**

The purpose of open space, greenways and corridors is for the protection and restoration of natural and scenic resources, and the creation of nature-oriented outdoor recreation and trail-oriented activities. It provides opportunities for rest and relaxation, protects valuable natural resources, protects wildlife, and contributes to the environmental health of the community. By preserving and providing access to open space the surrounding property becomes more valuable because of the amenities and views that are created. Characteristics of open space are as follows:

- Large enough to protect resources and support recreational activities.
- May include trails, trailhead amenities (bicycle racks, picnic areas, portable restrooms, and trash enclosures), benches, and interpretive signs.

**Plan Recommendations**

There will be 121.90 – 148.90 acres of Parks funded open space available for purchase based on the LOS recommendations discussed earlier in this section. While this does not limit the total amount of open space that could be acquired in the district, it does give a reasonable goal to be achieved through various funding strategies. Some of this open space will have to be used for the creation of trail corridors.The natural resource assessment has also identified 383 acres of Environmental Resource Area and additional wildlife corridors and natural areas Realistically, not all of this land will be able to be acquired. The following guidelines have been developed to determine which areas have the highest priority for acquisition when funds become available:

1. Acquire land that contributes to the recreational goals of the district.

2. Acquire land that has the highest natural resource significance that is outside of regulation, including areas with high restoration potential and proposed habitat connections.

3. Acquire land that has the highest natural resource significance that is inside of regulation, including creek corridors, wetlands, upland forests and buttes.

**Potential Synergies:**

- Stormwater Management - look for potential regional detention facilites to be located adjacent to or in open space.
- Identity – the open space which surrounds the entrance of US. 26 into the urban growth boundary could be enhanced to create a gateway feature into the larger metro area.

The following map and following list have been developed as an outline for open space acquisition and are based on the guidelines discussed on the previous page. The blue line on the map highlights the area that is the focus of open space acquisition for recreational opportunities and includes a large portion of the most valuable natural resources in the district. The list below describes the acquisition hierarchy for the entire district based on recreational and natural resource value. Consult the Springwater Natural Resources Report for further descriptions of natural resource value and potential when making acquisition decisions.

1. Areas along the Johnson Creek and Springwater Trail Corridor, which have the highest resource significance and are part of the trail corridor.

2. The McNutt and Brigman Creek Corridors, which will have the Village Center Loop Trail paralleling them.

3. Wildlife corridors and other natural resources that also have recreational or identity value for the district.

4. The connection from Botefuhr to Hogan Creek, which will provide lowland to upland habitat connectivity and serve as a trail link along Butler.

5. The wetland and forested area along US 26, which will serve as a gateway and identity to the larger metro region, as well as being an important wetland habitat along the Johnson Creek Corridor.

6. All other wildlife connections and natural resources that fall outside of regulation.

7. All other creek corridors, concentrating on those with the highest natural resources value.

8. Upland forests and Buttes with steep slopes.

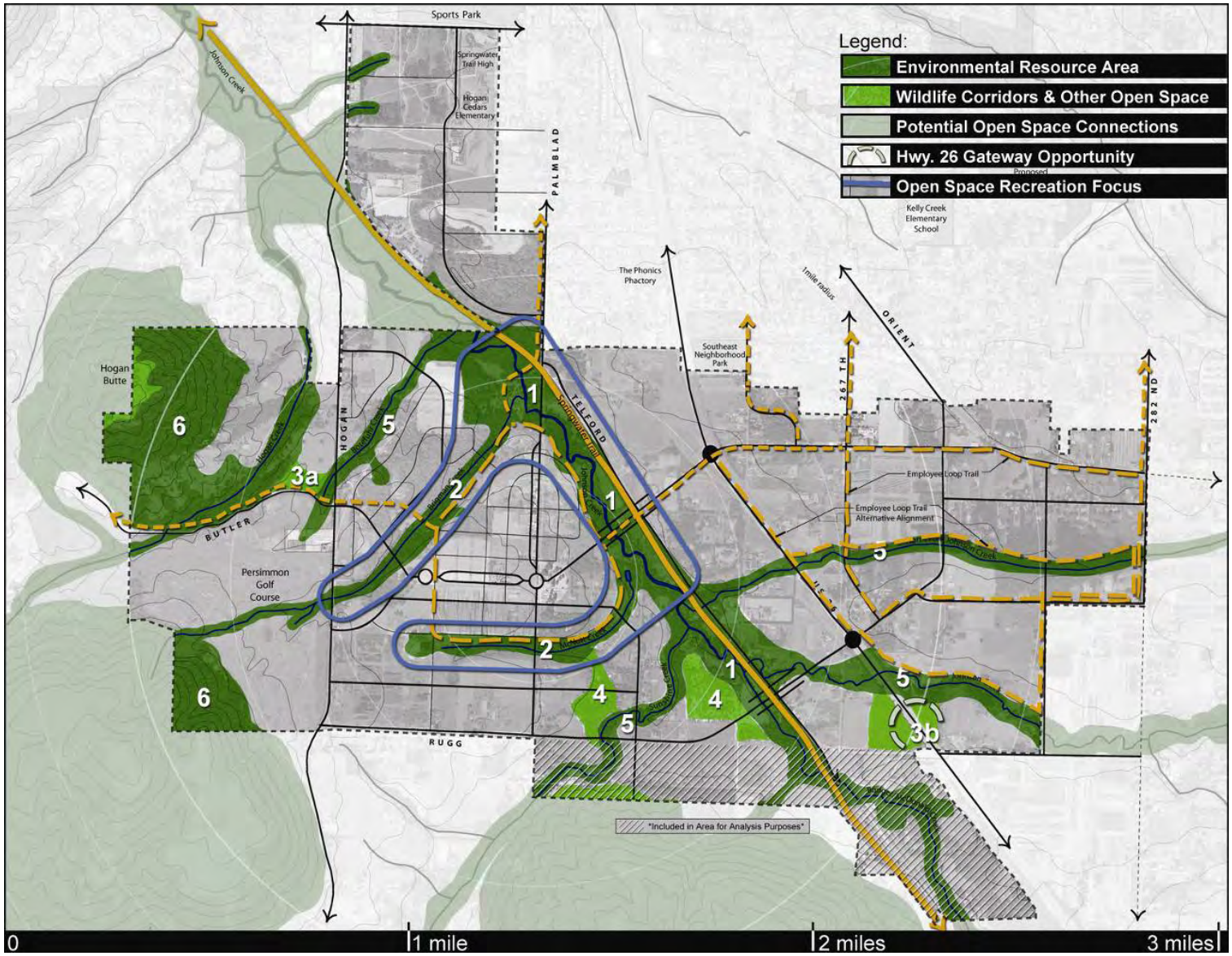



Figure 13. Proposed Open Space and Acquisition Hierarchy Diagram

**Trails System**
**General Description**

The purpose of the trail system is to interconnect parks and open spaces; to maximize access to programs and facilities; to promote physical fitness and health for a variety of users; to encourage social interaction and community pride; and to provide opportunities for rest and relaxation within natural settings through trail-related recreation. These trails also serve to reduce auto-dependency and enhance connections to transit facilities; to link open space amenities with homes, workplaces and other community facilities; and to provide outdoor classroom opportunities for environmental education. Trail characteristics are described below.

- Multi-purpose trails are intended for a broad range of non-motorized uses such as bicycles, wheelchairs, strollers and horseback riding as well as pedestrian uses such as walking, hiking and running. Multi-purpose trails are 10-12 feet wide with 2-foot wide shoulders.
- Walking/hiking trails are intended for specific activities. Some of these trails may be single-use trails restricted to pedestrian use only due to steep slopes, erosive soils, or other sensitive environmental considerations. Walking/hiking trails are 4-6 feet wide with 2-foot wide shoulders
- To the extent possible, trail construction will comply with Metro's Green Trails handbook.

Noble Woods Park – Hillsboro, OR

**Plan Recommendations**

Create a Village Center Loop Trail to the west of US. 26 which will follow creek corridors at an appropriate distance to maximize pedestrian experience. This trail should work in conjunction with the vehicular network where roads parallel creek corridors, and be located inside of purchased open space.

Create an Employee Loop Trail to the east of US. 26 which either follows the road network or runs parallel to stream corridors.

Create connections:

- East Buttes Loop Trail to the west along Butler Road
- The existing schools and Sports Park to the north of the Springwater Community either along Palmblad or through the proposed development west of Palmblad.
- The existing neighborhoods to the north of the Springwater Community.
- Beaver Creek Trail to the North East along 282nd.
- The Village Center and Employee Loops by crossing US. 26.

The trail system could also include a connection from Butler Road to the Cedar Lake subdivision along the Hogan Creek corridor, however this option would be pursued through private development rather than as a part of the City of Gresham's capital improvement program.

**Potential Synergies:**

- Wastewater Management – Look for potential pedestrian bridge crossings that could be combined with wastewater and other utilities. Specifically, a combined bridge crossing over Johnson Creek between the Hogan Cedars and Springwater Community Park may be needed.
- Stormwater Management – If the Employee Loop Trail is constructed adjacent to streams, investigate opportunities for combining stormwater conveyance and management with the multi-use trail.

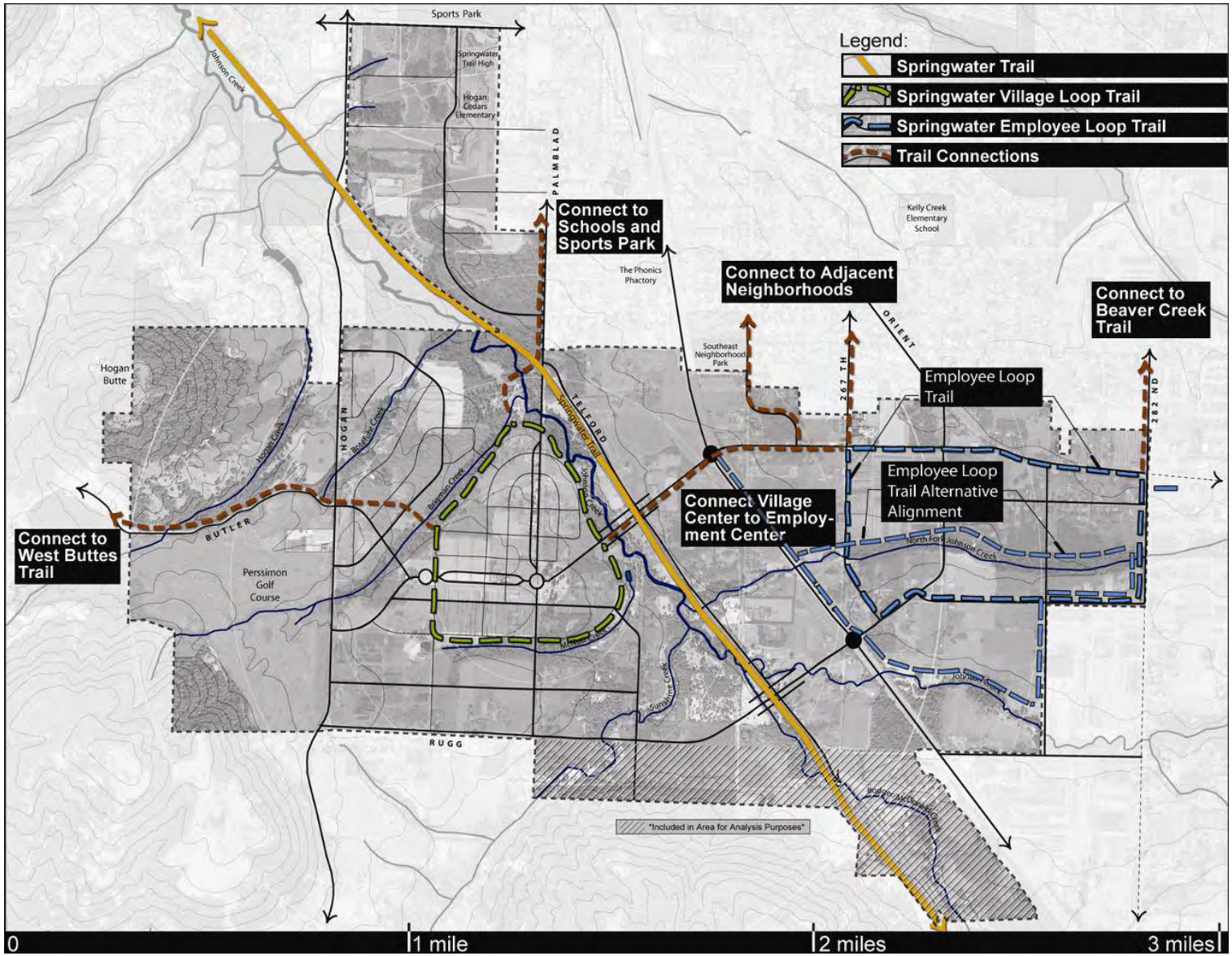
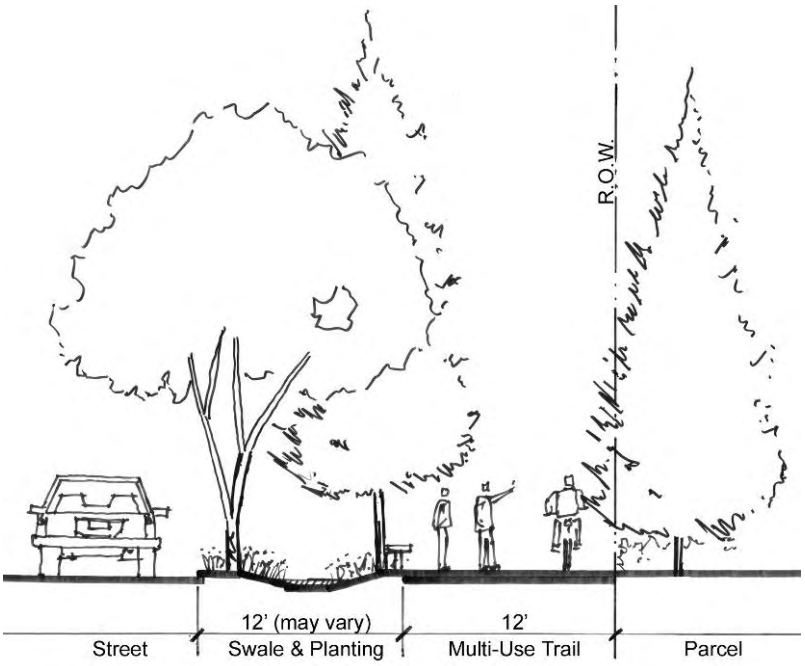



Figure 14. Proposed Trails Diagram

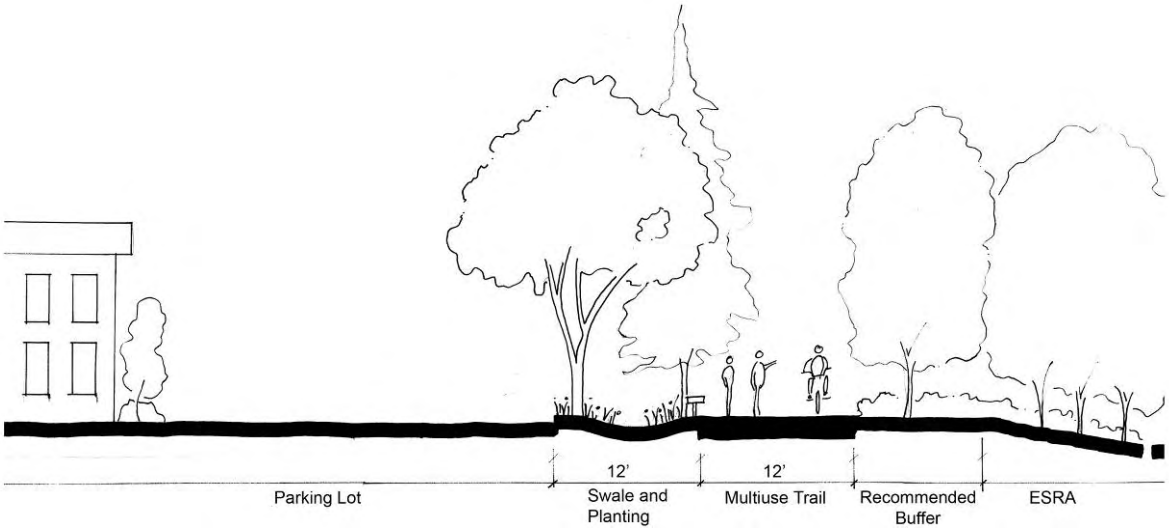
**Employee Loop Trail**

Two options are under consideration for the trail system east of US. 26. For one the trail system would exclusively follow the road network, the other would abut the ESRA areas parallel to the stream corridors along the north folk and main stem of Johnson Creek and along the road network as necessary for connectivity. The first graphic below illustrates the conceptual implementation of the trail in relationship to the road and swale in the road network option. The swale corridor will be increased by 4 feet to allow for a more informal planting palette of native species, distinguishing the street edge as a special corridor. The trail itself will be a 12-foot wide multi-use corridor adjacent to the swale and property line. Property owners along the corridor should be encouraged to enhance the trail with native plantings in the setback area adjacent to the trail. In areas with few driveways, the on-street bicycle network can be consolidated into the multi-use trail to reduce the amount of R.O.W. needed.

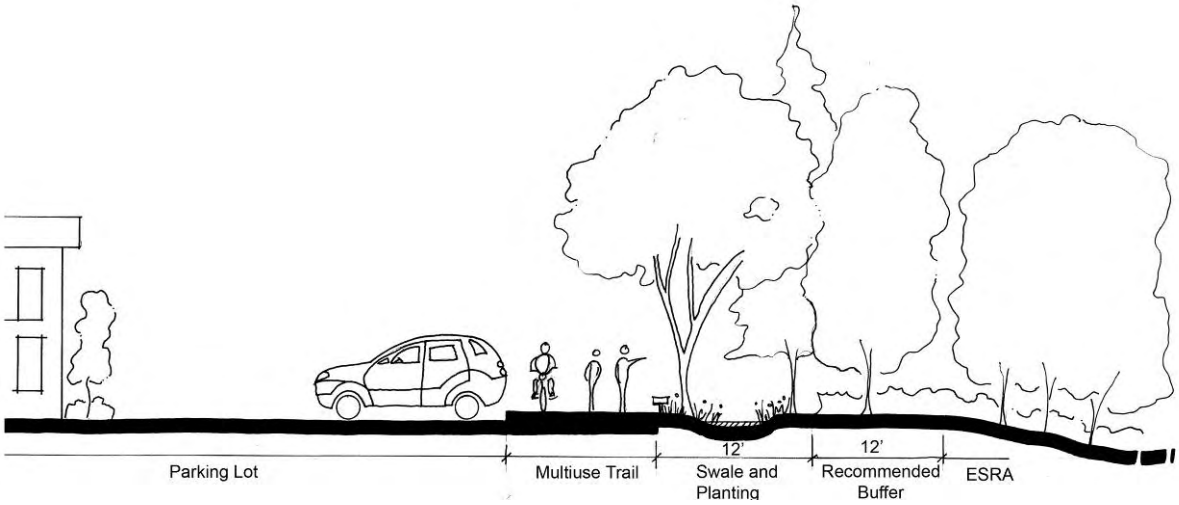



Conceptual Section of Employee Loop Trail Adjacent to Road

The following two graphics both illustrate the trail cross section in the second optional alignment adjacent to Johnson Creek or the North Fork of Johnson Creek. The first section illustrates a stormwater swale and landscaped area between private development and the proposed trail location. The second section shows the trail immediately adjacent to private development with the stormwater swale adjacent to the stream and potential stream buffers. The first section allows for easier stormwater conveyance to the swales, while the second option could allow the swale to function as a buffer between the trail and the adjacent ESRA. It is possible that the stormwater conveyance/treatment channel could be constructed under the trail in a form of subgrade filtration facility, however for planning purposes the swale and trail remain separate in both options shown below.




Conceptual Section of Employee Loop Trail Adjacent to ESRA – Option 1




Conceptual Section of Employee Loop Trail Adjacent to ESRA – Option 2

The Employee Loop Trail alignment options( Roadside and Streamside) are under continuing investigation. The following considerations will be weighed in selection of the final location of the Employee Loop Trail:

- **Maintenance:** The selection of the roadside vs. streamside alignment option has potential implications for on-going maintenance responsibilities and practices. The roadside option could result in shared maintenance responsibilities between parks and transportation divisions within the City, while the streamside option and its more complex natural area maintenance requirements requires specialized expertise that could be developed in the Parks and Recreation Division. The approach to maintenance practices in the roadside option are pathway litter patrol and conventional landscape maintenance. The streamside option would require litter patrol and a carefully-considered vegetation management plan for habitat preservation and enhancement goals.

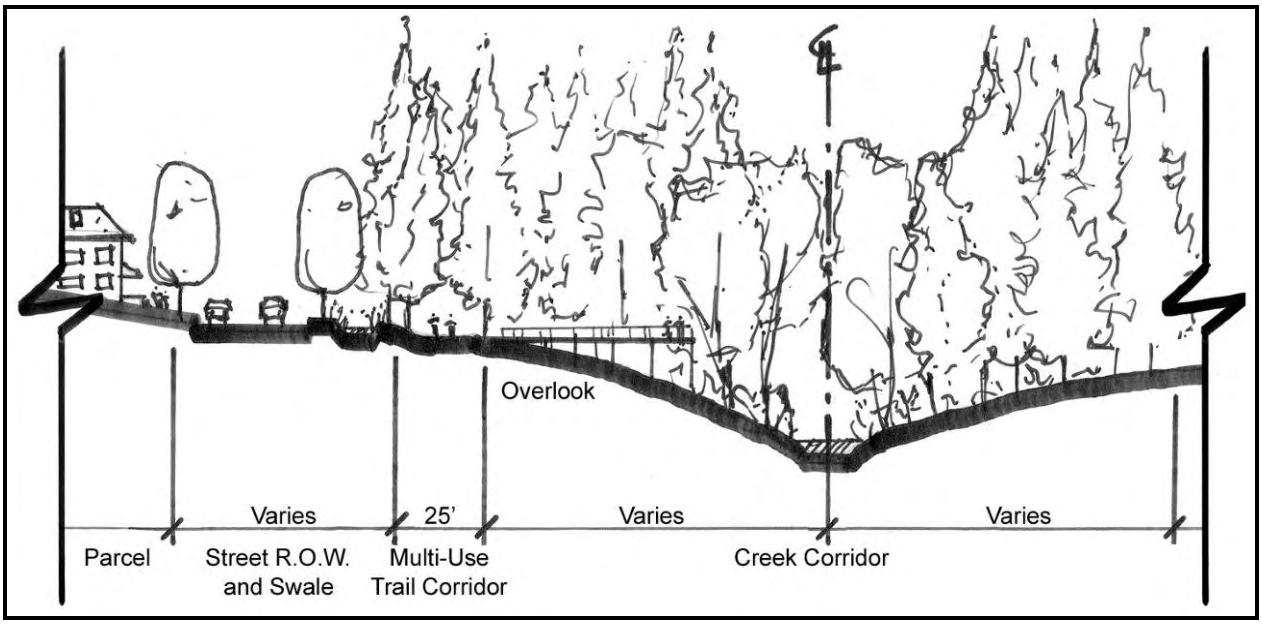
- **Trail R.O.W. Acquisition:** The evaluation of the acquisition costs for trail ROW alignment options is on-going. The roadside trail has the advantage of being incorporated in the Street ROW acquisition effort, while the streamside option would require a separate negotiation.
- **Implementation Cost:** Trails along creeks are potentially more costly to implement because of environmental restrictions and access limitations.
- **Connectivity:** Both the roadside and streamside trail alignment options offer similar connections to surrounding neighborhoods and the broader Gresham community. The primary difference in this evaluation is that the streamside option greatly enhances trail users connections to the natural environment over the roadside alignment.

### Village Center Loop Trail

To the west of US. 26 the trail system will follow creek corridors to create a roughly 1 mile trail loop. The following graphic illustrates the trail between a protected creek corridor and the street ROW.

As conceived, the Village Center Loop Trail and the vehicular road network will be an integrated plan with a single-loaded road fronting most of the loop trail as shown in the Conceptual Trail Section Adjacent to ROW below. The trail corridor in both sections is a linear 25-foot corridor in which a 12-foot wide multi-use trail will meander though. The width of the corridor may have to be increased in special conditions to maintain a 5% longitudinal slope along the trail. At special points along the trail an overlook can be provided to allow better views into the protected corridor. Creation of the overlook should create the least impact possible.

Integrating trails with environmentally sensitive resource areas requires striking a balance between public recreational access and preserving the integrity of the resource. When implementing the trails, designers should reference the Springwater Natural Resources Plan and the Metro Green Trails Handbook for characteristics of protected areas to be considered during trail design.




Conceptual Trail Section Adjacent to ROW

**Implementation**
**Parks and Open Space Acquisition, Development, and Maintenance Costs**

The following cost estimate provides recommended capital improvement plan-level budget estimates for the recommended park, trail, and open space facilities. These are based on current planning level acquisition costs used by the City of Gresham, and on ultimate development of Springwater to accommodate 17,000 employees and 3,500 households. The funding source for all projects will be SDC's.

Table 9. Capital Improvement Costs of Park, Open Space, and Trail Facilities

| Facility | Quantity | Acquisition Cost | Development Cost | Total Cost | Responsible Jurisdiction | Timing (Years) |
|---|---|---|---|---|---|---|
| Village Center Park and Park Blocks (12.3 Ac.) | | | | | | |
| Village Center Park and Plaza | 4.4 Ac. | $880,000 | $1,188,000 | $2,068,000 | Gresham | 0-5 |
| North-South Park Blocks | 3.75 Ac. | $750,000 | $1,012,500 | $1,762,500 | Gresham | 0-5 |
| East-West Park Blocks | 4.15 Ac. | $830,000 | $1,120,500 | $1,950,500 | Gresham | 0-5 |
| Community Parks (29.8 Ac.) | | | | | | |
| Springwater Community Park | 20.0 Ac. | $4,000,000 | $11,200,000 | $15,200,000 | Gresham | 6-20 |
| East Springwater Park | 9.8 Ac. | $1,960,000 | $5,488,000 | $7,448,000 | Gresham | 6-20 |
| Open Space (148.9 Ac.) | | | | | | |
| Johnson Creek | 66.0 Ac. | $2,640,000 | $660,000 | $3,300,000 | Gresham | 6-20 |
| Brigman Creek | 11.0 Ac. | $440,000 | $110,000 | $550,000 | Gresham | 6-20 |
| McNutt Creek | 12.9 Ac. | $516,000 | $129,000 | $645,000 | Gresham | 6-20 |
| Hogan Creek | 6.5 Ac. | $260,000 | $65,000 | $325,000 | Gresham | 6-20 |
| Botefuhr Creek | 5.0 Ac. | $200,000 | $50,000 | $250,000 | Gresham | 6-20 |
| Sunshine Creek | 7.0 Ac. | $280,000 | $70,000 | $350,000 | Gresham | 6-20 |
| North Fork Johnson Creek | 10.5 Ac. | $420,000 | $105,000 | $525,000 | Gresham | 6-20 |
| Bodger/McDonald Creek | 12.0 Ac. | $480,000 | $120,000 | $600,000 | Gresham | 6-20 |
| Hogan Butte | 18.0 Ac. | $720,000 | $180,000 | $900,000 | Gresham | 6-20 |
| Multi-Use Trails (6.2 Mi.) | | | | | | |
| Village Center Loop Trail | 1.65 Mi. | $495,000 | $742,500 | $1,237,500 | Gresham | 6-20 |
| Employee Loop Trail | 2.2 Mi. | $660,000 | $990,000 | $1,650,000 | Gresham | 6-20 |
| Butler Trail | 0.75 Mi. | $225,000 | $337,500 | $562,500 | Gresham | 6-20 |
| Palmblad North | 0.5 Mi. | $150,000 | $225,000 | $375,000 | Gresham | 6-20 |
| Village Loop to E. Springwater Pk. | 0.65 Mi. | $195,000 | $292,500 | $487,500 | Gresham | 6-20 |
| Barnes Road North | 0.25 Mi. | $75,000 | $112,500 | $187,500 | Gresham | 6-20 |
| 267th North | 0.1 Mi. | $30,000 | $45,000 | $75,000 | Gresham | 6-20 |
| 282nd North | 0.1 Mi. | $30,000 | $45,000 | $75,000 | Gresham | 6-20 |
| Pedestrian/Bicycle Bridges (3) | | | | | | |
| Butler Trail (Brigman Creek) | 1 | N/A | $250,000 | $250,000 | Gresham | 6-20 |
| Palmblad North (Brigman Creek) | 1 | N/A | $250,000 | $250,000 | Gresham | 6-20 |
| Palmblad North (Johnson Creek) | 1 | N/A | $250,000 | $250,000 | Gresham | 6-20 |
| Total | | $16,236,000 | $25,038,000 | $41,274,000 | | |

These costs are based on the unit acquisition costs listed below. Annual maintenance costs are also given.

**Unit Acquisition Costs**

| Facility | Acquisition | Development |
|---|---|---|
| Neighborhood Park: | $200,000/Ac. | $270,000/Ac. |
| Community Park: | $200,000/Ac. | $560,000/Ac. |
| Open Space: | $40,000/Ac. | $10,000/Ac. |
| Multi-Use Trail: | $300,000/Mi. | $450,000/Mi. |
| Ped/Bicycle Bridge: | N/A (Located in Open Space) | $250,000 Average |

**Annual Maintenance Costs**

| | |
|---|---|
| Neighborhood Park | $5,360/Ac. |
| Community Parks | $7,146/Ac. |
| Open Space | $715/Ac. |
| Multi-Use Trails | $8,933/Mi. |
| Pedestrian/Bicycle Bridges | $600/Br. |

| | |
|---|---|
| Neighborhood Park | $65,928 |
| Community Parks | $212,951 |
| Open Space | $106,464 |
| Multi-Use Trails | $55,385 |
| Pedestrian/Bicycle Bridges | $1,800 |
| **Total Maintenance Cost** | **$442,528** |

**Summary of Future Needs**

Parks, trails and open space will be an integral park of the Springwater community design; serving to enhance economic growth, strengthen community bonds and protect natural resources. Three new parks will be created to serve residents and employees in Springwater. A neighborhood park, located adjacent to the highest residential populations, will be integrated into the Village Center and will consist of a plaza, park blocks, and central park. Two new community parks located adjacent to natural resources and/or in areas with good vehicular accessibility are also included in the plan. The first community park, located along the Johnson Creek Corridor and adjacent to the residential developments, will provide two youth sports fields and a regionally significant natural park area, providing interpretive educational opportunities. The second, east of US 26, will provide two to three adult sports fields for employee recreation. Trails have also been identified to provide pedestrian recreational opportunities and access to features inside and outside of the study area including existing neighborhoods and regional trails to the north and west. Acquisition of 121.90 – 148.90 acres of open space will be based on recreation need and environmental resource criteria, and will be used to preserve natural resources and create pedestrian and wildlife connectivity throughout the district.

**Funding Strategies**

There will be several options for the funding of the Springwater parks, open space and trails system. Traditional methods such as system development charges, grants and land dedication should be considered in concert with a variety of alternative funding strategies to purchase as well as maintain the system. All capital improvement projects should consider future maintenance strategies before they are implemented to ensure a high level of quality and safety for park users.

The following approaches have been summarized as possible funding strategies for implementing the parks, open space and trails recommendations outlined in this document:

- Continue to use System Development Charges (SDCs) for land acquisition and construction, and adjust them as necessary to fully fund park development. Residential and employment districts should be explored because the park LOS for Springwater has been adjusted to provide land for both user groups.
- Grants and donations should continue to be used whenever possible. Numerous programs exist at the state and federal level to assist with natural resource related planning efforts, especially if those planning efforts are related to natural hazard mitigation strategies. In addition to opportunities to obtain funding for the protection and restoration of habitats, opportunities to obtain public open space as part of a hazard mitigation/prevention strategy are available.
- In lieu of charging SDCs, require Turn Key Development of park facilities by developers to eliminate the city's financial burden of constructing the facility. Developers would construct facilities to City specifications, and then turn over to the City as a completed neighborhood park; trail segment or urban plaza after the development is completed.
- In the event that property tax revenues anticipated from annexation are not sufficient to cover the increased cost of parks maintenance associated with the parks, trails, and open space proposed for Springwater, the option of a park maintenance fee or operating levy could be considered as a condition of annexation.
- Consider establishing a Landscape Assessment District (LAD) overlay zone to provide maintenance and construction budgets for the proposed parks in the districts. This district or districts will provide parks funds for Springwater without taxing the rest of the city to implement the new district.
- On a smaller scale, a homeowner's association model could be implemented around neighborhood parks for the maintenance of the park as well as the neighborhood landscape including medians and parkways.
- On all trails, parks and open space projects look **for synergies** with other government agencies to share in funding facilities. Possible partnerships could be made on stormwater management, transportation, and school projects.
- User fees could help support more specialized recreational facilities such as interpretive trails or centers located within the Springwater Community Park.
- As a maintenance alternative, businesses should be encouraged to participate in an adopt-a-trail or similar sponsorship programs for parks and trails in the district.
- A non-profit trust is a specialized model which would work as a public/private partnership to raise funds for parks maintenance and development in the district.
- The acquisition of park and open space in the district could be tied to a city-wide General Obligation Bond Measure. This would be most appropriate for open space and natural resources which are regionally significant, such as the Johnson Creek Corridor.

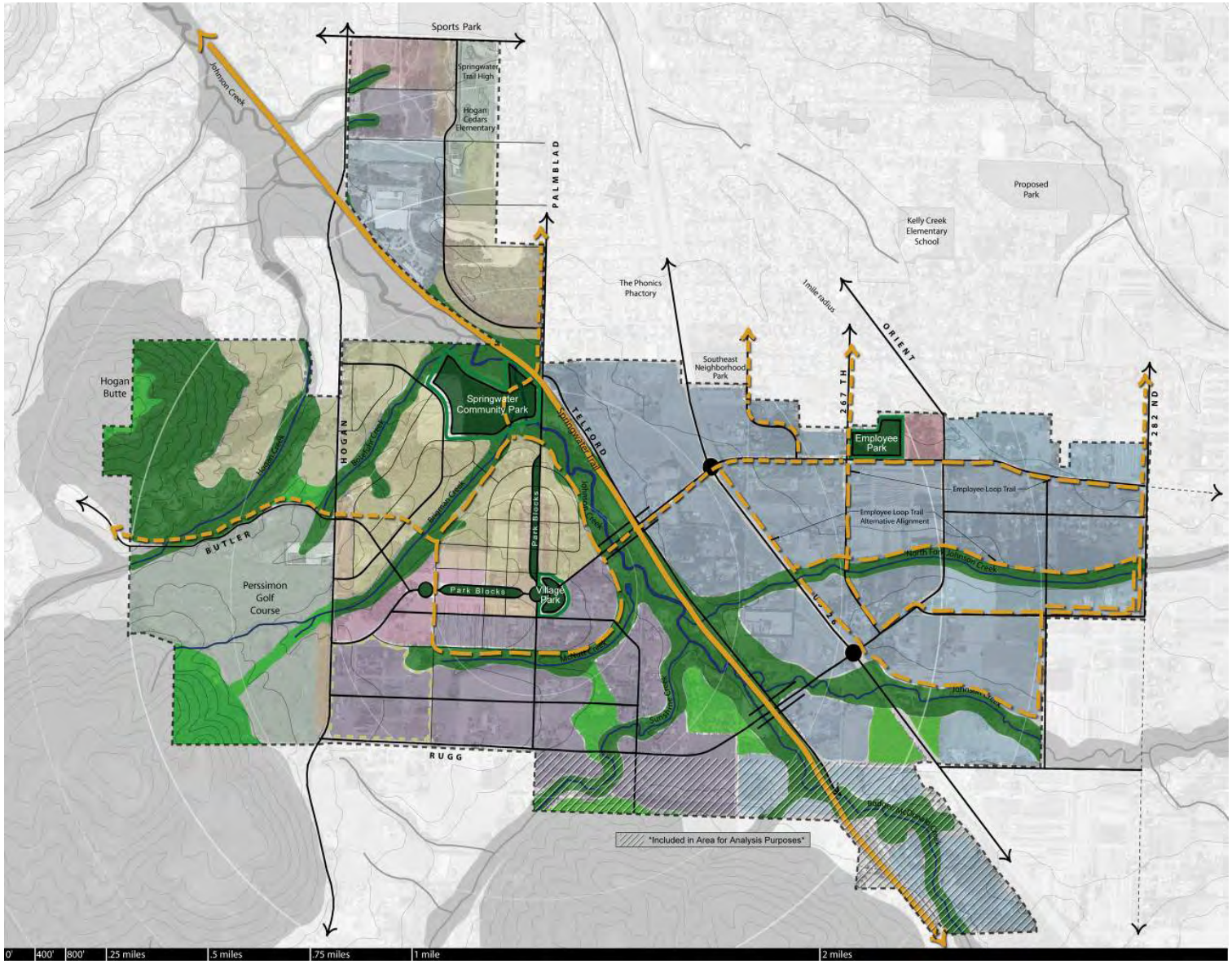


Figure 15. Parks, Open Space and Trails Plan

## GOAL

An interconnected system of parks, trails, and open space shall be an integral part of the community design, serving to enhance economic growth, strengthen community bonds and protect natural resources.

## POLICIES

The following policies are made part of this plan:

1. Parks, open space and trails shall be implemented to help promote a sense of place with respect to the community's cultural and natural history by building upon Springwater's unique characteristics and location, such as the Johnson Creek corridor and views to Mt. Hood.

2. Parks, open space and trails implementation shall recognize the importance of the upper Johnson Creek system for Gresham, the Portland Metro region and the Willamette Valley.

3. The parks, open space and trails system shall work with other civic improvements such as schools, transportation and stormwater management to consolidate budgets, maintenance and implementation of facilities.

4. The parks, trails and open spaces system shall create interpretive educational opportunities that allow residents to experience and understand the diverse ecosystem that they are a part of.

5. The maintenance and implementation of parks, open space and trails shall encourage the planting and preservation of native plant and tree species.

6. Parks and trails shall be implemented to enhance and protect natural resources.

7. Trails and corridors shall create connections to the Springwater and other regional trail systems as well as links between residential, employment and civic destinations inside and outside of the district.

8. Parks and trails shall be located within a ½ mile of their users, and shall help to create an identity for the neighborhood, which they serve, including dense neighborhoods.

9. Open space shall preserve, restore and enhance natural resources as well as support the other parks and recreation objectives of the community.

## ACTION MEASURES

The following actions should be taken to implement this plan:

1. When implementing any recommendation, reference all other master plans created as part of the Springwater planning study and look for opportunities for synergies between other city agencies, such as shared park/school sites, regional stormwater management facilities, and trail corridors along transportation routes.

2. Expand on recommended park facilities programs to meet the needs of the future residents by holding community workshops and planning days to involve the community in the design process.

3. Look for state and federal funding strategies to help preserve natural resources beyond that open space which will be purchased through Parks fees.

4. Implement park facility recommendations concurrent with residential and industrial development to meet the needs of the users as they arrive.

5. Review and select from the two alignment options for the employee loop trail east of Highway 26, and modify Transportation System Plan to reflect recommended trail alignment.

# 10.700 PLEASANT VALLEY PLAN DISTRICT

## STATEWIDE PLANNING GOAL 14: URBANIZATION

*"To provide for orderly and efficient transition from rural to urban land use."*

### INTRODUCTION

In summer, 2000, the City of Gresham in partnership with Metro, the City of Portland, Clackamas and Multnomah Counties, and others, embarked in planning for a new urban area – Pleasant Valley. Pleasant Valley was added to the region's urban growth boundary (UGB) in December 1998 to accommodate forecasted population for the region. It is 1,532 acres located south and east of the current city limits for Gresham and Portland.

Agricultural and rural residential are the most widespread existing uses in Pleasant Valley. There were 226 dwellings and a population of 800 in 2000. Other uses include a grade school, a grange building, a small convenience store, and a church. The site encompasses the Kelley Creek Basin, an extensive system of creeks and wetlands and a major tributary to Johnson Creek. Johnson Creek is a free-flowing creek in the metropolitan region with natural, historical, and cultural significance. The existing transportation system was designed primarily to serve the farm-to-market needs of the agricultural uses that once occupied the valley. There are no public water, wastewater, or stormwater facilities. There are no public parks or trails.

New urban areas must be brought into a City's comprehensive plan prior to urbanization with the intent to promote integration of the new land into existing communities. Planning efforts began with the Pleasant Valley Concept Plan (PVCP) project.

In May 2002, the PVCP Steering Committee endorsed the Concept Plan and a set of implementation strategies. The central theme of the Plan is to create an urban community through the integration of land use, transportation, and natural resource elements. Gresham, Portland, and Metro councils, and Multnomah and Clackamas county commissions, by adopting a resolution at a public meeting, accepted the Concept Plan and resolved to use it as the basis for developing implementing regulations and actions.

In the fall of 2002, Gresham and Portland started the Pleasant Valley Implementation Plan (PVIP) project with a purpose to draft a report document as a "bridge" between the PVCP and final ordinances and intergovernmental agreements that may be adopted by Gresham and Portland in 2004. In February 2004, the Advisory Group endorsed the PVIP report as being consistent with and carrying out the PVCP.

Gresham and Portland adopted a revised Intergovernmental Agreement in March 2004. The cities have agreed to adopt similar policies and code and have reached an agreement that Gresham will eventually serve 1,242 acres and Portland 290 acres.

An extensive planning process has resulted in the Pleasant Valley Plan District. The Pleasant Valley Plan District will fulfill the goal that resulted from the planning process to create a quality living environment, with a sense of place that is unique to Pleasant Valley. To achieve this goal,

the Plan District will implement compact mixed-use neighborhoods, a town center, neighborhood edges and centers, a variety of housing options, transportation alternatives, pedestrian friendly urban design and the integration of the natural environment into the design of the community. Critical to the sense of place in Pleasant Valley is the valley's natural resources and extensive network of streams and wetlands. The Plan District will allow the valley to develop in such a way that minimizes impact on these natural features, while allowing these features to enhance the built environment.

What follows are goals, policies and action measures for each of the major land use elements that make up the Pleasant Valley Plan District. Endorsed by the Steering Committee and refined during the Implementation Plan phase, these statements focus on the key concepts and policy directions for subsequent regulations and implementation efforts to realize the Plan District to provide for an orderly transition of Pleasant Valley from rural to urban uses.

## 10.701 URBANIZATION STRATEGY AND LAND USE PLANNING

### BACKGROUND

The Metro Council brought the Pleasant Valley area into the Urban Growth Boundary (UGB) in December 1998. When land is brought into the UGB Title 11 of the Metro Urban Growth Management Functional Plan requires that the added territory be brought into a city's comprehensive plan prior to urbanization with the intent to promote the integration of the new land into existing communities.

Title 11 requires a series of comprehensive plan amendments including maps that address provisions for annexation; housing, commercial and industrial development; transportation; natural resource protection and restoration; public facilities and services including parks and open spaces; and schools.

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary planning goals was developed as part of this process. The goals addressed a town center, housing, transportation, natural resources, neighborhoods and schools. The introductory paragraph stated:

> *The Pleasant Valley Urban Reserve area is a beautiful valley surrounded by lava domes in the southeast portion of the Metro region. It has slowly evolved into a rural residential area over the last 30 years, largely displacing the agricultural uses that once occupied the valley. Now urban development has reached the borders of this community, and rapid and substantial change is in this area's immediate future. As the area is planned for urbanization, the primary goal is to create a place rather than a carpet of subdivisions. To accomplish this, the unique attributes of this area need to be identified and protected, and the limits to development in the area respected. Importantly, the future town center needs to be sized and located in a manner appropriate to the area, and help define the emerging community that will evolve in this area.*

In December 1998, Gresham and Portland jointly adopted an Intergovernmental Agreement (IGA) regarding Pleasant Valley. The IGA concerns provisions for creating a plan, future annexations and future provisions for urban services. The IGA provides the Gresham and Portland coordination in creating an urban plan. The goals mentioned above were attached to the IGA and are to be considered when creating the urban plan. The IGA also provides that no urban zoning be applied until the urban plan was adopted by Gresham and Portland and approved by Metro.

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The goal for urbanization was:

> ***Create a community***. *The plan will create a "place" that has a unique sense of identity and cohesiveness. The sense of community will be fostered, in part, by providing a wide range of transportation choices and living, working, shopping, recreational, civic, educational, worship, open space and other opportunities. Community refers to the broader Concept Plan area, recognizing that it has (and will have) unique areas within it. Community also refers to Pleasant Valley's relationship to the region – relationships with Portland, Gresham and Happy Valley, Multnomah and Clackamas counties, and the unique regional landscape that frames Pleasant Valley.*

In the alternatives evaluation process, the "Create a Community" goal was used as a way to coordinate and integrate the best attributes of the alternatives. The "Create a Community" goals was the vision that guided the guided the developed of a "hybrid" alternative and ultimately the Steering Committee's preferred Concept Plan.

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary, the central theme of the plan is to create an urban community through the integration of land use, transportation and natural resource elements.

*Key features of the Concept Plan are:*

- A mixed-use town center as the focus of retail, civic and related uses.
- A new elementary school and middle school located adjacent to 162nd Avenue.
- The location of major roads away from important historic resources and "park blocks" that connect the town center to the historic central section of Foster Road.
- A framework for protection, restoration and enhancement of the area's streams, floodplains, wetlands, riparian areas and major tree groves through the designation of 461 acres of the valley as "environmentally sensitive and restoration areas" (ESRAs).
- Designation of a "neighborhood transition design area" adjacent to the ESRA so that neighborhood development is compatible with adjacent green corridors.

- A "green" stormwater management system intended to capture and filter stormwater close to the source through extensive tree planting throughout the valley, "green" street designs, swale conveyance and filtration of run-off, and strategically placed stormwater management facilities.
- Nine neighborhood parks dispersed throughout and a 29-acre community park centrally located between the utility easements north of Kelley Creek.
- A network of trails including east-west regional trails paralleling Kelley Creek and north-south regional trails following the BPA power line easement. A reorganization of the valley's arterial and collector street system to create a connected network that will serve urban levels of land use and all modes of travel.
- Re-designation of Foster Road from arterial to local street status between Jenne Road and Pleasant Valley Elementary School. The intent is to preserve the two-lane tree-lined character of Foster Road and to support restoration efforts where Mitchell Creek and other tributaries flow into Kelley Creek.
- A network of transit streets that serve three mixed-use centers and seven nodes of attached housing.
- A variety of housing organized in eight neighborhoods. The variety includes large-lot, medium-lot and small-lot single-family homes, townhomes, apartments, condominiums and senior housing.
- Planned housing that is 50 percent attached, 50 percent detached and has an overall density of 10 dwelling units per net residential acre. The estimated housing capacity is 5,048 dwellings.
- Two 5-acre mixed-use neighborhood centers.
- Employment opportunities in the town center, mixed-use employment district, general employment district and in home-based jobs. Employment capacity is estimated at 4,985 jobs, with a job to housing ratio of .99:1.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in an urban plan for land uses in Pleasant Valley:

***Compact and Mixed-Use Neighborhoods.*** Pedestrian communities should have stores, offices, homes, and parks placed close to each other. The physical components of an ideal pedestrian neighborhood are:

- A five to ten minute walk (¼ to ½ mile walk) from the center to the edge defines the boundaries of a neighborhood. This time and distance is comfortable for the average American. Neighborhood residents should be within walking distance of many of their daily needs, such as a convenience store, ATM, transit stop, day care and a community police office.

- There is a balanced mix of activities with places to live, shop, work, worship, learn and recreate. Proximity of daily destinations and transit can reduce the number and length of auto trips. Those that can't drive but can walk (or bike), such as the young and the elderly, are able to be active in their neighborhood.

***Neighborhood Edges and Centers.*** Neighborhoods should have edges and centers. The edge of a neighborhood marks the transition from one neighborhood to another. The edge might be a natural area or a tree-lined arterial street. Schools, bus stops and other uses located at the edge are shared by neighborhoods. The neighborhood center is the main gathering place. Neighborhood centers could consist of a combination of any of the following:

- A public space such as a neighborhood or community park.
- Plazas within developments to create a public realm, instead of just a parking lot.
- An important intersection with pedestrian improvements.
- Civic neighborhood institutions such a meeting hall or a day care center would be located at the center.
- Shops and especially mixed-use buildings can be located around a plaza.

In centers, public spaces are given priority. Public spaces and public buildings are a source of community identity. The structure of streets and blocks, and the resultant location of public spaces and buildings can create special places. The importance of the public realm can be enhanced by its location without increasing the additional infrastructure costs.

***Variety of Housing Options.*** Communities should have places for people of all ages and incomes to live. This can be made possible by locating different dwelling types in the same neighborhoods and even on the same street.

- Locate dwelling units in relation to public spaces and infrastructure. A variety of housing types can include small apartments, row housing, housing over shops, live/work studios, co-housing (clustered housing project in which certain common areas such as dining rooms are shared), small lot housing, and larger lot housing.
- Accessory dwellings (i.e., secondary suites or granny flats) can increase affordable housing opportunities both for the person renting a unit and the homeowner paying a mortgage.

***Increasing Transportation Options.*** Every community should provide transportation alternatives, such as transit service, bicycle lanes and sidewalks. Transit provides necessary mobility for those who can't drive – because they are too young, too old, disabled, or can't afford a car. Transit also provides a more energy efficient and less polluting alternative to a car trip. The ability for adults and children to safely ride a bicycle or walk is also important.

- All new development should be designed with transit in mind. Transit (buses or even light rail) may be planned but not immediately implemented until well after development occurs. Land use patterns should lead transit service planning, rather than retrofitting a developed area to be served by transit.

- Public transit is only feasible when dwellings and jobs are concentrated near transit lines. A walkable, mixed-use neighborhood within walking distance of a transit stop makes it convenient for residents and employees to travel by transit, bike, foot, or car.
- Focusing development into pedestrian-oriented patterns that can be served by transit can be part of the strategy to preserve open space/natural resource areas.
- New development should be bike friendly, so that this method of transportation is safe – especially for children.

***Provide Buildings that are Pedestrian Friendly.*** By presenting a friendly face to the street, individual buildings can contribute to a safer, more conducive walking environment.

- Rear alleys can allow housing and commercial buildings to be closer to the street with parking at the rear.
- Planting many shade trees along streets is easier when driveways are not present. Trees provide a number of benefits including a more interesting urban design, place setting, stormwater management, and energy (shading) conservation.

***Incorporate the Natural Environment into the Design of the Community***. Critical to the "sense of place" in Pleasant Valley is the extensive network of streams and wetlands. It is critically important to develop the valley in such a way to minimize impact on these natural features, while at the same time using the presence of features to enhance the built environment. This can be accomplished in the following ways:

- Use the area adjacent to streams and wetlands to create a multi-use trail system that creates a pedestrian and bicycle pathway linkage system.
- Design neighborhoods to incorporate existing natural features to enhance the aesthetic environment while minimizing impacts.
- Design the roadway system to minimize impact on natural resources. Provide additional neighborhood level connectivity with pedestrian connections, such as bridges.

***Plan District.*** Gresham and Portland provide for Plan District approach when there are unique conditions within a specific area that require a unique approach rather than a generalized citywide zoning approach. The Plan District designation must be based on a study or plan that documents those unique conditions and the measures that address the relevant issues. Proposed policies, procedures, development standards and other measures need to be consistent with the study/plan and with the city's comprehensive plan.

## GOALS

1. Pleasant Valley will be a complete community with a unique sense of identity and cohesiveness.

2. Pleasant Valley will have a wide range of transportation, living, working, recreation, and civic and other opportunities.

## POLICIES

1. The Pleasant Valley Concept Plan Map and Implementation Strategies will provide the blueprint for local jurisdictional adoption of comprehensive plan amendments and implementing measures for future urbanization.

2. Pleasant Valley will be master planned as a complete community. A complete community has a wide range of transportation choices; of living choices; of working and shopping choices; and of civic, recreational, educational, open space and other opportunities.

3. Pleasant Valley will have full public services to include transportation, stormwater management, water, wastewater, fire and police services, recreation, parks and connected open spaces and schools.

4. Urbanization of Pleasant Valley will carefully consider its relationship to adjoining communities as annexations and extensions of public facilities occur.

5. Urbanization of Pleasant Valley will carefully consider and enhance its relationship to the unique regional landscape that frames Pleasant Valley.

6. Urbanization will be guided by a Pleasant Valley urban services and financial plan that will ensure that annexation, service provision and development occur in a logical and efficient manner and that major public facilities are provided at the time they are needed.

## ACTION MEASURES

1. Establish a Plan District for Pleasant Valley. A Plan District designation provides a means to create unique zoning districts and development regulations that address the specific opportunities and problems identified in the Pleasant Valley Concept Plan.

2. Establish the new Plan District Zoning Classifications based on the Concept Plan guidelines in the Town Center, Housing, and Employment and other sections found in these Pleasant Valley Concept Plan Implementation Strategies.

3. The Pleasant Valley Plan District will allow for unique planning and regulatory tools that are needed to realize the Pleasant Valley Concept Plan.

4. Establish a strategic plan for urban services and financing infrastructure. The plan will include a phasing plan, i.e., identifying a logical sequence for phased annexations, development of public infrastructure and delivery of public services as urbanization occurs. This strategic plan will also include a provision for providing major public facilities at the time they are needed. “Major public facilities” will be defined in this process and be based on the details provided in the water, wastewater, stormwater and transportation reports.

5. Create a set of new development standards for the design of land use types and the transition and compatibility of these land uses down to the block level based on the Pleasant Valley Concept Plan map and implementation strategies.

## 10.702 TOWN CENTER

### BACKGROUND

The Metro Council designated a town center within Pleasant Valley on the Region 2040 Growth Concept map when Pleasant Valley was brought into the Urban Growth Boundary (UGB) in December 1998. New town centers are expected to accommodate retail and service needs of a growing population while reducing auto travel by providing localized services to residents within a two to three-mile radius.

Region 2040 town centers can and should be different but do share some general characteristics:

- The guidelines for density are 40 persons per acre.
- Good transit service and, because of their density and pedestrian-oriented design, play a key role in promoting public transportation, bicycling and walking as viable alternatives to the automobile.
- Include not only employment and shopping, but also housing.
- Provide citizens with access to a variety of goods and services in a relatively small geographic area, creating an intense business climate.
- Act as social gathering places and community centers, where people find the cultural and recreational activities.
- Overall town centers function as strong business and civic communities with excellent multi-modal arterial street access and high-quality public transportation with strong connections to regional centers and other major destinations.

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary planning goals was developed as part of this process. A preliminary goal for a town center included these elements:

- Focus of retail and other public and private services serving this community.
- Village atmosphere through a mix of land uses.
- Sized carefully to limit the amount of traffic attracted into this area from outside the community.
- Excellent pedestrian facilities and amenities to facilitate walking throughout and from adjoining areas.

- Average building two stories developed in a compact form around a grid of streets with on-street parking.
- View corridors from surrounding hillside properties considered in the design.
- Residential areas adjacent to the town center a focus for the higher density housing options in the area.
- Includes open space.
- Developed to protect watercourses and sensitive environmental areas.
- In a single city jurisdiction.

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The goal for town center was:

> ***Create a town center as the heart of the community****. A mixed-use town center will be the focus of retail, civic, and related uses and services that serve the daily needs of the local community. The town center will be served by a multi-modal transportation system. Housing will be incorporated into mixed-use buildings and/or adjacent apartments and town homes. A central green or plaza will be included as a community gathering space. Streets and buildings will be designed to emphasize a lively, pedestrian-oriented character for the town center. The town center will have strong connections to adjacent neighborhoods, and commercial services that are centralized and convenient to pedestrian-oriented shopping.*

Two Town Center Focus Sessions were held during the development of the Pleasant Valley Concept Plan. The purpose of the first session was to assess the nature and extent of a future Pleasant Valley town center. The purpose of the second session was to discuss important attributes of a future Pleasant Valley town center and to evaluate four town center configurations developed in the design charrette planning process. These focus sessions were hosted by the Pleasant Valley Concept Plan Land Use work team and facilitated by project staff. Participants included commercial real estate professionals and planning professionals as well as citizen advocates. Through the course of the focus session's participants identified major issues critical to ensure the economic and design success of a town center.

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary, the Pleasant Valley Concept Plan town center is intended to be the civic and commercial heart of the Pleasant Valley community – a place to shop, get a cup of coffee, greet neighbors and visit the local community center. Primary uses include retail (anchored by a grocery store), offices, services and civic uses. A range of higher density housing types will be allowed as part of a mixed-use development.

Selected characteristics of the town center include:

- An east-west main street connecting 172nd Avenue to the community park. This street will have two travel lanes, on-street parking, wide sidewalks and pedestrian amenities.
- A centrally located plaza or community green.
- An overall "village feel" with buildings oriented to streets, generally two- to three-story building heights, storefront character along key streets and extensive pedestrian amenities.
- Access and circulation designed in a logical grid of streets.
- Park blocks extending from Kelley Creek and terminating at the plaza, a key building or intersection within the town center.
- Street and place names that link the center to the cultural and natural history of Pleasant Valley.

The mixed-use employment area north and west of the town center is intended to provide employment opportunities and other uses that are compatible with, and support, the town center. Primary uses shall include offices, services and small retail. Housing will be allowed within a mixed-use building.

*Selected characteristics of the mixed-use employment area include:*

- Buildings can be up to three stories high.
- This district is intended to have buildings oriented to streets and pedestrian amenities. These characteristics will help reduce the impact of the three- and four-lane character of Giese Road and 172nd Avenue. Both Giese Road and 172nd Avenue are transit streets, so it is important that a walkable character is created to complement the opportunity for transit-oriented development.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in planning a Pleasant Valley town center:

- ***Market Issues***. The town center needs to survive in the marketplace. Therefore, concepts that are untested in the marketplace should be avoided. However, innovation is still important. It is possible to have a town center that relates to tested market rules of thumb, has a character that reflects the pedestrian-orientation goals adopted by the Steering Committee, and is unique to Pleasant Valley.
- ***Public Sector***. Land use regulations and incentives could help create the desired town center. Infrastructure improvements should be timed to facilitate development of the town center. The public sector could stimulate the private sector investment in the town center by building uses such as libraries, fires stations and other

community uses in a centralized area. A strong master plan could be helpful in creating a cohesive town center.

- ***Size***. The size of the town center could be as large as 20 acres. This size would include any associated civic uses.
- ***Design Issues***. The Metro model of a town center focuses on a centralized "nodal" pattern. Towards this end commercial strips along major arterial roadways should be avoided. The town center should be well integrated into design of the valley, including transportation (vehicular, transit and walking), open space, and land use systems. A "main street" environment should be created. A rectilinear shape increases development feasibility.
- ***Parks and Plazas***. The town center should include a handsome well-proportioned park or plaza to serve as a focal point for collective civic action. It should be a space that defines a role for the buildings that surround it, rather than being the remnant space left after the buildings have been designed. A public space will help create a community oriented town center and will support retail. A large central park in the heart of the town center may not be appropriate and could dilute its functionality. A better alternative could be a small hardscape plaza or series of plazas immediately adjacent to retail uses. The size and location can vary depending on design objectives, but might be between 1 and 3 acres in size. However, smaller may be better in the core of the town center and could be as little as 1/8 to 1/4 of an acre – depending on design.
- ***Open Space***. Linkage and proximity of open space are important to town center character and design. Linkage to a larger open space, such as the "Nature Park" or the stream corridor open space system is desirable. This linkage could pass through a residential neighborhood.
- ***Natural Area***. The connection of the town center to the natural areas and open space system is desirable. However, it is not necessary or even desirable for the town center to be adjacent to natural areas. Residential areas can provide a buffer between the town center and stream corridors. The concept plan should balance the necessary configuration and size of a town center with the protection of natural areas.
- ***Retail and Service Uses***. A grocery store (30,000 – 55,000 square feet) will serve as the anchor for a town center. A second anchor such as drug store may be appropriate. Smaller uses could include restaurants, coffee shops, video stores, personal services, copying, gas station, bank and insurance offices. Overall retail and service uses could combine for 80,000 to 150,000 square feet. Envisioned as a shopping area and neighborhood center for meeting daily needs of residents, not as a "big-box" retail center.
- ***Civic Uses***. Commercial uses should be combined with civic and community service uses when possible. Certain civic and community service uses such as a library, meeting hall or elderly housing facility would benefit from immediate adjacency.

- ***Transportation***. Access to a major roadway is critical and a good intersection ("100% corner") is highly desirable. Access to a good bus route is also critical.
- ***Concept of Linked Trips***. A substantial benefit is gained by locating complementary uses close to one another. For example, a school or a day care near (not necessarily adjacent to) a grocery store allows parents to combine trips. This helps support the town center economically and reduces vehicle trips. Senior housing facilities, where many residents do not have vehicles, also benefits from proximity to the town center.
- ***Housing Issues***. Housing density makes sense around town centers. The density provides customers to the town center and, if designed correctly, can create a pedestrian environment that reduces vehicle trips. While a high number of households close to the town center is good, the center will still need the population from the valley as a whole to survive. Visibility and vehicular access remain important.
- ***Offices***. Offices will likely be okay around the current town center and neighborhood center areas. Those areas, because of the mix of land uses, would likely have employment because of the positive relationship or mutually supportive relationship of land uses. Institutional uses and small office and business parks with relatively small buildings would also likely occur near the town center.

## GOAL

Pleasant Valley will have a mixed-use town center that will be the heart of the community.

## POLICIES

1. The town center will be the focus of retail, civic and office related uses and services that serve the daily needs of the local community.

2. The town center will be served by a multi-modal transportation system with good access by vehicular, pedestrian, bicycle and transit traffic.

3. A wide range of housing types will be allowed and incorporated into mixed-use buildings and adjacent townhouses and apartments.

4. Streets and buildings will be designed to emphasize a lively, pedestrian-oriented character where people feel safe by day and night.

5. A "main street" environment that is a visually stimulating area that makes people want to linger and explore will be created.

6. A central green or plaza(s) will be included as a community gathering space(s). There shall be good linkage to the central park space to the east and to Kelley Creek

to the south. Linkage design to Kelley Creek shall include consideration of a park block design.

7. The town center will have strong connections to adjacent neighborhoods and include commercial services that are centralized and convenient to pedestrian-oriented shopping.

8. The core town center will have adjacent mixed-use employment areas that will include office uses and live-work housing opportunities.

9. The expectation for the Town Center is a highly pedestrian oriented place with a dense mix of shopping, service and civic and mixed-use buildings.

    a. It is anchored (at least) by a grocery store. Smaller buildings for retail and service uses, civic uses and mixed commercial/residential uses will be oriented on pedestrian main streets(s) and plaza(s).

    b. It will be an easy and attractive place to walk, bike and use transit. It will be a convenient and attractive place to drive.

    c. A high standard for development will be set. Develop techniques such as shadow platting to provide for future infill at the desired minimum density.

10. The Pleasant Valley Plan District will include two mixed-use zoning districts associated with the town center:

    a. A town center zoning district with a mix of retail, office and civic uses and housing opportunities as a pedestrian oriented area and a main street character.

    b. A mixed-use employment zoning district that will provide office, professional services and other support services and employment opportunities adjacent to the town center.

## ACTION MEASURES

1. Develop a strategy to help ensure the town center's survival in the marketplace. Marketplace design standards and principles can be combined with pedestrian-oriented design standards to create a unique Pleasant Valley Town Center. Consideration shall be given to future public involvement strategies including a design charrette with property owners and developers and the public to create specific design standards, street layouts and a scheme for a mix of retail, service and housing uses. Develop techniques, such as shadow platting, to provide for future infill at desired density. Shadow platting requires placement of buildings in a way that allows future infill at the desired minimum density.

2. Identify and recruit desired civic uses. These uses to consider should include a library, a community police station, a community-meeting hall and a day care facility.

3. Develop a strategy that allows for a town center master plan review process. Such a master plan included more detail than found in the Plan District regulations and would guide development of the town center.

## 10.703 RESIDENTIAL LAND USE/NEIGHBORHOODS

### BACKGROUND

The Metro Council designated most of the Pleasant Valley area as inner neighborhood on the Region 2040 Growth Concept map when Pleasant Valley was brought into the Urban Growth Boundary (UGB) in December 1998. Inner Neighborhood is primarily a residential area accessible to jobs and neighborhood businesses. The guideline for density is an average of 14 persons per acre.

In addition to Inner Neighborhood (and the town center designation discussed elsewhere), the Metro Council designated transit corridor along the expected transit streets. Corridors are along good quality transit lines featuring a high-quality pedestrian environment. Density guidelines are 25 persons per acre. Typical new developments would include rowhouses, duplexes and one- to three-story office and retail buildings. Corridors may be continuous, narrow bands or may be more nodal, with a series of smaller centers at major intersections or other locations.

Title 11 of Metro's Urban Growth Management Functional Plan has a provision for average residential densities of a least 10 dwelling units per net residential acre. This provision is also consistent with State requirements for housing in the Portland metropolitan area. Title 11 also includes provisions requiring demonstrable measures that will provide for a diversity of housing stock that will fulfill needed housing requirements as defined in State statues (ORS 197.303). This definition asserts the need to ensure affordable, decent, safe and sanitary housing opportunities for persons of lower, middle and fixed income, as well as seasonal workers. Needed housing includes attached and detached single-family housing, multiple family housing for both owner and renter occupancy, government-assisted housing and manufactured home housing.

State statues also require that for new construction that jurisdictions designate sufficient buildable land to provide the opportunity for at least 50% of new residential units to be attached single-family housing or multiple family housing.

Title 11 also provides that there be a demonstration of how residential developments will include, without public subsidy, housing affordable to households with incomes at or below area median incomes for home ownership and at or below 80% of area median incomes for rental.

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary planning goals was developed

as part of this process. Preliminary goals were developed for housing and for neighborhoods:

**A variety of housing** will be planned for, with a wide array of densities.

- Full range of housing types, from large lot single family to small lot single family, row houses, and apartments.
- Highest densities will be concentrated along transit lines and in close proximity to commercial services, transitioning to lower density housing at the edges of the area and in both the foothills of the steeper slopes.
- High quality design will be important to achieve both density and aesthetic goals.
- Affordable housing will be planned. Existing amounts of affordable housing in the south and eastern parts of the region will be considered in determining the share and percentage in this area.
- The focus of meeting affordability goals in this will be on home ownership options.

The area should be divided into **neighborhood areas** defined by natural features or major roads.

- Neighborhoods are often defined and characterized by the amenities that are located in their physical area.
- To ensure that each neighborhood develops into a community with an identity, they shall include provision for local shopping, parks, and several schools.
- The tax base for each of these neighborhoods will be diversified, but predominantly single-family housing.

A Residential Focus Session was held during the development of the Pleasant Valley Concept Plan. The purpose of the session was to assess the nature and extent of who will eventually live in Pleasant Valley, what range of housing types should be provided and what are reasonable ranges for percentage of each type of housing. This focus session was hosted by the Pleasant Valley Concept Plan Land Use work team and facilitated by project staff. Participants included multiple and single-family residential developers, a non-market rate housing provider, a realtor, and housing planning professionals. Through the course of the focus session, participants identified major issues critical to ensure the success of the plan by addressing future housing needs. The focus session participants recommended the percentages of various housing types that were ultimately used to calculate the final dwellings units, jobs and population estimates for the Pleasant Valley Concept Plan areas.

The final percentages used were:

| Housing Type | Percentage |
|---|---|
| Large Single Family (7,500+ sq. ft. lots) | 14% |
| Standard Single Family (5,000 – 7,000 sq. ft. lots) | 32% |
| Small Single Family (3,000-5,000 sq. ft. lots) | 5% |
| Rowhouses/Plexes (15-20 dwelling units/acre) | 8% |
| Condos/Cohousing (20-30 dwelling units/acre) | 9% |
| Apartments (20-30 dwelling units/acre) | 23% |
| Senior Housing (20-60 dwelling units/acre) | 9% |

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The following goal addressed housing and neighborhoods:

> ***Provide housing choices****. A variety of housing choices will be provided, with a focus on home ownership options. Housing options will accommodate a variety of demographic and income needs, including appropriate affordable choices and housing for seniors. The plan will provide for an overall average residential density of 10 dwelling units per net residential acre (i.e., including only residential land), based on a mix of densities. Walkable neighborhoods will form the organizing structure for residential land use. Natural features will help define neighborhood form and character.*

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary, the Concept Plan addressed housing and neighborhoods with the following characteristics:

- Each of the eight Pleasant Valley neighborhoods is intended to include a variety of housing options.
- Overall housing density is 10 dwelling units per net residential acre, with 50 percent of the proposed housing as detached and 50 percent attached.
- Detached housing choices include small lots (3,000-5,000 square feet), medium lots (5,000-7,000 square feet) and large lots (7,500 square feet and greater).
- Attached housing choices include townhomes, apartments, condominiums and senior housing.
- Pleasant Valley's neighborhoods will have a walkable character with defined centers and edges. Neighborhood dimensions will be a comfortable walking distance of 1/4 to 1/2 mile (5- to 10-minute walk).
- Neighborhoods will be designed to increase transportation options. Neighborhoods will be bike and walking-friendly, especially so that children can travel safely.

Neighborhoods along the community's transit streets will be designed with transit in mind.

- Neighborhoods will be designed to incorporate the existing natural features, connect to the ESRA and support "green" stormwater management practices.
- Neighborhoods have a neighborhood park.
- Zoning will allow and encourage home-based employment.

The neighborhood concept described above is an essential part of the vision for Pleasant Valley. The development of individual properties is intended to fit together into complete, cohesive neighborhoods.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in planning Pleasant Valley residential neighborhoods:

- ***Place attached residential near Town Center and transit streets***. Having the higher density areas near the town center and transit streets supports the compact and mixed-use environment desired for the project area. This increases accessibility by allowing more opportunities to travel by bus, walking or biking. Small lot development is also transit supportive. A mix of smaller lots, townhomes and apartments would be a good balance of mixed character and transit orientation.
- ***Senior and higher density residential***. As more refinement occurs during implementation, distribute certain type of attached housing, e.g., higher density and senior housing, along streets with more frequent transit service.
- ***Attached residential and parks***. Locate a park next to or near attached residential areas. This enhances the quality of life for attached residential residents that are often underserved by park facilities and will help ensure a high quality of higher density housing. Relating attached residential to open space and parks can also minimize the feeling of multi-family being clustered together.
- ***Variety of housing***. Communities should have places for people of all ages and incomes to live. This can be made possible by locating different dwelling types in the same neighborhood and even on the same street.
- ***Walkable neighborhoods***. Neighborhoods should have edges and centers. The edge of the neighborhood marks the transition from one neighborhood to another. An edge might be a natural area, a transit stop or a tree-lined arterial street. The neighborhood center is a main gathering place. Public spaces, such as parks and civic buildings, should be given priority. From center to edge of neighborhood should be a comfortable walking distance of ¼ to ½ mile (5 to 10 minutes).
- ***Neighborhoods should increase transportation options***. Neighborhoods should be bike and walking friendly, especially so that children can travel safely. Neighborhoods should be designed with transit in mind. A transit stop(s) should be located within walking distance of mixed-use neighborhoods. A compact, mixed-

use neighborhood with transit options is one strategy for preserving the open space/natural resource areas associated with the Environmentally Sensitive and Restoration Areas.

- ***Arterial streets***. Design arterial streets, where they split a neighborhood or where they form the edge of a neighborhood, to be a worthy setting for buildings, an aesthetic benefit and unifying for the neighborhood.
- ***Incorporating the natural environment***. Neighborhoods should be designed to incorporate the existing natural features in a way that enhances the aesthetic environment while minimizing impacts. This is a critical aspect of Pleasant Valley's "sense of place".

## GOAL

Pleasant Valley will provide a wide variety of housing choices that will accommodate a variety of demographic and income needs within high quality, well-designed and walkable neighborhoods framed by the natural landscape.

## POLICIES

1. Each Pleasant Valley neighborhood will include a wide variety of housing options for people of all ages and incomes with the following considerations:

    a. Home ownership options that range from affordable housing to executive housing.

    b. Housing for the elderly and the disabled.

    c. Affordable housing choices including rental and home ownership opportunities.

    d. An overall average density of 10 dwelling units per net residential acreage.

    e. A 50/50 ratio of attached dwelling to detached dwelling opportunities.

    f. A housing type mix in the same neighborhood and on the same street.

2. Home-based work will be permitted and encouraged in residential districts. Standards shall be established to ensure compatibility with surrounding neighbors. Existing City of Portland and City of Gresham standards shall be used as a model for home-based work standards.

3. Pleasant Valley will have walkable neighborhoods with a defined center and edges. The edge of the neighborhood marks the transition from one neighborhood to another. An edge might be a natural area, a transit stop or a tree-lined arterial street. The neighborhood center should be a main gathering space with priority given to public spaces, such as parks and civic buildings. From the center to the edge should be a comfortable walking distance of ¼ to ½ mile radius (5 to 10 minute walk).

4. Pleasant Valley neighborhoods will be designed to increase transportation options. Neighborhoods shall be bike and walking friendly, especially so that children can travel safely. Neighborhoods shall be designed with transit in mind. A transit stop(s) should be located within walking distance of a neighborhood.

5. Pleasant Valley will support a compact, mixed-use urban form, increase accessibility for walking and biking and be transit supportive. Attached housing should take a nodal form as opposed to a transit street lined with apartments.

6. Higher density residential areas will be designed and scaled in keeping with the desired pedestrian form.

7. Higher density residential areas will be located near the town center, transit streets and the mixed-use neighborhood centers. A mix of smaller lots, townhomes and apartments provide a good balance of mixed housing character and transit-orientation.

8. Neighborhoods will be designed to incorporate the existing natural features in a way that enhances the aesthetic environment while minimizing impacts. A compact, mixed-use neighborhood with transit options is one strategy for preserving open space and natural resource areas.

9. Parks will be located next to or near higher density areas. They shall also serve to provide a sense of place for the neighborhood and be accessible to the whole neighborhood. This enhances the quality of life for attached residential residents and will help ensure a higher quality of higher density housing.
10. Neighborhoods will have strong connections to the Kelley Creek and Mitchell Creek open space systems. The design and function of neighborhoods shall facilitate preserving, enhancing and restoring Pleasant Valley's open space system.

11. The Pleasant Valley Plan District will include residential districts that will provide for small, standard and large single-family lot (detached residential) opportunities and for high and moderate density attached dwelling (attached residential) opportunities. High-density attached dwelling opportunities shall be focused in the vicinity of the town center.

**ACTION MEASURES**

1. Work with groups such as the City of Gresham's Community Development and Housing Committee (CDHC) and the Planning Commission to create a plan that identifies appropriate strategies and implementation measures to promote affordable housing in Pleasant Valley.

2. Create principles and strategies to ensure that the scale and design of dwellings, especially in the high and moderate density zoning districts, are compatible with the compact, pedestrian oriented and smaller scale character of Pleasant Valley.

Consider a process for developing a design vocabulary (a variety of specific architectural elements) for the Pleasant Valley community.

## 10.704 EMPLOYMENT AND OTHER COMMERCIAL

### BACKGROUND

The Metro Council generally applied three Region 2040 Growth Concept Map design districts to the Pleasant Valley area: town center, transit corridor and inner neighborhood. The bulk of employment opportunities were expected to occur within the town center focused on retail, commercial services and office uses. Corridors were expected to have some employment focused on small centers with office and retail uses at major intersection or other locations. Inner neighborhoods would have a small amount of employment focused on home based jobs and civic uses (such as schools).

No employment or industrial area 2040 design districts were included in the Region 2040 Growth Concept Map for Pleasant Valley. Employment areas encourage various types of employment with limited commercial uses and have a density guideline of 20 persons per acre. Industrial areas are primarily for industrial activities with limited supporting uses and have a density guideline of 9 persons per acre.

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The goal for employment was:

> ***Provide and coordinate opportunities to work in and near Pleasant Valley***. *The plan will identify opportunities for home-based work and employment areas within Pleasant Valley. A range of employment opportunities will be considered, including retail and other employment. The plan also will consider the relationship of Pleasant Valley to existing employment centers in the East Metro area and potential new employment areas near Damascus.*

Employment opportunities for the four alternatives focused on the town center and schools. The evaluation of the alternatives for the above employment goal found that: 1) Home-based work is a desirable element of the Pleasant Valley community; and 2) the overall estimates for jobs are relatively low for a 1,500-acre community and additional opportunities for employment should be evaluated. The relatively low estimate was considered a significant issue and led to three recommendations.

1. That the Preferred Concept have a more efficient use of the Town Center through a combination of having more office and civic uses and less retail uses and higher floor area ratios; that a 10-15 acre pedestrian-oriented business/office park near the Town Center be added and that two five-acre mixed-use neighborhood centers (retail and adjacent office use or live-work opportunities) be added.

2. Consider adding an employment area to the Concept Plan. This would be significant area (e.g., 60 +/- acres) that would be planned as a cohesive district that is integrated with the overall community concept.

3. Develop strategies to encourage and allow home-based employment in Pleasant Valley.

Consideration of adding an employment area to the Concept Plan resulted in two additional evaluations: 1) an analysis report on Pleasant Valley Employment Opportunities by City of Gresham and E. D. Hovee & Company staff, and 2) an Employment Focus Session. The analysis report focused on three areas: 1) what additional employment opportunities are viable during a 20-year planning period, 2) if additional employment opportunities are viable what kind, where and how much, and 3) what are the site characteristics to associate with employment centers.

One Employment Focus Session was held during the development of the Pleasant Valley Concept Plan. The purpose of the session was to assess future employment opportunities in Pleasant Valley with a focus on what type of businesses might be appropriate and what characteristics are needed to attract the businesses. The focus session was hosted by the City of Gresham in conjunction with the Pleasant Valley Concept Plan Land Use work team and facilitated by project staff. The thirteen session participants included employment and economic development experts and planning professionals. Through the course of the focus session participants identified major issues critical to ensure the economic success of an employment district in Pleasant Valley.

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary:

***Mixed-Use Neighborhood Centers***. Two mixed-use neighborhood centers are proposed: one along 190th Avenue and one at the corner of 172nd Avenue and the Clatsop Street extension. These centers are intended to provide local retail and service and employment opportunities at the edge of the adjacent neighborhoods. Primary uses shall include small-scale retail and service and office buildings. Housing will be allowed as part of mixed-use and live-work buildings. Street-oriented retail and pedestrian amenities along the streets will contribute to a pedestrian-friendly character. Each center includes a small plaza.

***Employment Areas***. Two employment areas are proposed: one along Giese Road and one along 172nd Avenue at the Sager Road extension. These districts are intended to provide Business/Office Park, medical and other employment opportunities. Primary uses will include knowledge-based industries (graphic communications, creative services, etc.), research and development facilities, office uses, medical facilities and other business park uses. Emphasis is placed on business suited to a high environmental quality setting.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in planning Pleasant Valley employment and neighborhood mixed-use center districts:

***Mixed-use Neighborhood Centers***. One to three small nodal centers could be strategically located in the concept plan area. The smaller centers would not compete with the larger town center due to difference in scale, character and type of use. Visibility from a major street is an important consideration.

***Flex space***. Local and regional studies show a strong need for additional business park/flex space lands. Gresham tends to attract small companies. Its strengths are in high tech, graphic communication and creative services, which could be accommodated in a business park setting. Medical facilities and research could also fit into a business park/campus setting.

***Quality environment***. Quality of environment is becoming increasingly important in site location decisions. The case studies of Snoqualmie Ridge in Washington and the Comprehensive Health Center in Hawaii are examples. A preserved natural environment can create a desirable setting for information sector uses.

***Job/Housing balance***. The job to housing balance in the concept plan need not meet the regional average. However, it is desirable to strive to attain an even balance of jobs and housing. A density of about 35 persons per acre in an additional 50 acres of land would help achieve this balance.

***Employment opportunities***. Additional employment opportunities in the concept plan area should allow business park development with a focus on flex space. The information sector, research and development and medical campus should be allowed and encouraged. Development regulations should set high standards for green practices and positive relationships with the adjoining community. Institutional uses and small office and business parks with relatively small buildings would also likely occur near the town center.

### *Types of uses*

- Offices, health and elderly care facilities, and small start-ups such as a software firm should be attracted to Pleasant Valley. This will likely be local and entrepreneurial in nature. Small floor areas, 2-3 stories high, and Class B office space are likely features.
- Health care uses of all types have been consistently mentioned as good fits for Pleasant Valley: hospitals, clinics, health related research and development, elderly care, etc.
- Research and development firms tend to locate next to other firms doing research and development. The only way that research and development would work in this area is if it was initiated in the Pleasant Valley area and was a small enough company that it didn't need to move right away.
- Spin-off employment. Due to constraints, Pleasant Valley may not be a natural choice for business locations. However, as people move into the valley, they may choose to start companies in an available business park. Also, a successful town center could lead to additional employment in a business park.

***Locational Attributes***. Locational attributes include access to major roads (arterial system), transit service, strong relation to the Environmentally Sensitive and Restoration Areas, convenient access to the commercial centers and site(s) sizes of 10-50 acres.

***Damascus***. The long-term relationship to Damascus is critical to larger scale employment uses in Pleasant Valley. Having a relationship to Damascus and a direct transportation connection to the future Sunrise Corridor is important.

***Transportation***. Transportation is absolutely essential, and building an effective and connected road network should be a high priority. The regional transportation system needs to be funded by all the users. Due to the complexity and expense of needed improvements in Pleasant Valley, cooperation with other jurisdictions will be critical. Improvement to the Foster and Powell corridors and improvements in Damascus will be needed.

***Zoning***. It is also important that zoning and land uses provide as much regulatory flexibility as possible, but still maintain a high quality of life for area residents and businesses.

***Capital Improvement Programs***. Jurisdiction's capital improvement programs and public facility plans should be tied to improving employment opportunities in the area.

### *Quality of Community*

- Success of the town center is critical to the creation of employment opportunities in Pleasant Valley. Employment in the town center and adjacent to the town center are most likely in the short term. A small business park near the town center is practical in the (relative) short term.
- High quality neighborhoods and amenities will be needed to support employment. The quality of the neighborhood will lead to stronger employment as business owners choose to live and locate in Pleasant Valley. The area should have the following characteristics: executive housing; higher density housing (around commercial areas); recreation areas; community facilities (schools, libraries) and protected open space areas.
- Executive housing. An existing strength of some housing developments in the area surrounding Pleasant Valley is the option for a larger than average lot size (for example, 4 dwelling units per acre) in a natural setting. This type of housing development is appealing for executive housing and the high income can help support the town center. Case studies from the Portland and Seattle metro areas suggest that executive housing development can attract business park developments. It was emphasized that executive housing should be a part to serve a range of housing types for a wide range of income and demographic needs. Quality of all housing should be high.
- Higher density housing. This type of housing should be clustered around town centers and can provide additional support for the town center and employment uses.

There are quality of life issues associated with a library, cultural centers, and athletic facilities. These uses could be provided with future schools in the area. Mt. Hood Community College

could work with Multnomah County Library and the Centennial School District on a joint facility.

## GOAL

Pleasant Valley will provide for a range of employment opportunities that enable Pleasant Valley to be part of a complete community and to provide the opportunity to work and live in the same community.

## POLICIES

1. Home-based work opportunities will be allowed and encouraged.

2. Employment opportunities will include retail and services, business office and business park uses to include "flex space," research and development, and medical facilities.

3. Employment opportunities will consider the relationship of Pleasant Valley to existing employment centers in the east Metro area and potential new employment areas south (Damascus area).

4. Pleasant Valley will have mixed-use neighborhood centers to provide local service and shopping opportunities within a very short walking, biking or driving distance. Small (3-5 acre) mixed-use neighborhood centers shall provide retail, office and live-work employment opportunities.
5. A higher density and variety of housing types will be located near the mixed-use neighborhood centers.

6. The quality of the natural environment will be an asset in Pleasant Valley. Businesses locating in Pleasant Valley shall be expected to be good environmental stewards, utilize green practices and have a positive relationship with the community.

7. The quality of the built environment will be an important contributor to employment opportunities. A high quality town center, high quality neighborhoods and the inclusion of a mix of housing types will foster employment opportunities.

8. Pleasant Valley will endeavor to have a sustainable balance of jobs and housing capacity. This policy supports fiscal and community sustainability, distributes the risk for future developers/builders and eases costs associated with infrastructure improvements.

9. The Pleasant Valley Plan District will (in addition to the two mixed-use zoning districts associated with the town center) include two other mixed-use employment zoning districts:

    a. A mixed-use neighborhood center zone district with a mix of local retail, service and office live-work uses to encourage short walking, biking and driving trips.

b. An employment center zone district that will provide business park employment opportunities including flex space, office park, research and development and medical facilities.

### ACTION MEASURES

1. Develop a strategy to preserve employment center areas and to test its viability in the marketplace. The preservation strategy would include developing a list of prohibited uses. A cited example of a potential prohibited use is mini-storage facilities.

2. Develop a strategy for economic development recruitment and incentives to locate businesses that will enhance the compact nature and pedestrian scale orientation of Pleasant Valley and its environmental features.

3. Local participating jurisdictions and others are strongly encouraged to participate in actions and to take steps to solve employment issues on a community and citywide basis and on a regional basis.

## 10.705 NATURAL RESOURCES

### BACKGROUND

Pleasant Valley has an extensive system of creeks that connect to the surrounding forested lava domes and provide habitat for listed steelhead and cutthroat trout under the Endangered Species Act. Mitchell Creek, a tributary of Kelley Creek, has some of the highest quality habitat in the region and provides winter habitat for cutthroat trout.

The Metro Council brought the Pleasant Valley area into the Urban Growth Boundary (UGB) in December 1998. When land is brought into the UGB, Title 11 of the Metro Urban Growth Management Functional Plan requires that the added territory be brought into a city's comprehensive plan prior to urbanization with the intent to promote the integration of the new land into existing communities.

Title 11 requires a series of comprehensive plan amendments, including maps that include specific provisions for natural resource protection and restoration. It requires:

> *Identification, mapping and a funding strategy for protecting areas from development due to fish and wildlife habitat protection, water quality enhancement and mitigation, and natural hazards mitigation. A natural resource protection plan to protect fish and wildlife habitat, water quality enhancement areas and natural hazard areas shall be completed as part of the comprehensive plan and zoning for lands added to the Urban Growth Boundary prior to urban development. The plan shall include preliminary cost estimates and funding strategy, including likely financing approaches, for options such as mitigation, site acquisition, restoration, enhancement, or easement dedication to ensure that all significant natural resources are protected.*

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary planning goals was developed as part of this process. The goals addressed a town center, housing, transportation, natural resources, neighborhoods, and schools. The preliminary planning goal for natural resources stated:

> *This area has unique and important natural resources and the plan must identify and protect them. The watercourses and associated wetlands must be protected from development, and should be preserved as the signature natural feature of the area. This should be refined as environmental, site amenity and development impacts are better understood. The natural resource and amenity value of the lava domes that surround and form the valley should be protected. Sufficient areas should be set aside so that the habitat of Johnson Creek is preserved and enhanced, and sufficient areas set aside to insure that stormwater can be detained and treated before entering the creek system. A master plan should be developed that can be implemented as the area develops. In addition, this area should coordinate with the other portions of the Johnson Creek Watershed. There should be no net increase in water run-off or decline in water quality as a result of the development in this area. The natural resources of the area, including the streams, should be coordinated and included in the parks master planning for this area. The BPA power line that cuts through the area should also be considered.*

The Pleasant Valley Concept Plan Steering Committee endorsed a series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan and were used in evaluating the four plan alternatives. The goal for natural resources is the following.

> ***Preserve, Enhance, and Restore Natural Resources***. *The plan will identify, protect, enhance, and restore significant natural resource areas, including stream corridors, forested areas and buttes. These resource areas will provide the basis for identifying buildable and non-buildable areas, and serve as open space amenities for the community. Resource protection will include strategies to protect endangered species, water quality and the aquifer. Resource protection and enhancement will be a shared responsibility of property owners, governments, and developers.*

The work of the Natural Resource/Watersheds work team used this goal as a basis for developing the Environmentally Sensitive/Restoration Areas (ESRA). After a thorough inventory of resources in the study area, the work team presented their findings through a series of inventory maps at a Community Forum. Local residents made additions and corrections to the maps, which formed the basis for the ESRA areas. One of the unique aspects of the Concept Plan was the identification of the green infrastructure (ESRA) prior to the creation of the street network and locating land uses, such as the town center.

A tool used for addressing water quality issues, habitat protection issues, and natural hazards mitigation was to divide the Kelley Creek watershed into seven subwatersheds for analysis purposes. Extensive documentation of the scientific basis for resource protection was prepared as part of the subwatershed planning process.

Each of the four alternatives created during the 5-day design charrette included the ESRA as part of the base map. As a result, the work team evaluated each alternative using criteria that evaluated the number of stream crossings, amount of tree cover, etc. The alternatives that kept major roads and the town center away from the confluence of the creeks in the center of the study area were rated the highest.

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary, the Pleasant Valley Concept Plan ESRA is the green framework for the Pleasant Valley Plan. It constitutes the resource management areas with important ecological functions planned for integration with a new urban community. The long-term goal is to restore and enhance sensitive wetlands and stream corridors to more natural vegetation conditions, recognizing that existing homes and other uses will continue in the ESRA.

*Selected characteristics of the ESRA include*:

- Wetlands, upland, and riparian habitats that incorporate 34 habitat types. Wetlands range from open water to forested wetlands. Upland habitat ranges from deciduous and conifer forests to shrubs and habitats of mixed species.
- Habitat migration routes.
- Buffers adjacent to the resources range from 50 to 200 feet, depending on the type of resource.
- The implementation strategies included rough cost estimates, funding strategies, regulatory and incentive options, and restoration priorities.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in planning for Pleasant Valley:

- As the area urbanizes and open fields are developed, traditional wildlife migration routes between Powell Butte and the surrounding lava domes will be disturbed. A fully forested area along the creeks is vital to provide wildlife a useable corridor.
- Protection for the confluence area will provide important habitat for migrating wildlife to use as a resting and nesting area.
- A complex “network circuitry” of linkages between habitats will improve the effectiveness of the network for species movement. Examples of linkages include north and south along the utility corridor, linkages between Kelley Creek and the Metro open space land, and linkages between riparian corridors created by parks.
- An important key to the effectiveness of the riparian corridors system is the provision of “core” areas or nodes along the corridor that provide functional habitat and sufficient spaces for species to rest and breed. These nodes improve the survival rate for dispersing wildlife, and increase overall wildlife use of the network. The stream confluence area near

the existing elementary school provides an important opportunity to create a centrally located core habitat. A further site study to relocate the existing north-south section of Richey Road is needed.

- The wetland complex south of Foster and east of 172nd is unique in the region in that it sits at the crest of two creeks flowing in opposite directions. This complex has great potential for restoration and stormwater management.
- Depending on their design, both parks and schools located adjacent to the riparian corridors could also serve as important buffers to the habitat network by providing natural or semi-natural area.
- The integrity of the system will be enhanced by minimizing crossings within the confluence area of Kelley, Saddle and Gresham South Slope, and the wetland complex in the Saddle subwatershed.
- The final site planning and design of urban development is critical to achieving the natural resource goals and policies. Careful consideration of resource issues suggest a community focused around the natural resource system of Kelley Creek and its tributaries. The design of parks, trails, school grounds, open space, transportation crossings, and other land uses will need special consideration of design to achieve the natural resources goal.

**State Goal 5 Natural Resources**. In order to protect natural resource values, Statewide Planning Goal 5 and its administrative rule require that jurisdictions complete a natural resource inventory, a determination of resource significance, an analysis of the consequences of resource protection, and develop resource protection standards. This work is one of the three central elements in the effort to create an urban community through the integration of land use, transportation, and natural resources.

The inventory is largely based on information collected during the Concept Planning phase. The purpose of the inventory is to document the quantity and quality of the characteristic vegetation, wildlife habitat, streamside areas, sensitive species, and other natural features in the Pleasant Valley study area.

The inventory is then used to determine which resources are significant. A set of mapping criteria was developed and a computer mapping exercise was used to assist in the process. The following nine different basic functions were used to provide the foundation for the significance determination.

- Water quality
- Channel dynamics and morphology
- Water quantity – stream flow, sources, and storage
- Microclimate
- Fish and aquatic habitat
- Organic inputs

- Riparian and upland wildlife habitat
- Upland sensitive species
- Upland interior habitat

The Goal 5 process then requires an analysis describing the different types of land uses that impact streamside areas, wetlands, and upland forest. Specifically, it requires an analysis of the economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit certain uses in the significant resource areas (ESRA).

The final step in a Goal 5 process is the development of a program to implement the outcome of the inventory, significance determination and the ESEE analysis. Programs include both regulatory and non-regulatory elements.

## GOAL

Pleasant Valley will be an urban community integrated with the natural environment.

## POLICIES

1. Urbanization of Pleasant Valley will preserve, enhance, and restore natural resources.

2. Urbanization of Pleasant Valley will be balanced with the protection of sensitive species and habitat, water quality, and the aquifer.

3. Road crossings within the Environmentally Sensitive/Restoration Areas (ESRA) will be designed to provide crossings with the least impact.
4. Urbanization of Pleasant Valley will achieve low levels of effective impervious areas and high levels of tree protection and reforestation.

5. Flooding will be addressed by managing the frequency and duration of water flows in relation to match pre-development conditions for Kelley Creek and also to reduce downstream impacts to Johnson Creek.

6. Floodplains and wetlands will be fully protected and restored for improved hydrology and flood protection.

7. Urbanization of Pleasant Valley will increase quantities and diversity of upland habitats by creating larger, more diverse, connected habitats in the uplands.

8. Wildlife habitat connections between upland and riparian (river) habitats will be maintained and restored.

9. Wildlife habitat connections to surrounding areas, such as Powell and Clatsop buttes and Butler Ridge, will be maintained and restored.

10. Fish passage, where current passage is blocked, will be restored. Barriers to wildlife habitat corridors, such as bridges and roads, will be designed to provide proper opportunities for wildlife migration.

11. Urbanization of Pleasant Valley will prevent erosion and control sedimentation through the use of green development practices, site-sensitive design, appropriate construction management practices, revegetation of disturbed areas, and regular maintenance and monitoring. The use of native plants is a priority for revegetation and Green Streets.

12. As a near-term objective, downgrade the function of Foster and Richey Roads in the confluence area of Kelley Creek to serve as local access streets. As a long-term objective, disconnect and vacate the vehicular function of these street segments while maintaining the opportunity for a local trail opportunity.

13. As a major organizing feature, the network of natural resources identified on the Resource Management Map should serve as an open space amenity for the community.

14. Resource protection and enhancement is a shared responsibility and partnership of property owners, governments, community and non-profit organizations, and developers.

**ACTION MEASURES**

1. The Pleasant Valley Resource Management Map will serve as the basis for identifying areas to preserve, restore and enhance.

2. Require abandoned water wells to be decommissioned following Oregon Department of Water Resources accepted procedures to avoid groundwater contamination.

3. Establish a Greenway along Kelly Creek and its tributaries as the valley urbanizes. Greenways provide for public access and create a focal point for the community in the form of trails and open space along Kelley Creek and its tributaries.

4. Develop interim regulations for the sections of Foster and Richey Roads within the ESRA detailing how improvements are allowed, if at all, to minimize impervious surface, manage stormwater, and not preclude future removal.

5. The participating cities, area neighborhood associations, and the Johnson Creek Watershed Council are encouraged to support revegetation efforts, work to restore fish and wildlife habitat in the study area, and pursue funding sources outlined below to achieve the goals of the Pleasant Valley Concept Plan.

6. Complete and adopt a state goal 5 natural resources process including an ESEE analysis and implementing program.

## 10.706 GREEN DEVELOPMENT

### BACKGROUND

Green development practices refer to a toolbox of stormwater management techniques. The technique is an approach that instead of using a traditional piped collection and conveyance system uses a system of landscaping features that treat and infiltrate stormwater on the development site. The benefit of green development practices is that it minimizes the production of stormwater runoff and manages it close to the source.

- Traditional development practices clear entire areas for development, add large amounts of impervious surfaces, and compromise the ability of soils to absorb stormwater. Through better site design, soil disturbance can be minimized, unnecessary impervious surfaces can be eliminated, and tree canopy protected, resulting in reduced generation of stormwater runoff.
- Traditional stormwater management techniques also convey runoff quickly to management facilities. Without any prior management, these facilities are quickly overwhelmed and release water into streams at rates, volumes, and durations that compromise stream habitat. Green development practices infiltrate stormwater close to the source, give it an opportunity to evaporate, and attenuate its progress towards streams so that the release of runoff into streams more closely mimics the natural hydrology of the area.
- Green development practices promote the conservation of existing trees and forests and providing tree-planting opportunities in order to create an urban forest. In a forested environment rainfall is intercepted by vegetation, reducing its impact by slowly allowing it to infiltrate and saturate in the soil thus promoting infiltration, minimizing erosion and enhancing water quality. Trees also consume many different types of stormwater-linked pollutants through update from the root zone. Forested areas along stream banks provide stability by holding soil in place and slow runoff velocities.

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary planning goals was developed as part of this process. A preliminary goal for natural resource protection included these elements:

- This area has unique and important natural resources and the plan must identify and protect them. The watercourses and associated wetlands must be protected from development, and should be preserved as the signature natural feature of the area. This should be refined as environmental, site amenity and development impacts are better understood.
- Sufficient areas should be set aside so that the habitat of Johnson Creek is preserved and enhanced, and sufficient areas set aside to ensure that stormwater can be detained and treated before entering the creek system.
- A master plan should be developed that can be implemented as the area develops. In addition, this area should coordinate with the other portions of the Johnson Creek Watershed.

- There should be no net increase in water run-off or decline in water quality as a result of the development in this area.

The Metro Council brought the Pleasant Valley area into the Urban Growth Boundary in December 1998. It was recognized that future urban development would result in increased impervious surfaces and increased stormwater runoff. A federal Transportation and Community and System Preservation (TCSP) grant was obtained by Metro, with Gresham and Portland and others as partners, in part to address this stormwater runoff issue. Included in the goals of the TCSP grant, as acknowledged by the Pleasant Valley Steering Committee, was:

- To develop strategies to help protect steelhead and cutthroat trout salmonoids;
- To minimize stormwater runoff in the Johnson Creek watershed; and
- To avoid further degradation of water quality.

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The goal for green development practices was:

> ***Use "green" development practices***. *The plan will incorporate community design and infrastructure plans that produce minimal impacts on the environment, including flooding and water quality within Johnson Creek. The plan will incorporate guidelines for stormwater quality and quantity and resource management for each subwatershed, and also will enhance natural hydrologic systems as a fundamental part of managing drainage and water quality. The plan will incorporate green street designs. The plan will integrate green infrastructure with land use design and natural resource protection. The plan will incorporate energy-savings measures.*

As part of the evaluation and concept plan selection process a hydrodynamic model (MIKE 11) was developed, calibrated and run for the Kelley Creek watershed. The purpose of the hydrological modeling was to simulate the impacts that different land use changes and green development practices would have on the water level, flow and extent of flooding through the Kelley Creek system. Different scenarios were developed with variables of the Environmentally Sensitive and Restoration Area (ESRA); green development practices such as bioswales in green streets; landscape planters and ecoroofs; and creating a tree canopy throughout the plan area.

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary, the concept plan provides for a "green" stormwater management system intended to capture and filter stormwater close to the source through extensive tree planting throughout the valley, "green" street designs, swale conveyance and filtration of run-off, and strategically placed stormwater management facilities.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in planning for green development practices in Pleasant Valley:

***Initial stormwater modeling***. Initial modeling that simulates for both continuous rainfall and single events showed a large increase in stormwater runoff between pre-development and post-development flood peak and flow durations. Green development practices, such as managing stormwater on each individual parcel to the maximum amount practicable, will be an extremely important strategy in mitigating these impacts and protecting endangered species, water quality and the underlying aquifer.

***Johnson Creek flooding***. Initial modeling notes a significant enough rise in floodwaters downstream in Johnson Creek, and specifically in the Lents area, to warrant management for the nuisance flood event in Kelley Creek watershed. The nuisance flood is the targeted level of protection indicated in the Johnson Creek Restoration Plan for minimizing and preventing frequent and repetitive flood damage, and maximizing environmental benefits. The nuisance flood event is based on an actual, historical 3-day rainfall pattern in the watershed that generated an approximately 10-year flood event.

### *Kelley Creek Watershed Stormwater Modeling Conclusions:*

- A full tree canopy is highly desirable. However, trees may take at least 20 years to grow to maturity and until they are at maturity will not realize the full benefits of stormwater management. Other stormwater management practices are, therefore, necessary.
- Considering the benefits shown in the model of tree canopy on stormwater management, there should be a long-term goal of vigorous tree planting throughout the valley. Additional tree canopy will help to mitigate the potential loss of green development practices due to improper maintenance or inaccuracies in facility sizing or modeling.
- To protect stream habitat, green development practices must be sized larger to more adequately mitigate runoff from larger storms. Facility sizing should be left to the next planning stage when stormwater management plans are written.
- The use of green development practices may decrease the size of stormwater management facilities needed to be built to prevent nuisance flooding downstream. However, green development practices will not completely manage larger storms and they will be conveyed from green facilities through swales and into regional facilities
- The Environmentally Sensitive and Restoration Areas (ESRAs) help to reduce flood peaks for the nuisance, 5-year and 2 ½-year storms. Initial modeling shows that the 100-year footprint stays well within the ESRA with the implication that the ESRA is a flood management tool so that regional facilities don't need be sized to manage the 100-year flood, providing a significant cost savings.
- Maintenance of green development practices should be addressed as part of the implementation plan for stormwater management. Improper maintenance and enforcement may lead to failure of the stormwater system.

- Modeling greatly facilitates and provides information critical to the decision making process. Results tend to be accurate from a relative standpoint when comparing alternative scenarios. However, model representations and results should only be one item among others that influence decisions and project design/implementation.

***Tree canopy***. The planting and preservation of trees is one of the most cost-effective green development practices. The planting and preservation of trees is encouraged in the front and backyards of residential areas, along all streets and in medians, in neighborhood and community parks, on school grounds, and in all landscaped areas of parking lots and employment lands.

***Ecoroofs***. Ecoroofs are recommended for buildings in the town center, employment areas, apartments and senior housing. Ecoroofs are also encouraged on other structures. Ecoroofs are vegetated areas on top of roofs that absorb precipitation. Ecoroofs consist of a vegetated layer, a geotextile layer and a synthetic drain layer. They can vary in depth and vegetation depending on the weight bearing restrictions of the roof. A 3-inch ecoroof can reduce annual runoff by more than 50 percent in temperate climates.

***Bioswales***. Bioswales are recommended for all development outside the town center where hard surfaces predominate. Swales are essentially depressions lined with well draining soils where water can pond. They can be planted with vegetation that helps to absorb water and pollutants, or with grass. Runoff is directed into the swale and infiltrates. When soils are saturated, runoff ponds within the depression and begins to drain down slope. Check dams are often added to slow down runoff within the depression. Also, swales can be used for stormwater conveyance. The benefit of this approach is that unlike pipes, which quickly gather and pass stormwater, swales slow down the progression of stormwater and help to reduce the overall volume through infiltration and evapotranspiration.

***Landscape planters***. Landscape planters are recommended to mitigate stormwater for all development in the valley. Planters can vary in shape, style and form, but the essential design is a landscaped area that sits anywhere from 1 to 2 feet above ground and is filled with well draining soils and plants specialized in filtering pollutants. Landscape planters can line the perimeter of buildings and treat roof runoff via downspouts. In poorly draining soils, the bottom of the planters should be lined with an impermeable fabric and underlain with perforated pipes which convey water away from building foundations and into other management systems. Landscape planters can also be incorporated into the middle of courtyards. In this case, they do not have to be lined and in areas with well draining soils they can act as bioretention facilities by infiltrating stormwater. In areas with poorly draining soils they are underlain with perforated pipe to prevent overflows.

***Green Streets*** are recommended for all streets (with flexibility for those within the town center). Green Streets are designed to incorporate stormwater treatment within its right-of-way. They incorporate the stormwater system into the aesthetics of the community and maximize the use of street tree coverage for stormwater and climatic reasons. The handbook, published by Metro, titled *Green Streets – Innovative Solutions for Stormwater and Stream Crossings*, provides detailed designs and specifications.

***Education and Maintenance***. Green Streets, and green practices, are relatively new concepts that will require education on the part of the developer to build and the jurisdictions and homeowners to maintain. There are considerable construction cost savings (in addition to the environmental benefits) to building Green Streets, as outlined in the Stormwater Report, and these cost savings should be applied directly to the cost of maintaining Green Streets over the life of the system.

## GOAL

Pleasant Valley will be a "green" community where green infrastructure is integrated with land use and street design and natural resource protection.

## POLICIES

1. Encourage the planting, maintenance and preservation of trees throughout the watershed.

2. Transportation plans will use Green Street designs, as described in Metro's handbook titled *Green Streets: Innovative Solutions for Stormwater and Stream Crossings* as a resource in the development and design of streets.

3. Community design and infrastructure plans will produce minimal impacts on the environment, including flooding and water quality in Johnson Creek.

4. Infrastructure plans will avoid placement of utilities in the Environmentally Sensitive and Restoration Areas where practicable.

5. Community design and infrastructure plans will enhance the natural hydrologic system as a fundamental part of managing stormwater and water quality.

6. Community design and infrastructure plans will incorporate energy-saving measures.

7. Community design, infrastructure, and natural resource protection plans will incorporate guidelines for resource management by subwatershed, including stormwater quality and quantity.

## ACTION MEASURES

1. Develop regulations, incentives, and development standards that include measures to protect and augment the natural stream system with a variable width, vegetated buffer system along streams and wetlands that are critical to the ecological health of the watershed.

2. Develop regulations, incentives, and development standards for managing stormwater on-site for buildings, houses, parking lots, and street rights-of-way by integrating stormwater management into the landscaping. The intent is to preserve and create opportunities for infiltration, evaporation, and transpiration before utilizing off-site storage. Where off-site storage is necessary, design shall be consistent with the *Johnson Creek Watershed Plan.*

For example, off-site storage should be linked to swales and other infiltration areas and designed in a way that mimics natural storage functions (e.g., constructed wetlands).

3. Develop regulations, incentives, and development standards to provide for the planting and preservation of trees throughout the valley, including street rights-of-way, community open spaces, parking lots, and other landscaping areas, in order to:

   - Restore the natural hydrologic system by providing opportunities for evaporation, transpiration, and infiltration of rainwater.
   - Act as an energy-saving measure to save on heat and cooling costs by shading and buffering buildings, and by reducing urban heat effects by shading parking lots and streets.

## 10.707 CULTURAL AND NATURAL HISTORY

### BACKGROUND

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The goal for cultural and natural history was:

> ***Celebrate Pleasant Valley's cultural and natural history***. *The plan will retain the best of the past and incorporate the area's cultural and natural history, as appropriate, into the new community form. Important cultural and natural names, places and themes will be included.*

A Cultural/Natural History focus session was held during the development of the Pleasant Valley Concept Plan. The session's purpose was discussing how to retain and incorporate the Pleasant Valley area's cultural and historical past into the future Pleasant Valley community form. The twelve session participants included a panel of historical and planning experts. The meeting was hosted by the Pleasant Valley Land Use work team and facilitated by project staff. Historical and citizen advocates and planning professionals were invited for additional expertise and specialized knowledge of the area.

The Cultural/Natural History focus session was informed by a discussion of two documents. First, there was *Residents Informing the Planning Process: Pleasant Valley and Its Natural Resources*, a report prepared by Portland State University planning graduate students. Much of the data assembled in the report came from interviewing long-time residents of Pleasant Valley. The oral history focused on the land uses and natural history of the Kelley Creek system that is within the Pleasant Valley area. Secondary sources included the Oregon and Gresham Historical Societies and interviews with agricultural and natural resource experts. The information was gathered to understand how the land and the movement of water have affected the activities of people, and, in turn, how people have affected natural resources.

*Key findings included:*

- There is a strong sense of place in Pleasant Valley. Many residents' families have lived in the valley for several generations and still remember the rich local history.
- The presence of a compacted soil layer a few feet below the surface of the valley has greatly affected farming in the area. There has been 150 years of continuous manipulation of the water flow in the valley.
- Creeks have changed regarding geomorphology and flow, water quality and riparian areas. Flows have increased in the winter and decreased in the summer, erosion and sedimentation have increased, and blackberries and fields are replacing riparian forests. Kelley Creek supported a healthy salmon run in the past, which ceased in the 1970's. Resident cutthroat trout, sea run cutthroat trout and steelhead are still present.
- The wildlife of Pleasant Valley has changed with large carnivores, such as bears, disappearing, bird life changing and the number of coyotes rising.

### *History*

***Early History***. The valley was once covered with old growth fir forest with cedar in the bottomlands. While there is little archeological evidence of Native American activity in the valley, it is likely that area tribes did travel through. The first Europeans arrived in the early 1800s trapping fur, but the first settlement began in the 1850s after the passage of the Oregon Donation Land Claim Act.

***Settlers and Farmers***. The first settlers and future farmers worked hard to clear the land for farming. Some earned a living from logging, some farmed hay, and others farmed potatoes. The most prominent of the early settlers were the Richey brothers, who held the first church services and donated land for the first school. Many others were memorialized with street names, such as Giese and Jenne.

***Berries and Dairies***. Many current residents recall a landscape of filbert orchards, berry fields, small dairy farms, and stumps. The work to remove the large stumps and forest continued until the 1920s. The valley continued to prosper and a small town emerged, near the current Grange site, called Sycamore. There was a post office, feed store, and gas station. The peak of farming occurred just prior to World War II. During the depression, the Works Progress Administration (WPA) was active building bridges and lining Johnson Creek. The WPA also constructed the current elementary school in 1939.

***Transition from Farming to Suburban/Exurban***. Farming in the valley began to decline in the 1950s. Many noted that farming became less profitable, and as a result, many of the farms were carved up into smaller parcels and sold for large lot residences. Residents are very aware of the changes that have occurred in the valley – including increased traffic and a loss of the rural character. Residents still have a strong sense of community and long standing institutions to support the community, such as the Grange, the Baptist Church, and the elementary school.

The second document was a report, compiled by the project consultant, that listed and described historical structures identified and recommend for designation by Multnomah County. It also includes two structures suggested by the Damascus Historical Society. The structures are:

***Pleasant Valley Grange No. 348, SE Foster Road (From Multnomah County)***. The grange acquired the subject property in 1912. According to the county records, the grange building was constructed in 1933. Grange No. 348 is the only known historic grange building in the study area. It is a modest expression of the Bungalow style, a popular domestic architecture style at the time of construction.

***Forsgren House, 17120 SE Foster Road (From Multnomah County).*** Frank and Lillian Richey are believed to be the original owners of the turn-of the-century architectural style dwelling built in 1929. It is located on the northwest corner of the intersection of 172nd Avenue and Foster Road.

***James Richey House, 18102 SE Richey Road (From Multnomah County)***. James Richey is believed to be the original owner of the subject Queen Anne dwelling. Richey owned the property from 1874 until 1909. The Richey House is a rare example of the Queen Anne style in the study area. According to the county records it was constructed in 1891. Characteristic features include an asymmetrical plan, paired double-hung sash windows and numerous decorative treatments. Pleasant Valley Residents now refer to this building as the Ziniker House.
***Gustave Richey Farm, 18960 SE Richey Road (From Multnomah County)***. Gustave and Martha Richey are believed to be the original owners of the bungalow dwelling built in 1910 and its associated barn and two sheds. The Western style barn has exposed rafters and a tile foundation, suggesting a date of construction contemporary with the dwelling.

***Bliss House, 7620 SE 190th (From Multnomah County)***. Paul and Mary Isabelle Bliss from Switzerland are believed to be the original owners of the bungalow style house built in 1920 and its detached garage and three sheds. An offset, gabled, single-bay porch with round-arched openings fronts the house. The house is located on the east side of 190th at its intersection with Richey Road; small clusters of early 20th Century farm buildings are in the vicinity.

***Pleasant Valley Community Baptist Church, 17608 SE Foster Road (From Damascus Historical Society).*** The church was incorporated in 1902 and was originally at the corner of 182nd and Richey Road. When that building burned down in 1943 the church met at the Grange Hall for a year until a new building could be built across the street from the school. It is a community church in fact as well as in name; for the first 50 years of its existence it was ecumenical, unaffiliated with the Baptist church. The church today also hosts the Romanian Apostolic Church and Pleasant Valley PTA meetings.

***Pleasant Valley Elementary School, 17625 SE Foster Road (From Damascus Historical Society)***. *Pleasant Valley Elementary School was constructed with the assistance of the Works Progress Administration (WPA) in 1939. It is home to yearly picnics for valley residents. Barb Velander, past principal of the School, noted that the school has done natural/historical planting on the south side of the school near Foster Road.*

In addition to structures, names also have a role in Pleasant Valley's history. A small town by the name of Sycamore existed in the vicinity of the present-day Grange building. It consisted of a post office built in 1889, a feed store and gas station. The first postmaster was from West Virginia, the Sycamore State, and named it the Sycamore Post Office (McArthur, 1992). The Sycamore name was used widely for a time in the northern end of the valley. The school was called Sycamore School, Southeast 162nd was called Sycamore Road until around 1930, and the trolley station just north of the valley was called Sycamore Station.

Many of the roads in the valley were named after the land claims they ran along or across. Current residents see reminders of the past whenever they see road signs for Richey, Jenne or Giese Roads. Richey Road and the Richey House are both named after the best-known settlers, Stuart and Caleb Richey. The Richey's land claims were in the center of Pleasant Valley, and they had donated land for the first school. The Giese family made improvement to Filberts but were mostly involved in current Gresham.

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. A key feature of the Concept Plan regarding cultural and natural history is that the location of major roads is away from important historic resources and there are "park blocks" that connect the town center to the historic central section of Foster Road.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in planning Pleasant Valley cultural and natural history:

***Sense of Place***. Developing within the structure of the existing movement patterns (streets, drives, alleyways) is one way to retain a sense of the historical place.

***Historical Landmarks***. What makes an historical landmark is not the ability to get on a register but, rather, if people talk about it and want to relate to it. It was agreed that anything 50 years or older would be considered historical.

***Conversion of Rural Roads***. Historical homes and farm buildings naturally relate to the rural roads on which they front. Conversion of the roads to wider arterial streets can have a negative impact on landmarks. A successful walking tour would not tend to be on main arterials but on more pedestrian friendly roads.

***Riparian Corridors***. Many of the historical landmarks are near the riparian corridors. Consider stubbing out streets so that there is a connection from the regional trail system to the historic landmarks.

***Completeness of Historic Landmark List?*** It was noted that the current project has not attempted to identify any additional historic landmarks except for those already noted. It was suggested that any future planning process seek to identify additional historic resources.

***How Can Historical Landmarks be preserved?*** What is the role or obligation of a developer and how can removal of landmarks be prevented? It was suggested involving property owners early in the process and that a partnership of owners, developers and the City will be needed to prevent loss of historic buildings.

***Future criteria***. The more specific the criteria and implementation strategies are, the more likely they will be to preserve and celebrate the past.

***Keeping historic resources*** away from major roads that will be widened is best for the goals. Besides potentially causing removal of a structure, major roads can have a negative effect on the ability to experience cultural and natural history resources.

***A town center*** that has a close relationship with the natural history (riparian system) and historical landmarks is best for the goal.

Look for good connections ***to the Kelley Creek (historical) trail***.

***The more growth*** within an area near a historic/cultural/natural resource the more threat there is for those sites.

## GOAL

The best of Pleasant Valley's cultural and natural history is retained and incorporated into the new community form.

## POLICIES

1. Important cultural and natural names, places and themes will be used as Pleasant Valley urbanizes. Historic place names can used for the street, place and neighborhood names.

2. To the extent possible, major roads that will need to be widened shall be kept away from historic resources. This should be done to lessen the potential that a historic structure may be removed, preserve context around structures, and generally enhance the ability to experience cultural and natural history resources.

3. Design the town center to reflect the area's natural history (the riparian system) and historical landmarks. The town center can be connected to the central area near the grange with well-designed streets (possibly park blocks) and/or off-street paths.

4. Have good connections to the Kelley Creek trail as a potential historical trail. The Kelley Creek trail, among other functions, can link together the valley's historic landmarks and cultural and natural history.

### ACTION MEASURES

1. Identify and use historic place names for streets, places and neighborhoods. To the extent practical this should occur during the next implementation plan phase. The names identified in the evaluation report shall be a starting point. The City of Gresham Historic Resources Advisory Committee, the Gresham Historical Society and others should be engaged in determining additional names.

2. Review existing regulations regarding historic landmarks and prepare new ones as needed for Pleasant Valley. Property owners and developers should be engaged in this process before development occurs. The City of Gresham Historic Resources Advisory Committee, the Gresham Historical Society and others should also be engaged.

3. Continue to document the history of the valley and identify historic landmarks. The historic landmarks identified in the evaluation report shall be a starting point. The City of Gresham Historic Resources Advisory Committee, the Gresham Historical Society and others should be engaged in this process.

4. Cultural and natural history will be an element for consideration in future determination of how Foster and Richey Roads function in the Environmentally Sensitive and Restoration Areas. Historical homes and farm buildings naturally relate to the rural roads on which they front.

5. Integrate a cultural and historical resources plan with parks and trails master plans including a potential historical trail.

## 10.708 SCHOOLS

### BACKGROUND

A requirement of Title 11 of the Metro Urban Growth Management Functional Plan is to plan for schools with a provision that requires: "A conceptual school plan that provides for the amount of land and improvements needed, if any, for school facilities on new or existing sites that will serve the territory added to the UGB. The estimate of need shall be coordinated with affected local governments and special districts." Title 11 also requires a map that shows "General locations or alternative locations for any needed school."

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary goals was developed as part of this process. A preliminary goal for schools was that "the Centennial School District shall be included, and develop a plan for the number, type, and location of schools needed in the area."

The Pleasant Valley plan area is within the Centennial School District (CSD). The Centennial School District Board appointed a representative to serve on the Pleasant Valley Concept Plan Steering Committee. Additionally, the Pleasant Valley Elementary School PTA was represented

on the Steering Committee. Project staff worked closely with Centennial School District staff in developing a conceptual school plan.

The Pleasant Valley Concept Plan Steering Committee endorsed a series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The goal for schools was:

***Integrate schools and civic uses into the community***. *The number, type, and location of schools will be coordinated with the Centennial School District. Schools and civic uses will be integrated with adjacent neighborhoods and connected by a system of bicycle and pedestrian routes. The number, type and location of mixed-use centers will be considered as schools and civic uses are integrated into the Plan.*

A meeting was held between project staff and Centennial School District staff during the development of the Pleasant Valley Concept Plan. The meeting's purpose was twofold: First, to discuss how integrate a new elementary school (approximately 10 acres in size serving 600 students) and a new middle school (approximately 20 acres in size and serving 800 – 1,000 students) and the existing Pleasant Valley Elementary School. The Centennial School District had previously requested that the Concept Plan address those three school components. Second, to evaluate the four Pleasant Valley Concept Plan alternatives for compliance with project goal C – "integrate schools into the community."

The school evaluation essentially dealt with locational issues of walkability, accessibility, and park availability with focus on:

1. How well is the school situated relative to residential areas (attached and detached) so that children could safely walk or bicycle to school without crossing a major street?

2. Is the school served by a collector street for bus access to minimize the use of a local street for bus traffic (loading and unloading)?

3. Is there a public park that will enhance the school fields and facilities?

4. Is it located in a way that will minimize neighborhood conflict?

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary, the central theme of the plan is to create an urban community through the integration of land use, transportation and natural resource elements.

*Selected features of the school plan are:*

- There would be two new schools serving Pleasant Valley: a new elementary school and a new middle school. Pleasant Valley Elementary School will remain as one of the three schools serving the valley.

- The two new schools are located at a combined site adjacent to 162nd Avenue. This location is subject to future decisions on site acquisition and funding, however, it is recommended as the preferred general location for the schools. Some consolidation of land and joint use of facilities may result from having the schools next to each other.

## MIDDLE SCHOOL

***Purpose***. Middle schools serve grades 7 through 8 and serve 750 – 1,000 students.

### *Characteristics*

- One new middle school is expected unless a middle school is built at the Butler Road site.
- Approximately 20 acres in size. Can be smaller, but large sites allow for more recreational play fields.
- Frontage on collector street for school bus service. Transit facilities are not needed for middle school students. Staff and parents would be most likely to use public transportation.
- Student walking distance is one mile and generally students should be able to walk within ½ mile of a middle school without crossing more than one arterial.
- Adjacent to a public park of at least 2-3 acres in size immediately adjacent to the school fields is desirable. Even larger parks would allow more opportunity for school and community events.
- Not located in town center or mixed-use centers. However, being near commercial is acceptable and would allow for dual-purpose trips.

## ELEMENTARY SCHOOL

***Purpose***. Elementary schools serve grades K through 6 and serve 600 students.

### *Characteristics*

- The District has identified a longer-term need for a new elementary school.
- Approximately 10 acres in size. Can be smaller, but large sites allow for more recreational play fields.
- Frontage on collector street for school bus service. Transit facilities are not needed for elementary school students. Staff and parents would be most likely to use public transportation.
- Student walking distance is one mile and generally students should be able to walk within ½ mile of an elementary school without crossing an arterial.
- Adjacent to a public park of at least 2-3 acres in size immediately adjacent to the school fields is desirable. Even larger parks would allow more opportunity for school and community events.

- Not located in town center or mixed-use centers. However, being near commercial is acceptable and would allow for dual-purpose trips.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in a school plan for Pleasant Valley:

***Walking to school***. It is particularly important to not have kids crossing busy streets. Collector streets, in addition to arterial streets, can be concern. The walking distance for elementary school and middle school children is 1 mile.

***Access***. Elementary and middle schools should have frontage on a collector street in order to accommodate school buses. Access to public transit is not required to serve elementary or middle schools.

***Public parks and schools***. A public park adjacent to school fields can allow for an enhanced community space that benefits the school and the community. A larger public park can provide more opportunities but a 2 – 3 acre park is beneficial. The public park should not be located across a street. This is especially true for elementary school kids so that the students do not have to cross a street to use the park. The school district prefers that the parks be joint use and not have separating fences.

***Schools and town center or other mixed use commercial areas***. Would not expect an elementary or middle school to be in the town center. However, being close to the town center or other mixed-use commercial is okay and can be a benefit by allowing dual-purpose trips, i.e., combining a trip to take or pick up a student at school with a shopping trip.

***Schools and neighborhood location***. Compatibility in a neighborhood needs to be balanced with the benefits of passive supervision. Sites that minimize conflicts, for example, with a natural feature acting a buffer can be beneficial. However, residential "eyes," especially towards fields, can enhance security.

***Major power lines***. The Bonneville Power Administration has a major transmission line that runs through the project area. Northwest Natural Gas has a major pipeline than runs through the project area. Both lines generally use the same 75-foot wide easement, although they are separate through one segment. The school district prefers that schools stay at least 1,000 feet away from power lines and gas lines.

***Butler Road Site***. The school district is currently pursuing permits to construct a new elementary school on Butler Road just outside the project area. The site may also be used for a future middle school. If a middle school were built on that site one would not be needed, at least in foreseeable future, in the project area. However, the school district advised to still look for a second site which, if not a middle school, could be an elementary school.

***Joint site***. Locating the schools at a joint site can have some area and joint use benefits such as joint use of parking lots, fields, and computer and safety systems.

***School balance within the district***. Locating the elementary school to on the west side of the plan area would provide a better balance for the district considering the new Butler Road elementary site and the existing Pleasant Valley Elementary School site.

## ROUGH COST ESTIMATES

The planning process for schools shall include the associated costs for necessary land acquisition, design services, and construction. The costs stated in 2002 dollars (inflation between 2002 and project commencement date would also need to be accounted for) are estimated in the table below:

| Type of School | Land | Construction | Associated Costs | Total |
|---|---|---|---|---|
| Elementary School | $1M – $3M | $8.5M – $10M | $2.5M – $3M | $12M – $16M |
| Middle School | $3M – $8M | $15M – $19M | $4M - $5M | $22M - $32M |
| Total | $4M - $11M | $23.5M - $29M | $6.5M - $8M | $34M - $48M |

## GOAL

Schools will be integrated into the Pleasant Valley community.

## POLICIES

1. The number, type and location of schools will be coordinated with the Centennial School District. The School District has indicated that for planning purposes:

   a. The existing Pleasant Valley School Elementary School use will remain.

   b. There are potential needs for a new elementary school and for a new middle school.

2. Schools and civic uses will be integrated with adjacent neighborhoods and connected by a system of bicycle and pedestrian routes. Schools should be located to avoid students crossing major streets.

3. School compatibility in a neighborhood will be balanced with the benefits of passive surveillance. Residential "eyes," especially towards a field, can enhance security.

4. Where practical a public park will be located adjacent to school fields. Such parks shall be a minimum of 2-3 acres in size, but can be larger. This allows for an enhanced community space that benefits the school and the community. The park should not be located across a street, especially for use by elementary school students.

5. New schools will be located at least 1,000 feet from major electrical and gas transmission lines.

6. Elementary and middle schools should have frontage on a collector street to accommodate school buses.

### ACTION MEASURES

1. The Centennial School District should continue to evaluate the benefits of a joint middle/elementary school site. Potential benefits of a shared site include flexibility for school and community events, fields that are large enough for community events such as little league and soccer, parking lots that can be shared, and there are potential cost savings through shared infrastructure such as gas and electric service, telephones, sewer and water systems and computer network systems.

2. The Centennial School District should continue to work with the affected City (or County) to provide for the amount of land and improvements needed.

3. Mt. Hood Community College with Multnomah County Library and the Centennial School District should explore the potential of a joint facility. The joint facility could include a library, cultural center and an athletic facility.

### FUNDING STRATEGIES

1. An attempt should be made to coordinate the land acquisition for the schools and parks with master planning of the areas when developments occur. Providing land for a school site in a neighborhood enhances property value and, as such, is often set aside and donated for the school.

2. The affected City (or County) should have adequate urban services such as water systems, sewer systems and transportation systems in order that the School District taxpayers do not have to be financially burdened with system upgrades before the schools can be built.

3. A broad-based group of School District patrons should be convened to develop a long range facility plan for both elementary and middle schools. The outcome of this group could be a recommendation to the Board of Directors for a public vote on issuing bonds for the needed facilities or purchase of property.

## 10.709 TRANSPORTATION

### BACKGROUND

The Metro Council brought the Pleasant Valley area into the Urban Growth Boundary (UGB) in December 1998. When land is brought into the UGB Title 11 of the Metro Urban Growth Management Functional Plan requires that the added territory be brought into a city's

comprehensive plan prior to urbanization with the intent to promote the integration of the new land into existing communities.

Title 11 requires a series of comprehensive plan amendments including maps that address provisions for annexation; housing, commercial and industrial development; transportation; natural resource protection and restoration; public facilities and services including parks and open spaces; and schools.

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary planning goals was developed as part of this process. The goals addressed a town center, housing, transportation, natural resources, neighborhoods and schools. The goal for transportation stated:

> *The area has inadequate rural road improvements and suffers from traffic congestion and unsafe road conditions and driving behaviors. Development of the area should be timed to coincide with road improvements. The transportation plan should include a system of local collectors and arterials that will provide sufficient north-south and east-west connectivity. Transit bus service should be included in any transportation plan. Other modes of transportation should also be available. Some of the roads in the area may be difficult to widen without significant environmental impacts. In some cases, a realignment or replacement should be considered. In general, roads should be planned and designed for speeds consistent with local uses rather than regional through traffic. For example, Foster Road provide for slower, safer speeds, particularly in the town center area. Biking and walking should be safely accommodated on all arterials and collectors.*

***Transportation and Community Systems Preservation (TCSP)***. The Pleasant Valley Concept Plan was initiated under a federal highway TCSP grant. It was a pilot project – the specific goal being to link a balanced land use plan and a multi-modal transportation system with an efficient circulation system with good connection in an environmentally constrained area. Environmental considerations included creating strategies to help protect steelhead and cutthroat trout salmonoids, minimize stormwater runoff in Johnson Creek watershed and avoid further degradation of water quality.

Acknowledging the TCSP goals the Steering Committee adopted a series of purpose statements. Included, as a purpose, was to "*determine land use and transportation patterns minimizing the impact to environmentally sensitive areas"* and to "*link with regional context such as the regional transportation system, the Johnson Creek watershed and the Gresham Regional Center."*

***Pleasant Valley Transportation Goal***. A Transportation work team conducted a number of sessions during the Pleasant Valley Concept Plan process. The Transportation work team consisted of transportation planning, land use planning and traffic engineering professionals from the Cities of Gresham and Portland, Multnomah and Clackamas County, Metro, Tri-met, the Oregon Department of Transportation and DKS Associates (a private consultant firm).

The Transportation work team identified four principles for well-planned street system to help prevent traffic congestion, while promoting walking, transit and bicycling. Good design can also avoid the effects of heavy traffic on neighborhood safety and the environments.

***Principle 1 – Spread out the Traffic***. When designing streets it is important to not only consider the roadway's traffic function, but also other modes of travel and character of the surrounding community that the street will serve. Well designed arterial, collector and local streets are a good starting point for spreading out traffic in communities, and avoiding overly wide streets as a community and its neighborhoods grow.

***Principle 2 – Design for Livability***. The design of streets of our streets directly affects our quality of life. Streets design can promote community livability by emphasizing local travel needs and creating a safe, inviting space for community activity. Street design elements such as sidewalks, crosswalks, landscaped sidewalk buffers, bikeways, on-street parking, street trees, landscaping, street lighting, bus shelters, benches and corner curb extensions provide an environment that is not only attractive, but can slow traffic and encourage walking, bicycling and use of transit. Metro's handbook Creating Livable Streets provides examples of better design. Additionally streets can be designed to be "green", where features like street streets, landscaped swales and special paving materials can be used to limit stormwater runoff, which, in turn, helps protect stream habitat. Metro's Green Streets handbook is a resource for green street design and issues.

***Principle 3 – Connectivity Works***. On average, each household generates 10-12 automobile trips per day. A well-connected street system with reasonably direct connections encourages walking, bicycling, and transit use, and can reduce the number and length of these automobile trips. In well-connected street systems, local traffic is more dispersed, rather than focused on arterials where it combines with through-traffic to create congestions. With a well-connected system that provides multiple routes to local destinations, any single street will be less likely to be overburdened by excessive traffic. Police and fire response also benefits from a well-connected street system. Other benefits include: travel is more direct, better serves the development of main street and town centers as alternatives to commercial strip development, ideal for walking and biking because of more direct routes that are safer streets, allows streets to be narrower reducing costs, saving energy and reducing stormwater runoff, and allows for more frequent transit stops and ease of walking to transit stops.

***Principle 4 – Copy What Works***. There are a number of good street system examples in the Metro region. Older areas such as Laurelhurst (Portland), East Hill and Southeast Roberts (Gresham), Eastmoreland (Portland) and newer areas such as Fairview Village (Fairview), Tualatin Commons (Tualatin) and Orenco Station (Hillsboro).

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The following goal addressed transportation:

***Provide transportation choices***. Pleasant Valley will be a community where it is safe, convenient, and inviting to walk and ride a bike. The Plan will set the stage for future

community level transit service that connects to regional transit service, including street designs, land use types, and densities that support transit. Recommendations will be developed to correct transportation safety issues, address through traffic and provide adequate capacity for future growth. The Plan will coordinate with surrounding jurisdictions to create effective regional connections and balanced regional transportation system. A well-connected street system will be planned, using a variety of street types that reinforce a sense of community and provide adequate routes for travel. Streets will accommodate walking and biking, with special pedestrian features on major transit streets. The plan will incorporate green street designs [from "Use 'green' development practices" goal] and "A network of bicycle and pedestrian routes, equestrian trails and multi-use paths will connect the parks and open spaces [from the "Locate and develop parks and open spaces throughout the community goal].

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies.

*Key features of the Transportation element of the Concept Plan are*:

In summary, the key elements of the transportation plan (as integrated with land use and natural resources) are to:

- Create a network of arterial, collector, neighborhood connector and local streets that accommodates travel demand and provides multiple routes for travel. Key new street extensions and connections include:
  - 172nd Avenue extension north to Giese Road
  - Giese Road west to Foster Road
  - Clatsop Street west to Cheldelin Road
  - 182nd Avenue south to Cheldelin
  - Butler Road west to 190th Avenue
  - Sager Road east to Foster Road
  - Long-term arterial connection from 172nd to 190th Avenue south of the study area.
- Upgrade existing streets and design all new streets to accommodate biking and walking, with special pedestrian amenities on transit streets. Upgrade intersections with safety issues identified as part of the inventory work.
- Provide regional and community transit service on key roads in Pleasant Valley, with direct connections to Happy Valley, Clackamas regional center, Damascus, Lents, Gresham, the Columbia Corridor and downtown Portland. Transit streets include 172nd Avenue, Giese Road, 182nd Avenue, 190th Avenue, a new east-west collector south of Giese Road and Clatsop Street-Cheldelin Road.
- Provide a logical and connected street system that connects directly to community destinations while also avoiding the ESRA where possible. Plan for a local street system

that complements the arterial and collector street system, and meets regional connectivity requirements.

- Use "green" street designs that are an integral part of the stormwater management system and provide walkable tree-lined streets. Green streets are designed to incorporate stormwater treatment and conveyance within its right-of-way. They incorporate the stormwater system into the aesthetics of the community and maximize the use of street tree coverage for stormwater and climatic reasons. Metro's *Green streets – Innovative Solutions for Stormwater and Stream Crossing* provides detailed guidelines, designs and specifications.
- Downgrade the function of Foster and Richey roads to serve as local access streets and develop a strategy to disconnect and potentially vacate these streets in the confluence area of Kelley Creek.
- Plan for a long-term major arterial connection south of the study area from 172nd Avenue to 190th Avenue to serve long-term regional mobility needs if future urbanization occurs in Damascus. This will be evaluated more fully by Metro as part of urban area planning for the Damascus area.
- Evaluate needed capacity improvements to address long-term travel demand for key gateway routes if future urbanization occurs in Damascus. This will be evaluated as part of a Powell/Foster corridor study (beginning in summer 2002), continued Damascus area planning, and the next Regional Transportation Plan update.

## SUMMARY OF MAJOR ISSUES

The following are some of seven major issues that were considered in an urban plan for transportation in Pleasant Valley. Each bulleted issue is followed by a general discussion of ideas the work team identified for further consideration as part of the planning process.

***Issue 1***. Develop a network of arterial and collector streets adequate to serve future growth in Pleasant Valley, while protecting environmentally sensitive areas and adjacent neighborhoods and rural reserves from the effects of urbanization.

*Traffic analysis conducted as part of the update to the Regional Transportation Plan (RTP) demonstrated that future growth in Damascus and Pleasant Valley would likely have widespread effects on the regional transportation system, despite significant improvements to the primary routes serving the area. Additional analysis will be conducted as part of the Pleasant Valley Concept Plan process. It will be important to design the transportation system in a manner that supports the land use goals of the community, protects the natural features that define the area and improves community access by all modes of travel by providing a variety of travel choices. It will be equally important to locate the land uses in a manner that the transportation system can best serve it.*

***Issue 2***. Currently, most travel out of Pleasant Valley is via Foster Road, which is limited in its ability to accommodate future growth in traffic. The cost of any improvements in the Foster Road corridor will likely be high due to topographic and environmental constraints.

*Foster Road is an important connection between the Damascus/Pleasant Valley area and employment areas in the I-205 corridor and Portland. Foster Road has two functional segments. The first segment, from the Portland central city to I-205, experiences significant levels of congestion today. The second segment, from I-205 to Pleasant Valley, is expected to experience heavy travel demand in the future.*

*Four related concerns have been identified for the eastern portion of Foster Road. First, intersections at 162nd/Foster Road and Jenne Road/Foster Road have safety problems today that need to be addressed. Next, environmental and topographic constraints limit future capacity expansion of Foster Road east of I-205. In addition, I-205 experiences significant congestion today and directing most traffic to I-205 from Pleasant Valley via Foster Road will likely have significant implications for I-205 in the future. Finally, RTP analysis showed that despite widening Foster Road to five lanes from I-205 to Damascus and implementation of high quality bus service and a limited arterial and collector street network, the corridor experienced significant levels of traffic congestion. Any improvements to Foster Road will need to be evaluated in the context of the environmental and community impacts.*

If an additional north/south route is provided (such as Foster/190th to 182nd Avenue) and the function and capacity of Powell Boulevard east of I-205 is upgraded to serve longer trips, then Foster Road could function more like a collector in the town center area. This strategy would be consistent with the RTP. Foster Road could be relocated/realigned to orient traffic onto north/south routes (i.e., 162nd Avenue or 190th Avenue). The potential for a new north/south connection east of Foster Road could also be examined. The location and shape of the Pleasant Valley town center should be designed in the context of the function of Foster Road.

*The RTP recommended evaluation of street connectivity, potential parallel route improvements, system management strategies and rapid bus service along Foster Road. RTP analysis showed rapid bus service is expected to generate good ridership levels. Any transit improvements should include improvements to the pedestrian environment along the road, bus priority treatment at signals and improved access to bus stops.*

***Issue 3***. Safety issues exist for all modes of travel due to topography, awkward intersections and high speeds and traffic volumes. Walking and biking is also made difficult due to a lack of facilities for these modes of travel.

*Safety issues exist throughout the area due to topography, awkward intersections with difficult sight distances, and high speeds and traffic volumes. More than 20 intersections were identified by participants in the first community forum as being unsafe because of one or more of these issues. In addition, many individuals indicated they often travel significantly out of direction to avoid congested locations and routes or intersections they feel are dangerous. Cut-through traffic on existing roads was also identified as a significant issue.*

***Issue 4***. 172nd Avenue could serve as an important link between the future Sunrise Highway to the south and the Columbia Corridor via 182nd Avenue to the north. Regional transit service in this corridor could also link Pleasant Valley neighborhoods to the commercial services in the town center and the Gresham and Clackamas regional centers.

*Currently, 172nd Avenue is a narrow two-lane farm-to-market road. The 2000 RTP evaluated the comparative advantages of 172nd Avenue over Foster Road (east of 172nd Avenue) as the primary connection to Highway 212. 172nd Avenue has fewer topographic constraints, and provides more direct access to planned industrial areas along Highway 212. 172nd Avenue is also more centrally located to the Pleasant Valley/Damascus area. Based on this evaluation, the 2000 RTP upgraded 172nd Avenue to be a Major Arterial. This change in classification could transform this route into the north/south spine for the area, linking Pleasant Valley to the future Sunrise Corridor Highway to the south and Gresham and the Columbia Corridor via 182nd Avenue to the north. The location and shape of the Pleasant Valley town center should be designed in the context of the function of 172nd Avenue. The RTP recommended providing parallel routes to 172nd Avenue and more direct regional bus service linking Gresham, Pleasant Valley and Clackamas along the Sunnyside Road/172nd Avenue/Towle Road/Eastman Parkway alignment.*

***Issue 5***. The existing street system is not adequate to serve future town center growth. Connect Pleasant Valley to major streets in Gresham, Portland and Happy Valley in a manner that provides alternatives to Foster Road while protecting existing neighborhoods from traffic infiltration.

*Additional connections and improvements to existing streets are needed to increase access from Pleasant Valley to other parts of the region. Currently, there is a lack of north/south arterial routes serving this area, which could create significant traffic congestion in the future without additional street connections in Pleasant Valley. An evaluation of new north/south street connections would need to address the potential impact of traffic generated in Pleasant Valley area on adjacent neighborhoods. A number of potential connections could take pressure off the Jenne Road route that is currently used. Possible connections to be examined include: 172nd Avenue extension to 190th, Foster Road to Towle Road and 172nd Avenue to 162nd Avenue around Powell Butte. 162nd Avenue is one of the few north/south routes that connect to the Columbia Corridor employment area. The area around the base of Powell Butte has significant topographic and environmental constraints. Highland Drive is currently a three-lane collector street that connects SW Gresham to Powell Boulevard and 182nd Avenue. The route traverses Jenne Butte and crosses Johnson Creek.*

*Pleasant Valley also lacks an adequate number of east/west arterial routes to serve this area. It will be important to identify potential east/west connections to improve access from the Pleasant Valley area to Clackamas regional center area to reduce demand for Sunnyside Road to the south. The current Happy Valley TSP identifies only one potential east-west connection to the Pleasant Valley area given environmental and topographic constraints. The committee felt the planning process*

*should address the Scouter's mountain "island," potentially using the future street plan for Pleasant Valley to define the edges of this rural reserve. One possible connection could be an extension of Clatsop Street to Foster Road.*

*RTP analysis showed that expanded transit service via Sunnyside Road and 172nd Avenue was promising in combination with improvements to parallel routes and widening Sunnyside Road between Clackamas regional center and Pleasant Valley. The RTP recommended evaluation of additional street connectivity, potential parallel route improvements and system management strategies along the eastern portions of Sunnyside Road.*

*As new arterial street connections are identified, it will be necessary to balance land use and transportation planning to keep neighborhood infiltration to a minimum. Implementation strategies could include measures within these adjoining neighborhoods to make them less attractive to through-traffic intrusion.*

***Issue 6***. By providing local circulation and access from growing neighborhoods to the town center, community level transit service will be an important component of serving travel needs in Pleasant Valley.

*Pleasant Valley is not currently served by transit service. Implementation of more locally oriented transit service and connecting local service to regional service will need to be addressed as part of the transportation plan for the area, including connections to Gresham transit center, Clackamas transit center and downtown Portland. Some sort of a transit hub could be established as part of the land use and transportation plan for the town center to serve that important connection.*

***Issue 7***. The topography of Pleasant Valley and the need to protect streams will require an emphasis on providing bicycle and pedestrian connections where full street connections are not possible. These connections could be further complemented by multi-use trails that connect Pleasant Valley neighborhoods to schools, parks, commercial services, existing multi-use trails and Damascus. As a result, bicycle and pedestrian access and safety, including an extended trail system, will also need to be addressed as part of the transportation plan for this area.

*Street connectivity within the town center is important, and should complement the broader goals of tying together existing and future streets so that the town center has a high level of connectivity. Improved street connectivity can help keep local auto trips on local streets without placing an undue burden on the arterial streets like Foster Road and Sunnyside Road, and provides better access for pedestrians, bicycles and transit users. With an interconnected system that provides multiple routes to local destinations, any single street will be less likely to be overburdened by excessive traffic. Emergency response vehicles also benefit from a well-connected street system.*

*Community forum discussions revealed that many people drive to access the Powell Butte and Springwater Corridor trail systems and shared a desire to have a network*

*of sidewalks, bike facilities and multi-use trails linked to existing trails systems. Better equestrian access to trails and natural areas in Pleasant Valley was also identified as important to many people during the first community forum. In addition, a safer equestrian crossing at SE 162nd Avenue and Foster Road to improve access to Powell Butte has been identified as a need.*

*Green street designs help reduce impervious surface and incorporate on-site stormwater management within the right-of-way through the use of vegetative filter strips, swales, linear detention basins, infiltration trenches, permeable pavement and tree planting. Street alignments should follow natural contours and features as much as possible, which can help optimize implementation of green street designs. Metro has studied green streets over the same timeline as the Pleasant Valley Concept Plan study using Pleasant Valley as a case study. It recommends innovated approached to stormwater management and stream crossing using green streets in its handbook – Green Streets – Innovative Solutions for Stormwater and Stream Crossing. Also published by Metro is the Trees for Green Street – An illustrated guide handbook.*

*Metro's Green Streets manual states that bridges are preferred for all stream crossings but they tend to be a more expensive option than culverts. It notes that bridges tend to become more economically justifiable when required hydraulic opening exceeds 15 feet in span (active channel width) or 10 feet in diameter. It also notes that bridges are preferred for fish passage when stream channel slopes exceed 5 percent. A bridge design principle is that bridge abutments, piers and foots should be located outside the bankfull channel.*

## GOAL

Pleasant Valley will be a community where a wide range of safe and convenient transportation choices are provided.

## POLICIES

1. Pleasant Valley will be a community where it is safe, convenient, and inviting to walk, ride a bike and use transit. The network of streets shall accommodate walking and biking, with special pedestrian features on transit streets.

2. The community will be served by a balanced transportation system that serves all modes of travel and is coordinated with Gresham, Portland, Happy Valley, Clackamas County, Multnomah County, Tri-Met, ODOT, Metro and other transportation service providers to provide effective regional connections to the Pleasant Valley community.

3. The community will be served by community level transit service that connects to regional transit service, and include street designs, land use types, patterns and densities and pedestrian and bicycle improvements that support transit.

4. An efficient, well-connected street system will be planned, using a variety of street types that reinforce a sense of community, provide adequate routes for travel by all modes and preserve adequate right-of-way to serve future transportation needs.

5. Existing transportation safety issues will be addressed.

6. The Pleasant Valley Plan District map will serve as the basis for providing opportunities for through-travel on arterial streets and local access to community destinations on collectors, neighborhood connectors and local streets.

7. The plan district will provide a bicycle and pedestrian system that provides for safe, convenient, attractive and accessible bicycle and pedestrian routes on all streets. These routes will connect the multi-use trail and parks and open spaces system, and to major activity centers such as schools, civic uses, neighborhood centers, employment areas and the town center.

8. The plan district will provide a multi-use trail system to serve as important off-street bicycle and pedestrian connections to schools, parks, commercial areas and neighborhoods within the Pleasant Valley community, particularly in areas near the confluence of Kelley and Mitchell creeks where streams limit street connectivity.

9. Transportation plans will use green street designs, as described in Metro's handbook titled *Green Streets: Innovative Solutions for Stormwater and Stream Crossings* and *Trees for Green Streets* as a resource in the development and design of streets.

10. The Pleasant Valley Town Center and adjacent Mixed-Use Employment area will be served by a regional transit system prior to the buildout of the Town Center.

**ACTION MEASURES**

1. As a near-term objective, downgrade the function of Foster and Richey roads in the confluence area of Kelley Creek to serve as local access streets. As a long-term objective, develop a strategy to disconnect and potentially vacate the vehicular function of these street segments while maintaining the opportunity for a local trail opportunity.

2. Establish street design standards that respect the characteristics of the surrounding land uses, natural features, and other community amenities. All streets will be designed to support adjacent land uses, accommodate pedestrians and bicyclists and include green streets design elements that help minimize stormwater runoff. Design will be based on the Pleasant Valley Street Designs adopted in the Pleasant Valley Concept Plan Implementation Strategies. In developing street designs utilize Metro publications *Creating Livable Streets, Green Streets: Innovative Solutions for Stormwater and Stream Crossings* and *Trees for Green Streets*. The plan district street design standards will provide for:

    a. Planting and preservation of trees in the street right-of-ways

b. Continuous sidewalks along both sides of all arterial, collector, and local streets. Sidewalks should connect to side streets and adjacent sidewalks and buildings. Pervious sidewalk treatments should be considered.

c. Landscaped buffer separating travel lanes from sidewalks

d. Direct and logical pedestrian crossings at transit stops and marked crossings at major transit stops.

e. Short and direct public right-of-way routes to connect residential uses with nearby commercial services, schools, parks and other neighborhood facilities.

f. Street design elements that discourage traffic infiltration and excessive speeds on local streets, such as curb extensions, on-street parking, and wider sidewalks and narrowed travel lanes.

g. Secure bicycle storage facilities such as bicycle racks and other park and lock accommodations at major destination points including the town center, transit center, recreation areas and office, commercial and employment centers.

h. Minimize impervious area and utilize the natural drainage system where practical.

i. Designing bridges to serve as civic gateways or focal points in the community. Establishing guidelines to help determine most appropriate stream crossing solution for each individual crossing.

j. Locating road and multi-use path stream crossing alignments to have the lowest level of impact on a stream or ESRA. Locational considerations shall include crossings perpendicular to the stream and along narrow stream segments. Trail crossings shall consider the needs of equestrians, where appropriate, and pedestrian and bicycle travel.

3. Adopt a local street network plan that includes functional classifications for streets, street design types, connectivity plan and standards and a bike and trail plan for the plan district. The local street network plan will:

a. Consider opportunities to incrementally extend streets from nearby areas.

b. Limit the use of cul-de-sac designs and other closed end street systems to situations where barriers such as existing development, topography and environmental constraints prevent full street connections.

c. Provide bicycle and pedestrian accessways where full street connections cannot be provided.

d. Investigate off-street bike and pedestrian connections where needed to link major community destinations, such as the town center, transit center, recreation areas and office, commercial and employment centers.

4. Realign 172nd Avenue as it passes through Kelley Creek ESRA to not follow creek and reduce impact area by keeping it as far west of confluence as practical and minimizing the bridge footprint in the creek and adjacent riparian area.

5. The plan district will allow for and encourage:

a. Efficient use of on-street parking to help reduce off-street parking needs

b. Shared parking agreements to reduce the size and number of parking lots

c. Shared driveways between adjacent development projects

d. Minimizing impervious area when developing parking lots

6. Educate business groups, employees, and residents about trip reduction strategies, and work with business groups, residents, and employees to develop and implement travel demand management programs, such as carpool matching, vanpool matching, flexible work hours, transit subsidies, parking management, bikes on transit and telecommuting to reduce peak-hour single occupant vehicle in Pleasant Valley.

7. Gresham, in coordination with Portland, will work with Metro, ODOT, Multnomah County, Clackamas County and other agencies as appropriate to:

   a. Investigate needed safety and capacity improvements to address future travel demand in the Foster Road and Powell Boulevard corridors and implement study recommendations.

   b. Evaluate the long-term need for an arterial connection between 172nd Avenue and 190th Avenue as part of urban area planning that responds to future urban growth boundary decisions.

   c. Implement needed transportation improvements to serve Pleasant Valley and correct existing safety issues.

   d. Implement regional corridor study recommendations and projects identified in Regional Transportation Plan for key gateway routes, such as Sunnyside Road, Foster Road, Powell Boulevard, 172nd Avenue and 190th Avenue.

8. Expand the Tri-Met service boundary to include areas within Clackamas County to allow TriMet to serve this area.

   Work with Tri-Met to develop a transit plan for Pleasant Valley that:

   a. Establishes a transit hub within the town center zoning district that provides transfer opportunities between regional and community transit routes

   b. Implements recommended community and regional transit service.

   c. Determines appropriate locations and design of bus loading areas and transit preferential treatments such as reserved bus lanes and signal pre-emption to enhance transit usage and public safety and to promote the smooth flow of traffic.

   d. That, with other transit service providers, and employers and social service agencies' efforts enhances access for elderly, economically disadvantaged, and people with disabilities.

9. Work with emergency service providers to designate emergency access routes.

10. Develop and implement a public facility and capital improvement plan that identifies, prioritizes and adequately funds transportation improvement, operation and maintenance needs.

    a. Consider system development charges, traffic impact fees, local improvement district fees, parking fees, street utility fees and other fee mechanisms to help pay for transportation improvements, including transit.

    b. Apply for federal, state and regional funds through the Metropolitan Transportation Improvement Program (MTIP).

    c. Encourage creative partnerships (e.g., federal, state, regional, multiple jurisdiction, private) to fund transportation improvements.

    d. Develop a right-of-way preservation strategy for 172nd Avenue, Giese Road, 190th Avenue, Clatsop Street extension to Cheldelin Road.

11. Work with Metro to amend the Regional Transportation Plan to reflect Pleasant Valley Plan District recommendations, including:

    a. Motor vehicle functional classification system, transit system, pedestrian system, bicycle system and street design classification system.

    b. Transportation improvements and rough cost estimates.

## 10.720 PUBLIC FACILITIES

BACKGROUND

This section addresses water, wastewater, stormwater and park public facilities. It is intended to amend the City's public facilities plans for each facility. Amendments to the Public Facility Plan for transportation are located in a separate amendment to the City's Transportation System Plan.

The Metro Council brought the Pleasant Valley area into the Urban Growth Boundary (UGB) in December 1998. When land is brought into the UGB, Title 11 of the Metro *Urban Growth Management Functional Plan* requires that the added territory be brought into a city's comprehensive plan prior to urbanization with the intent to promote the integration of the new land into exiting communities.

Title 11 requires conceptual public facilities plans for each of these services that demonstrate how Pleasant Valley can be served. The conceptual plans are to include preliminary cost estimates and funding strategies, including likely financing approaches and maps that show general locations of the public facilities.

Conceptual public facility plans were developed for water, wastewater, stormwater, and parks during the *Concept Plan* project. The general steps in developing the conceptual public facility plans were:

- Inventorying existing conditions
- Needs analysis
- Laying out system for each of the four alternatives including facilities needs and preliminary cost estimates
- Utilizing system information to evaluate and inform creating a preferred alternative (referred to as the "hybrid plan"
- Describing in the Implementation Strategies document each system including preliminary costs and a set of funding strategies

The *Concept Plan* also included the Steering Committee's adoption of plan goals. A specific goal was adopted for parks and is described in detail in the parks section. No specific goal was developed for water, wastewater, or stormwater public facilities. However, the Steering Committee did adopt, as a planning parameter, addressing the provisions of Title 11, which as previously noted requires a conceptual plan for public infrastructure along with preliminary costs and likely funding sources. Also, a green development goal was adopted which includes describing an intention that stormwater public facilities will be part of a green infrastructure system.

The *Concept Plan* work was the basis for the Public Facilities Plans that were drafted as part of the *Implementation Plan* project. Two steps occurred during the *Implementation Plan* process. One, for each public facility the system descriptions were updated to reflect the Pleasant Valley Plan District map and its land use assumptions for dwellings and population, employment and land areas. The Plan District is a refinement of the adopted *Concept Plan* map. And second, it identified and described the elements necessary to comply with Statewide Planning Goal 11 and OAR 660-011-000 necessary to amend the City's Public Facility Plan for each the public facilities:

660-011-0010 The Public Facility Plan

1. The public facility plan shall contain the following items:

    a. An inventory and general assessment of the condition of all the significant public facility systems which support the land uses designated in the acknowledged comprehensive plan;

    b. A list of the significant public facility projects, which are to support the land uses designated in the acknowledged comprehensive plan. Public facility project descriptions or specifications of these projects as necessary;

    c. Rough cost estimates of each public facility project;

    d. A map or written description of each public facility project's general location or service area;

    e. Policy statement(s) or urban growth management agreement identifying the provider of each public facility system. If there is more than one provider with the authority to

provide the system within the area covered by the public facility plan, then the provider of each project shall be designated;

f. An estimate of when each facility project will be needed; and

g. A discussion of the provider's existing funding mechanisms and the ability of these and possible new mechanisms to fund the development of each public facility project or system.

**Service Delivery Overview**

Current residents of Pleasant Valley are largely self sufficient, and are responsible for their own water supply, wastewater treatment, and stormwater systems. Water is currently accessed via underground wells and wastewater is primarily treated in septic tanks and drain fields. Stormwater runoff is conveyed to natural drainage areas or to drainage ditches adjacent to local roads. All public roads are owned and maintained by Multnomah County and Clackamas County. There are no public parks in Pleasant Valley.

Future Public Facilities Provider Overview

In March 2004, the cities of Portland and Gresham revised a 1998 intergovernmental agreement (IGA) for the Pleasant Valley area regarding proposed jurisdictional boundaries, urban services, and preparation of land use plans for the area. A framework for urbanizing Pleasant Valley was developed and carried out through the planning process. The Pleasant Valley Public Facilities Plan further refines the roles and responsibilities outlined in the IGA. Urban development is expected to proceed only after annexation to an incorporated city. In accord with the 2004 IGA, Gresham agreed to annex the land generally east and north of Mitchell Creek (Area A) and Portland agreed to annex the land generally west of Mitchell Creek and in the Jenne Road area (Area B). A map showing the areas is in appendix B – Pleasant Valley Plan District Future Governance map.

For the remainder of Pleasant Valley, which is in Clackamas County (Area C), a final decision on who will provide services to most of this area has not yet been determined. The Cities of Portland and Gresham can serve this area, but do not have agreements in place with the county for doing so. The City of Happy Valley annexed a portion of the area south of Clatsop Street and west of 156th Street (Area D). Happy Valley will serve that area and is responsible for public facility planning in that area.

For planning purposes and to demonstrate that the area can urbanize in a manner that complies with Goal 11, the PFP assumes the cities of Portland and Gresham will serve the balance of Area C. The cities have plans in place that demonstrate its capacity to serve Area C.

The City of Gresham will be responsible for the provision of urban services for areas annexed into Gresham and the City of Portland will be responsible for the provision of urban services for areas annexed to Portland. This includes all Goal 11 mandated services (water, wastewater, and stormwater) and park services. The IGA states that Gresham and Portland will jointly determine whether wastewater sewage treatment for the mapped areas should be through Portland or Gresham. Preliminary indications suggest that it is more economical for Gresham to pump

wastewater flows from Pleasant Valley to its sewage treatment plant. A final solution regarding wastewater sewer service will be made through a refinement study to the City of Gresham Sewer Master Plan.

## 10.721 WATER SYSTEM

SYSTEMS DESCRIPTION/CONDITION ASSESSMENT

***Existing Conditions***. Currently, water supplies in Pleasant Valley are from individual wells that tap the groundwater aquifer beneath the Valley. In addition, there is no domestic water distribution system in Pleasant Valley. This source is not adequate to meet the Valley's needs as it urbanizes. Alternatives have been analyzed based on agreements that are already in place for future annexation of three sub areas within Pleasant Valley.

***Future Water Supply***. The City of Portland supplies water to approximately 840,000 people in the Portland metropolitan area. Its five largest wholesale customers are the City of Gresham, Rockwood People's Utility District, Powell Valley Road Water District, Tualatin Valley Water District, and the City of Tualatin. These customers buy about 40% of the water Portland produces.

The current Portland water system includes two storage reservoirs in the Bull Run Watershed that can store up to 10.2 billion gallons of useable storage. A supplemental groundwater source, the Columbia South Shore Well field, is located east of the Portland Airport and can provide up to 95 million gallons per day ("mgd"). The water system also consists of three large conduits that convey water from the Bull Run Watershed to Portland, key storage reservoirs at Powell Butte, Mt. Tabor, and Washington Park and a vast distribution grid containing over 2000 miles of pipeline.

The water quality of the Portland Water Bureau (PWB) sources meets and exceeds all current U.S. Environmental Protection Agency ("EPA") water quality requirements. The City of Gresham signed a 25-year intergovernmental agreement to purchase wholesale water from PWB in 1980. The Portland system has capacity to meet the future water service demand for all of Pleasant Valley.

***Future Water Service Distribution***. There is no water distribution system in place in Pleasant Valley except for portions of Area B, which are described below. Fire flows are one of the main criteria in sizing waterline infrastructure and storage needs. Potential fire flow requirements for schools, attached residential and commercial sites can range from 1,000gpm to 3500gpm. Based on specific design criteria, a looped 12-inch waterline can supply flows to meet these demands during a Maximum Day Demand scenario. Locations of these types of sites within the Pleasant Valley area are the determining factor to the layout of the 12-inch waterline facilities.

System Design Assumptions:

- Domestic usage storage requirements:
  - 120 gallons per person per day
  - 2.3 ADD/MDD peaking factor
- Fire flow storage requirements:
  - Single Family Detached — 1000gpm for 2 hours (120,000gal)
  - Single Family Attached — 3000gpm for 2 hours (360,000gal)
  - Commercial / Public — 3500gpm for 3 hours (630,000gal)
  - (In service levels with mixed usage, fire flow storage is based on the highest rated requirements)
- Overall storage requirements based on the following: The sum of 25% of MDD (peaking equalization) plus fire flow storage plus 2 times ADD.
- Pumping requirement based on supplying MDD.
- Source requirement based on supplying MDD times 25% for Gresham's Intermediate and 720 service levels.

The following narrative describes the systems envisioned to serve the three sub areas within Pleasant Valley.

***Area A***. The City of Gresham will deliver water to future urban development in Area A. Gresham currently provides water service to approximately two-thirds of city residents, businesses, and industries. The Rockwood Water People's Utility District ("RWPUD") serves the remaining one-third. The Gresham water system is supplied from the Portland Water Bureau ("PWB") Bull Run System and Columbia River well field sources. Gresham currently has seven supply connections from PWB and one supply connection from RWPUD. Gresham has emergency connections via normally closed valves in the water system with RWPUD, Powell Valley Road Water District, Lusted Water District, and City of Troutdale.

The City of Gresham water system has seven service levels. Pressure to the system is provided directly by gravity from the PWB system or from eight water reservoirs supplied from booster pumping stations. Gresham's overall system Average Day Demand ("ADD") is approximately 7 million gallons and the Maximum Day Demand ("MDD") was approximately 14 million gallons. The water system's 8 reservoirs have approximately 28.5 million-gallons ("MG") of total storage. There are seven pump stations, approximately 250 miles of pipeline, and approximately 35 miles of water service pipeline. The system is monitored and controlled by a central supervisory control and data acquisition ("SCADA") system. The SCADA system allows water system operators to monitor and operate reservoirs, pump stations, and supply connections via a central computer control. This ability has enabled efficient operation of the water system by controlling peak demands from the PWB conduits.

Area A has elevations between 340 feet and 580 feet. Area A will be served from two separate service levels – the Intermediate Service Level and the 720 Foot Service Level. The Intermediate Service Level, which has an overflow elevation of 575 feet, can serve elevations between 340 feet and 440 feet. The 720-foot Service Level, which will have an overflow elevation of 720 feet, can serve elevations between 440 feet and 580 feet. A single population for Area A was received from Metro. Acreage as well as population was calculated for the 720-foot service level for the concept plan. These population figures were subtracted from the total population figures from Metro to then determine the expected populations within the Intermediate service level.

The following narrative describes the improvements needed to serve the area.

The *Intermediate Service Level* is served by two concrete reservoirs, which have a total storage of 10 MG, one 6MG reservoir (Regner Reservoir) and the other a 4MG reservoir (Butler Reservoir). Additional storage of approximately 3.5 to 4.0MG is needed in the Intermediate Service Level within Area A in Pleasant Valley. The existing Butler Reservoir site has adequate property to construct an addition reservoir. Additional pumping capacity of approximately 1,650 gpm to 1,950 gpm and source capacity of approximately 1,950 gpm to 2, 325 gpm is needed in the Intermediate service level, which would be the level from which to pump to the 720-foot service level.

Two extensions of a 16-inch waterline are recommended: one extending from the existing Butler reservoir and the other extending from the existing system north of the Pleasant Valley study area. This redundancy is an important factor in assuring adequate service to a substantially populated area. The plan envisions 12-inch waterlines in all areas where there is a potential for high fire flows ranging from 1,500 gpm to 3500gpm. Waterline infrastructure smaller than 12 inches is anticipated to be constructed by development as it occurs.

*The 720-foot Service Level* will require 400,000 gallons to 1MG of storage for the Pleasant Valley study area. Property acquisition, which is not included in the estimate, will be required for a new reservoir. Location of the reservoir is also not identified at this time. The new 720-foot reservoir will be inter-connected with the existing Hunters Highland Service reservoir. Additional pumping capacity of approximately 125gpm to 600gpm is needed for the 720-foot Service Level. The pump station would be located at the Butler Reservoir Site.

For Water, the preferred annexation strategy within Pleasant Valley would be east to west to take advantage of the existing water infrastructure. Our South Hills Service Level through an interim service arrangement can serve the 720-foot Service Level. If development proceeds west to east we could enter into an interim service arrangement with Portland. Pressure would be regulated at this connection to mirror Gresham's Intermediate Pressure Zone (575' elevation). Under both approaches, reserves need to be set aside using SDCs to build the additional water storage facilities for Pleasant Valley.

***Area B***. The City of Portland will provide water service to urban development in Area B. Area B includes two separate portions of land within the Pleasant Valley study area. The first area is at the NW corner of the Pleasant Valley study area along Jenne Rd, which has elevations between

260 feet and 380 feet. Currently, a 12-inch waterline resides in SE Jenne Road from SE McKinley Road to SE 174th Avenue. This waterline is served directly from the 50MG Powell Butte Reservoir, which has an overflow elevation of 531 feet. An analysis indicates that this 12-inch main could adequately serve this area. The second area is east of 162nd and between Kelley Creek and Mitchell Creek, as well as a small portion of land at the NW corner of 162nd and Clatsop. Elevations in this area range from 340 feet and 450 feet. Currently, a 12-inch waterline resides in SE 162nd from SE Foster Road to SE Clatsop Road as well as a 12-inch waterline in SE Clatsop from 162nd to the west. These waterlines are served from the 3MG Clatsop Reservoir, which has an overflow elevation of 814 feet. This reservoir is served from a pump station located near 162nd and Flavel and has a MDD capacity of 350gpm. A conceptual analysis indicates that this 12-inch main could adequately serve this area.

All the major water transmission and storage facilities are, therefore, already in place for Portland's part of Pleasant Valley. In both subsections of Area B, it is anticipated that property owners, as a condition of service, would construct required distribution mains. However, Portland will need to update its water master plan to show the preferred routing and pipe sizes for Area B to justify requirements for oversizing water distribution facilities. This is especially important because of the potential that a school may be build adjacent to 162nd Street north of Clatsop Street.

***Area C***. As noted above, there is uncertainty regarding who will deliver water to urban development in Area C. Given that the area is designated primarily for residential development, there are no significant storage or transmission facilities needed to serve the area independently from other parts of Pleasant Valley. The City of Gresham is capable of serving this area.

The Gresham Water Master Plan recommends that the city extend a 16-inch waterline along Cheldelin Road as part of a loop that provides redundancy for serving areas to the north within the Intermediate Service elevation. This line also would be capable of supplying water to all of Area C. For the present, the PFP assumes the City of Gresham will extend a 16-inch waterline along Cheldelin Road and will serve Area C.

A map in Appendix A of this section shows the planned system improvements.

## SUMMARY OF FUTURE NEEDS

- The City of Gresham has access to sufficient water supplies to serve all areas within Pleasant Valley and has identified necessary improvements to its water system to serve sub areas A and C. Additional intergovernmental work is needed to determine whether the Gresham serves Area C by annexing this area, or through a special service agreement.
- The City of Portland has storage and transmission capacity to serve Area B, but will need to update its water master plan to clearly identify the size and preferred routing of transmission facilities to establish over sizing requirements. Portland also may supply portions of Area A on an interim basis until adequate storage can be constructed in Pleasant Valley. More analysis is needed to refine this concept. The IGA may need to be amended to enable this solution.

- Additional storage will be needed in the City of Gresham's Intermediate or 720-foot water service level to serve complete development. In the interim, Gresham will be able to serve the eastern parts of Area A from the Hunters Highland and South Hills reservoirs until additional storage is constructed to serve Pleasant Valley. More analysis is needed to refine this service concept.
- The Cities of Portland and Gresham need to consider the impact of water service extensions in Pleasant Valley on their existing SDC programs. In particular, Gresham needs to evaluate which Pleasant Valley projects should be added to their list of eligible projects and determine the appropriate SDC to finance the additional public improvements that will support growth in Pleasant Valley commensurate with existing levels of service.

## FINANCING PLAN

The following discussion presents the envisioned strategy for financing water service extensions in the Gresham and Portland sections of Pleasant Valley. For analysis purposes, the boundary between Portland and Gresham is presumed to be Mitchell Creek in the west. The Jenne Road area is also presumed to be part of Portland. All other areas in Multnomah County (Area A) are anticipated to be in Gresham. The final boundary will likely shift away from the creek, but at this time, the shift is not expected to significantly alter the relative cost burden depicted for Gresham and Portland. This discussion assumes Gresham will serve the Clackamas County area (Area C). The ultimate serve and governance provides for Area C have not been determined and will be the subject of future agreements.

***Water***. Both Gresham and Portland rely on developer contributions, SDCs, and retained earnings from the utility to finance system expansion. Each city has borrowed against future utility revenues to finance major improvements in production, storage and transmission facilities. SDCs are collected by both cities to help finance system expansion.

In the Portland service areas, it is expected that the current mix of private contributions, utility earnings, and SDC will finance necessary system improvements. The existing water system has capacity, pressure, and available storage to serve these areas. Transmission extensions can be financed incrementally with private funds and SDCs. The City will need to review its SDC methodology to determine if the transmission line in 162$^{nd}$ should qualify as an SDC credit eligible project. Otherwise, all improvements would be financed conventionally.

In Gresham, the annexation analysis indicates that the city may have difficulty financing water storage needs in the short term. The Water Fund currently has insufficient reserves to secure revenue bond financing to build the storage and transmission needed to serve Pleasant Valley. Over the long term, however, Gresham's existing SDCs should generate enough revenue from within Pleasant Valley to capitalize system improvements.

To address the timing problem for meeting water storage needs, two approaches can be taken. If development proceeds into Pleasant Valley from east to west, most of that land falls within Gresham's 720-foot pressure zone. The city has a moderate amount of capacity in its South Hills Reservoir that could serve development in Pleasant Valley within the 720-foot service pressure zone on an interim basis. As reserves build from SDC payments, Gresham can issue bonds to

add long-term storage in this pressure zone for Pleasant Valley. Transmission extensions from both the east and west can be financed conventionally.

If development proceeds into Pleasant Valley from west to east, most development would fall within Gresham's Intermediate Service Level. On an interim basis, Portland could serve as the main water supply for development in the western portion of the valley until Gresham can finance permanent storage reservoirs. During this interim time period, Gresham will need to set aside reserves from SDCs that can be used to secure a bond issue to build storage for areas east of Mitchell Creek that are within the City's Intermediate Service Level. The timing for a bond measure to build this storage will depend on the pace of development in Pleasant Valley. When service can be transferred over to the Gresham service area and inter-tie between Portland and Gresham can serve as an emergency connection.

Gresham needs to review their SDC methodology, especially their improvement fee, to ensure the fee is adequate to recover forecast capital improvement needs in Pleasant Valley. This will be done as part of an engineering study to refine the storage and supply solutions outlined above. The consensus of staff, however, is that there are no extraordinary physical or technical issues associated with water service delivery in Pleasant Valley. If SDCs keep pace with design and construction costs, the area will generate sufficient revenue over the long term to finance necessary water system improvements.

## GOALS, POLICIES AND ACTION MEASURES

### GOALS AND POLICIES

1. Applicable goals and policies that relate to the provision of public facilities in the existing comprehensive plans for the cities of Portland and Gresham also apply to the Pleasant Valley PFP. In addition to those goals and policies, the following policies are made part of this plan.

2. The Cities of Gresham and Portland and Clackamas County will work cooperatively to identify an efficient solution for extending water service to portions of Clackamas County that are within the Pleasant Valley plan area. Any agreement between Gresham and the County that does not anticipate annexation of this area to Gresham will comply with provisions of ORS 195 for urban service providers.

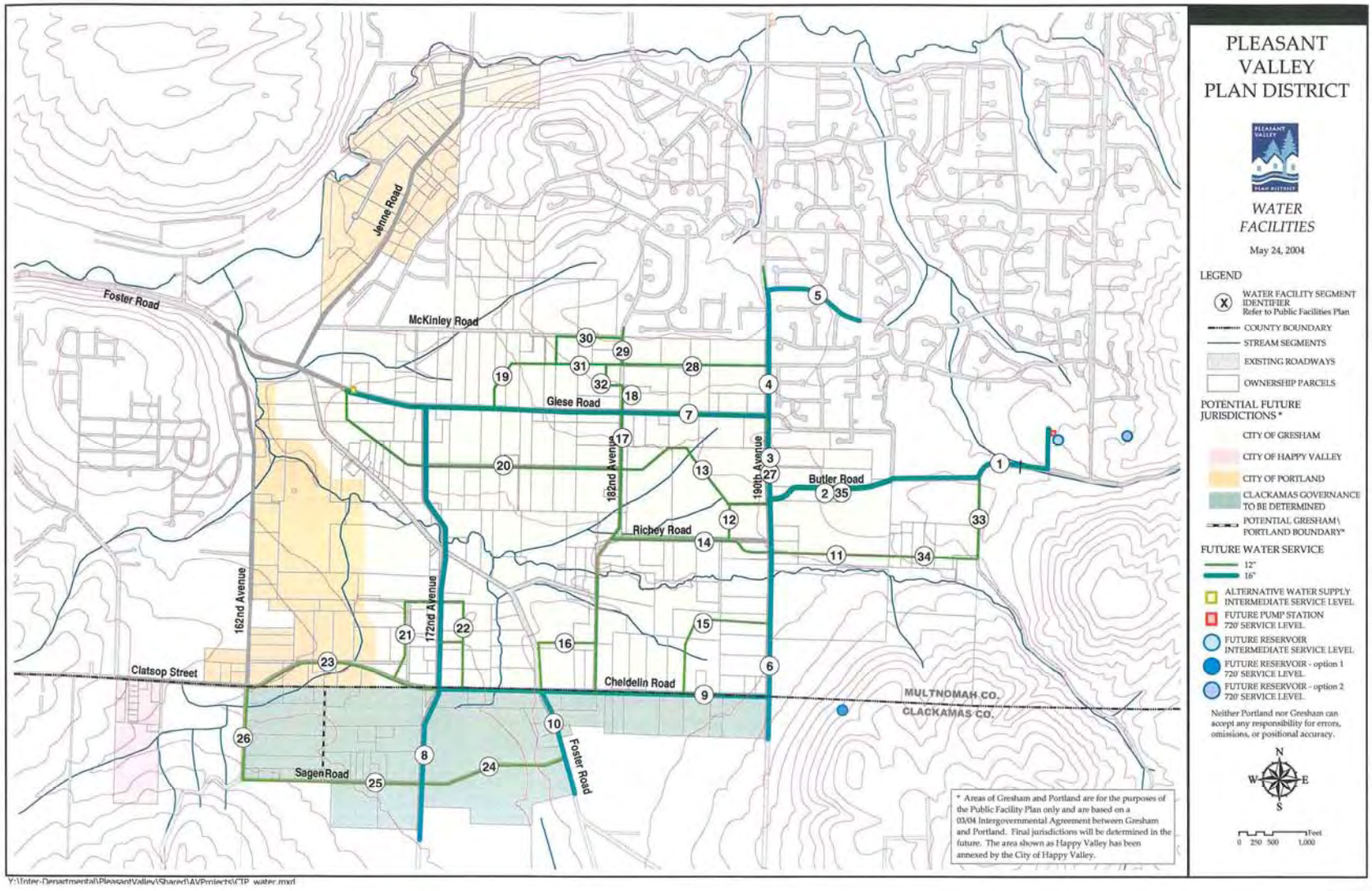
### ACTION MEASURES

1. Update the City of Portland water master plan to establish the size and preferred routing for water system improvements serving Area B and establishing an interim service agreement with Gresham if annexation proceeds from the west to east.

2. Review and, if necessary, update the City of Gresham system development charge water improvement fees to include necessary public improvements for serving Areas A and C.

3. Update the City of Gresham 5-Year Capital Improvement Plan to include critical path water system improvements – especially storage in the Intermediate service level - in accordance with the adopted water master plan and annexation plan.

4. If Gresham and/or Portland is to annex and provide services to Area C (in Clackamas County) then Gresham and/or Portland and Clackamas County need to conclude negotiations for territorial expansion and service agreements for Area C.


PLEASANT VALLEY PLAN DISTRICT
WATER FACILITIES
May 24, 2004
LEGEND
WATER FACILITY SEGMENT IDENTIFIER Refer to Public Facilities Plan
COUNTY BOUNDARY
STREAM SEGMENTS
EXISTING ROADWAYS
OWNERSHIP PARCELS
POTENTIAL FUTURE JURISDICTIONS *
CITY OF GRESHAM
CITY OF HAPPY VALLEY
CITY OF PORTLAND
CLACKAMAS GOVERNANCE TO BE DETERMINED
POTENTIAL GRESHAM\ PORTLAND BOUNDARY*
FUTURE WATER SERVICE
12"
16"
ALTERNATIVE WATER SUPPLY INTERMEDIATE SERVICE LEVEL
FUTURE PUMP STATION 720' SERVICE LEVEL
FUTURE RESERVOIR INTERMEDIATE SERVICE LEVEL
FUTURE RESERVOIR - option 1 720' SERVICE LEVEL
FUTURE RESERVOIR - option 2 720' SERVICE LEVEL
Neither Portland nor Gresham can accept any responsibility for errors, omissions, or positional accuracy.
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* Areas of Gresham and Portland are for the purposes of the Public Facility Plan only and are based on a 03/04 Intergovernmental Agreement between Gresham and Portland. Final jurisdictions will be determined in the future. The area shown as Happy Valley has been annexed by the City of Happy Valley.
Jenne Road
Foster Road
McKinley Road
Giese Road
182nd Avenue
190th Avenue
Butler Road
Richey Road
162nd Avenue
172nd Avenue
Clatsop Street
Cheldelin Road
MULTNOMAH CO.
CLACKAMAS CO.
Sagen Road
Foster Road
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## Section 10.721 - Appendix B – Pleasant Valley Public Facility Plan

### Water Capital Improvement Project List

| Project | Description | Units | Cost[1] | Timing | Responsible Jurisdiction | Funding Source | Comments | Short Term | Long Term |
|---|---|---|---|---|---|---|---|---|---|
| **Waterlines** | | | | | | | | | |
| **Intermediate Service Level** | | | | | | | | | |
| | Size – 16” | Linear feet | | | | | | | |
| 1 | Butler Rd west to Butler extension Intermediate Service Level – 16” | 3,022 | $362,599 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 362,599 |
| 2 | Butler Extension to 190th – Intermediate Service Level – 16” | 1,899 | $227,858 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 227,858 |
| 3 | 190th from Butler Rd extension north to Giese – Intermediate Service Level – 16” | 1,219 | $146,227 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investments | $ - | $ 146,227 |
| 4 | 190th from Giese north to Willow Parkway – Inter-Intermediate Service Level – 16” | 1,854 | $222,480 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 222,480 |
| 5 | Willow Parkway from 190th east to Eastwood Ave – Intermediate Service Level – 16” | 1,515 | $181,800 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 181,800 |
| 6 | 190th from Butler Road extension south to PV boundary – Intermediate Service Level – 16” | 3,530 | $423,544 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 423,544 |
| 7 | Giese from 190th to just east of Foster – Intermediate Service Level – 16” | 6,309 | $757,075 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 757,075 |
| 8 | 172nd from Giese south to PV Boundary – Intermediate Service Level – 16” | 6,526 | $783,101 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 783,101 |
| 9 | Cheldelin from 190th to 172nd – Intermediate Service level – 16” | 4,916 | $589,900 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 589,900 |

| Project | Description | Units | Cost[1] | Timing | Responsible Jurisdiction | Funding Source | Comments | Short Term | Long Term |
|---|---|---|---|---|---|---|---|---|---|
| 10 | Foster from Cheldelin south to PV Boundary – Intermediate Service Level – 16" | 1,587 | $190,454 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 190,454 |
| | **SIZE – 12"** | | | | | | | | |
| 11 | Richey Road from 190th east to service level break point – Intermediate Service Level – 12" | 1,680 | 164,640 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 164,640 |
| 12 | West side 190th/South of Plaza to Richey Road – Intermediate Service Level – 12" | 1,190 | $116,662 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ - | $ 116,662 |
| 13 | From 182nd looping through LDR to Plaza – Intermediate Service Level – 12" | 2,142 | $209,914 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 209,914 |
| 14 | Richey Road from 190th to 182nd – Intermediate Service Level – 12" | 2,444 | $239,531 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 239,531 |
| 15 | (west of 190th) between Richey & Cheldelin – Intermediate Service Level – 12" | 2,306 | $226,017 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 226,017 |
| 16 | (east of Foster- 2 lines) between Richey & Cheldelin, Intermediate Service Level – 12" | 3,921 | $384,235 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 384,235 |
| 17 | 182nd from Richey to Giese – Intermediate Service Level - 12" | 1,900 | $186,223 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 186,223 |
| 18 | 182nd from Giese to Neighborhood Park – Intermediate Service Level – 12" | 398 | $39,027 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 39,027 |
| 19 | 31st looping back to Giese – Intermediate Service Level – 12" | 1,404 | $137,602 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 137,602 |

| Project | Description | Units | Cost[1] | Timing | Responsible Jurisdiction | Funding Source | Comments | Short Term | Long Term |
|---|---|---|---|---|---|---|---|---|---|
| 20 | (south of Giese) between Linneman & Foster – Intermediate Service Level – 12" | 4,723 | $462,855 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 462,855 |
| 21 | (west of 172nd) Crystal Springs to Baxter – Intermediate Service Level – 12" | 1,725 | $169,095 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 169,095 |
| 22 | (east of 172nd-2 lines) Crystal Springs to Cheldelin – Intermediate Service Level – 12" | 1,965 | $192,523 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 192,523 |
| 23 | Baxter/Cheldelin from 172nd west to 162nd –Intermediate Service Level – 12" | 3,010 | $294,943 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 294,943 |
| 24 | (south of Cheldelin) from Foster west to 172nd – Intermediate Service Level – 12" | 2,200 | $215,603 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 215,603 |
| 25 | Sager Rd from 172nd west to 162nd – Intermediate Service Level – 12" | 2,667 | $261,361 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 261,361 |
| 27 | 162nd from Sager to Clatsop St – Intermediate Service Level – 12" | 1,358 | $133,122 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 133,122 |
| | | | | | | | | | |
| **720-foot Service Level** | | | | | | | | | |
| | **SIZE – 12"** | | | | | | | | |
| 35 | Butler Road Extension – 720-foot Service Level – 12" | 1,925 | $188,607 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 188,607 |
| 27 | 190th from 25th to Butler extension – 720-foot Service Level – 12" | 3,432 | $336,287 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 336,287 |
| 28 | 31st Street from 190th to Linneman – 720-foot Service Level – 12" | 2,165 | $212,206 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 212,206 |
| 29 | SW Linneman from 30th to 21st Street – 720-foot Service Level – 12" | 552 | $ 54,086 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 54,086 |

| Project | Description | Units | Cost[1] | Timing | Responsible Jurisdiction | Funding Source | Comments | Short Term | Long Term |
|---|---|---|---|---|---|---|---|---|---|
| 30 | McKinley Road from 190th looping back to 31st - 720-foot Service Level – 12" | 1,391 | $136,282 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 136,282 |
| 31 | 31st Street from Linneman to McKinley loop – 720-foot Service Level – 12" | 983 | $96,382 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 96,382 |
| 32 | West side of neighborhood park from 31st to Linneman – 720-foot Service Level – 12" | 559 | $54,742 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 54,742 |
| 33 | Rodlun from Butler south to UGB – 720-foot Service Level – 12" | 1,164 | $114,068 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 114,068 |
| 34 | Richey Road from Rodlun west to service level break point – 720-foot Service Level 12" | 1,394 | $136,659 | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | $ 136,659 |
| **Reservoir Storage** | | Gallons | | 6 to 20 | Gresham | SDC/Local | Timing depends on private investment | $ | |
| **Intermediate Service Level** | 3,472,000 Gallons at the Intermediate Service Level | 3,472,000 | $5,208,000 | 1 to 5 | Gresham | SDC/Utility | | $5,208,000 | $ 0 |
| 720' Service Level | 1,182,000 Gallons at the 720' service level | 1,182,000 | $1,773,000 | 6 to 20 | Gresham | SDC/Utility | | | $1,773,000 |
| **Pumping Capacity** | | **Gallons per Minute** | | | | | | | |
| Intermediate Service Level | 1,696 Gallons/minute at the Intermediate Service Level | 1,696 | $1,696,000 | 6 to 20 | Gresham | SDC/Utility | | | $1,696,000 |
| 720' Service Level | 604 Gallons/minute at the 720' Service Level | 604 | $604,000 | 6 to 20 | Gresham | SDC/Utility | | | $ 604,000 |
| **Source** | | | | | | | | | |
| Intermediate/720' Service Level | 2,875 Gallons/minute at the Intermediate/720' Service Level | 2,875 | $862,500 | 6 to 20 | Gresham | SDC/Utility | | | $ 862,500 |
| **Planning** | | | | | | | | | |
| Water Master Plan/SDC Update | | | $30,000 | 1 to 5 | Gresham | SDC/Utility | Priority Investment | $ 30,000 | $ 0 |

| Project | Description | Units | Cost[1] | Timing | Responsible Jurisdiction | Funding Source | Comments | Short Term | Long Term |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| Total Waterlines | | | $8,647,711 | | | | | | |
| Total Reservoir Storage | | | $6,981,000 | | | | | | |
| Total Pumping Capacity | | | $2,300,000 | | | | | | |
| Total Source | | | $862,500 | | | | | | |
| Total Planning | | | $30,000 | | | | | | |
| **Total Water System CIP Cost** | | | $18,821,211 | | | | | $5,238,000 | $13,583,211 |

Source: City of Gresham Water Bureau

[1] Costs are based on 2003 data

**Some portions of project service areas fall outside the proposed Annexation Sub-area extent or are adjacent to areas outside the study boundary.

## 10.722 WASTEWATER SYSTEM

SYSTEM DESCRIPTION/CONDITION ASSESSMENT

***Existing Conditions***. Most of the Pleasant Valley Concept Plan area is within the upper Johnson Creek basin. The Johnson Creek basin is bordered generally by Clackamas County to the south, the City of Gresham to the east, on the north by NE Glisan Street and on the west by SE 45th Avenue. Current land use in the Pleasant Valley part of this basin is rural in nature and the area is served by on-site septic drainfields. This method cannot be relied on to serve planned urban level development. The City of Portland, City of Gresham, and Clackamas County all have the ability to collect and treat flows from all or portions of the Pleasant Valley Area. Alternatives have been analyzed based on service options for three sub areas within Pleasant Valley.

***Sewage Collection***. The sewage collection system refers to the infrastructure that serves development in Pleasant Valley. The topography within the Pleasant Valley area is such that the majority of the waste generation is within one drainage basin. A conceptual sewage collection system was developed as part of the Concept Planning process for Areas A, B, and C (Technical Appendix 11, Pleasant Valley Concept Plan, Concept D, 2001). A map in Appendix A shows the planned collection system improvements. Most of the system serving Areas A and C is gravity sewers. This design will avoid building sewers in sensitive riparian areas.

The Jenne-Powell sub-basin (former Urban Reserve area 4 and now part of Area B) can be connected directly to the Portland sanitary sewer system via the Foster Road interceptor. The remaining area (former Urban Reserve Area 5 and now the southwestern part of Area B) can be served with a gravity sewer system to a point near the confluence of Kelley Creek and Mitchell Creek. From there this sewage will need to be pumped across Kelley Creek, either to tie in with Portland's Foster Road interceptor or pumped south along Foster Road to the Pleasant Valley main pump station.

For planning purposes, the Concept Plan analysis assumes that Area C, which is within Clackamas County but drains toward Gresham, will be integrated with the sewer collection system for the rest of Pleasant Valley. It is conceivable that sewage from Area C could be collected in a separate system and pumped to Clackamas County for treatment, but this likely would be a more expensive solution and is not anticipated.

***Sewage Conveyance and Treatment***. The sewage conveyance and treatment system refers to the infrastructure that transports sewage from Pleasant Valley to a wastewater treatment plant for processing and discharge. There are three conveyance and treatment options for wastewater flows from Pleasant Valley. The first option would convey the sewage to the City of Gresham wastewater treatment plant. The second option would direct sewage to the City of Portland wastewater conveyance system for treatment at the Columbia Boulevard Treatment Plant. Both treatment options have advantages and disadvantages, which are described in detail below. The third option only deals with flow from Area C. A simplified description of these solutions follows.

The Gresham treatment solution involves building a 24-inch trunk line – most likely constructed along Foster Road and then up Jenne Road – to an inter-tie point with Gresham's existing sewer system. Some Gresham sewers or pump stations may need to be enlarged to convey the flow to the Gresham sewer plant where sewage would be processed and discharged to the Columbia

River. In both these scenarios, the capacity of the main pumping station would be around 3,300gpm to match projected flows from the integrated parts of Areas A, B, and C.

The Portland treatment option requires transporting the Pleasant Valley wastewater to Portland's sewage conveyance system. One approach would involve building gravity sewers, but this would require extensive construction in the sensitive Kelley Creek and Johnson Creek riparian corridor and stream channel. A more likely solution would be to use a large pump station on the south side of Kelley Creek near 172nd Avenue combined with a pressure sewer line - most likely constructed along Foster Road - to an inter-tie point with Portland's sewer system. Sewage would then flow through Portland sewers, some of which would need to be enlarged to accommodate the additional flow. Sewage would be treated at the Columbia Boulevard treatment plan and discharged to the Columbia River.

An engineering analysis by the City of Gresham has led Gresham to conclude that for Area A and C, the preferred solution is to convey by gravity sewage to the Gresham Treatment Plant. More analysis is needed to determine whether or not some flow from Area B also should be treated in Gresham. A final decision on the treatment option for Area B will be made when Portland adopts amendments to its public facility plan for Area B.

As noted above, it is conceivable that the flow from Area C, in Clackamas County, could be collected and diverted south to Clackamas County Sewer Service District #1. This approach, however, would be expensive because it runs counter to the terrain. This option would only be pursued if the area becomes part of Happy Valley and if an agreement cannot be reached for treating flow from this area in Gresham or Portland.

***The City of Portland Treatment Solution***. Portland currently treats most of the sanitary sewage generated within the 12,750-acre Johnson Creek basin. Portland also accepts sanitary sewer flows generated in the basin from the city of Gresham at four locations: SE 162nd Avenue and SE Stark Street, SE 176th Avenue, SE Haig Street, and Foster and 162nd Avenue. Portland also accepts sewage flows from Clackamas County Sewer Service District #1 at: SE 132nd Avenue and SE Clatsop Street, SE Linwood Avenue at Johnson Creek Blvd.

The McKinley Estates, located in the Jenne-Powell sub-basin, also is served by Portland. This development is served by an 8-inch sewer line in SE Jenne Road (from SE McKinley Road to Foster Road) and an 8-inch line in Foster Road (from SE Jenne Road to 162nd Avenue), where it discharges into the city's sewer system in a 10-inch line.

Portland completed a Public Facilities Plan in July 1999. This plan included an analysis for serving the Pleasant Valley Concept Plan area. Johnson Creek was modeled using a spreadsheet analysis tool. Infiltration and inflow (I/I) contributions varied within the model, depending on whether actual monitoring data were available. Because of the proximity of the Pleasant Valley Concept Plan area, the modeling effort considered the impacts of both including and excluding this area as part of the analysis.

In addition to existing pipes, the model contains hypothetical pipes that may be constructed in the future to serve undeveloped areas within Pleasant Valley. These future pipes were placed on a planning-level alignment based on topography and street location. Sub-basins were delineated so that the flows in these future pipes could be turned on and off as required for the analysis.

In the 2015 base-case (without Pleasant Valley) wet weather scenario, the 10-inch and 18-inch sewer lines following SE Knapp Street were too small to accommodate projected flows. The total deficient length is less than 1,000 feet. The main branch serving the mid-county area (from SE Raymond Street and 122nd Avenue to Division Street and 148th Avenue) ran at 50 to 65 percent capacity. The segment on SE 111th Avenue just upstream of the Johnson Creek Interceptor ran at 70 to 75 percent capacity. The Johnson Creek Interceptor itself was at about 65 percent capacity below SE 112th Avenue and SE Foster Road (one segment was 81 percent) and at 20 to 30 percent capacity in the upper section. In summary, 214 pipes were zero to 25 percent full; 114 pipes were 25 to 50 percent full; 92 pipes were 50 to 75 percent full; and 8 pipes were 75 to 100 percent full.

The modeling then considered an alternative future condition with full build-out for development in Pleasant Valley and other unserved areas. Under that scenario, some reaches of the Johnson Creek trunk exceeded design capacity. The interceptor ran 80 to 90 percent full in the lower section and 75 to 80 percent full in the upper section, with isolated segments running at 116 percent and 104 percent, respectively. About 645 feet of pipe in two locations would need to be replaced in the Johnson Creek basin.

Further modeling efforts in these areas would aid in predicting whether some of this pipe can be surcharged at an acceptable level. If so, the existing pipeline may not need to be replaced. Before a decision is made about directing flow from Pleasant Valley to Portland, a more sophisticated Stormwater Management Model ("SWMM") should be developed for the sewer system and reliable cost estimates prepared for related improvements.

In addition to replacing undersized sewer lines, flow from Pleasant Valley would be conveyed through parts of Portland's sewer system that are being overhauled to reduce combined sewer overflows. The overflow reduction has been accomplished by building very large deep conduit pipes that provide temporary storage for sewage during storm events. This sewage must later be pumped out of the storage conduits for treatment. It is estimated that sewage from Pleasant Valley may need to be pumped three or four times as it traverses the Portland system before being treated. This adds significantly to the cost of conveying and treating sewage through Portland. As a consequence, it is estimated that Portland sewer rates will be 30% or more higher than Gresham rates for domestic service. For areas in the City of Gresham, this rate differential represents a significant concern.

***City of Gresham Treatment Solution.*** The City of Gresham provides sanitary sewer collection and treatment for more than 90,000 residents, businesses, and industries within the City. Through its wastewater management program, the City is able to provide high quality service to ratepayers while protecting the area's sensitive surface water features. Gresham's service area contains seven major sewer basins totaling approximately 14,171 acres (22 square miles). In addition to the seven sewer basins, the City also accepts wastewater flows from the City of Fairview (228 acres) and the City of Wood Village (604 acres), and a small amount of flow from the City of Portland. The service area extends from the Columbia River at an elevation of approximately 10 feet to the southern edge of Multnomah County at an approximate elevation of 1,000 feet. The service area is bordered by the City of Portland to the west and Fairview, Troutdale, and unincorporated Multnomah County to the north and east.

Gresham recently expanded its sewage treatment plant and has capacity to serve Pleasant Valley. In February 2001, Gresham updated its Wastewater System Master Plan. The plan included a

service analysis for most of the Pleasant Valley Concept Plan area but it excluded Area C within Clackamas County. Like the modeling that was used for Portland, the analysis established a baseline flow condition for Gresham's existing service area and then identified necessary improvements under build out conditions to accommodate the additional flow from Pleasant Valley. This flow would likely be introduced to Gresham's system at the west end of the Johnson Creek Trunk.

Without contributions from Pleasant Valley, the Johnson Creek trunk is projected to carry a flow of 1,724 gallons per minute ("gpm"). With Pleasant Valley flows added, the line would need to carry an additional 3,300 gpm to 5,024 gpm, depending on the size of the area served and infiltration rates. This represents an increase of approximately 190 percent. The trunk line does not have capacity to accommodate this flow.

The closest pipeline with capacity to accept flow from Pleasant Valley is located in SW 11$^{th}$ Ave. just north of where Johnson Creek crosses under Jenne Road. A total of 3,116-linear feet of sewer pipe will need to be upsized to convey the additional flow to the Linneman pump station, and additional piping to convey flow within the Johnson Creek basin. Additional pumping capacity also must be provided. The size of the new force main from the Linneman pump station would need to be increased or a third parallel force main provided to maintain head loss and velocity at reasonable levels given the increased flow. Finally, because the West Trunk, Gresham Parallel Interceptor, and a planned new interceptor are forecast to be at capacity without flows from Pleasant Valley, the size of the new interceptor would need to be increased to accommodate Pleasant Valley flows.

***Clackamas County Treatment Solution***. Clackamas County's Water Environment Services ("WES") manages 3 service districts that provide sanitary sewer and surface water management service to over 150,000 customers. WES operates and maintains five wastewater treatment systems, 17 pump stations, and more than 240 miles of gravity sanitary sewer pipelines. The Kellogg Creek Wastewater Treatment Plant serves the City of Happy Valley and the unincorporated North Clackamas Urban area. This plant would likely accept any flow diverted from Pleasant Valley.

Area C is in Clackamas County. Gresham does not include any land from Clackamas County within its incorporated boundaries and has no agreements of procedures with the county for doing so. If Gresham and the County do not agree that Area C will be annexed into Gresham, it would still be possible for Gresham to serve Area C through an urban service agreement with Clackamas County. If that approach proves infeasible, Area C could be served by Clackamas County Sewer Service District #1. To do so, the District will need to update its sewer master plan and analyze how best to collect and pump sewage from Area C out of the Johnson Creek basin into the Clackamas basin and identify where to connect to the district's conveyance system. This would not be an efficient service delivery option for sewers.

## SUMMARY OF FUTURE NEEDS

The City of Gresham and Portland have sufficient treatment capacity to serve all areas within Pleasant Valley. Preliminary analysis by Gresham suggests that at least for Areas A and C, Gresham conveyance and treatment would be the preferred option, but both Portland and Gresham would benefit from an engineering analysis that compares the long-term capital improvement and operating costs associated for each alternative. In addition, a more refined

engineering analysis is needed to establish a location for the major pump station serving Pleasant Valley and the related force mains. The study needs to be conducted consistent with the 1998 IGA between Portland and Gresham re: future planning for sanitary sewer services in Pleasant Valley. The analysis also should consider the marginal impact on SDC improvement fees of constructing these conveyance facilities. This study is a critical path element because urban development cannot proceed in Pleasant Valley without a solution to the sewage treatment question.

Building the main pump station and force main is also a critical path public improvement because relatively little urban development can occur in Pleasant Valley without this facility. It may be possible to serve some interim development in the northeastern part of Pleasant Valley using temporary pump stations if there is conveyance capacity in Gresham's existing sewers north of the valley. This interim solution would need to be funded privately and these temporary pump stations decommissioned when the main pump station becomes operational and sewer connections are constructed to the main pump station.

While both Portland and Gresham have conducted a preliminary analysis of off-site conveyance routes and treatment capacity to serve Pleasant Valley, neither jurisdiction has amended their public facility plans or master plans to include specific sewer improvement projects within Pleasant Valley. This step provides certainty to property developers regarding fair-share allocation of improvement costs as well as providing a foundation for updating SDC improvement fees. Master plans should be amended to include the collection system improvements within Pleasant Valley and the off-site system improvements once a conveyance and treatment solution is established.

Both Portland and Gresham may need to modify their SDC improvement fees for sanitary sewers depending on the marginal cost associated with serving Pleasant Valley. Each jurisdiction also will need to modify their SDC improvement fee project list to make Pleasant Valley system improvements eligible to be financed with SDC revenue.

Additional intergovernmental work may be needed between Gresham and Portland if any portion of Area B obtains sewage treatment service from Gresham. Gresham and Portland already have intergovernmental agreements for contract treatment service to use in developing such an agreement.

Additional intergovernmental work is needed to determine whether or not Gresham will serve Area C either by annexing this area, or through a special service agreement. If Gresham serves the area on a contract basis, Clackamas County and Gresham need to make sure this agreement conforms with provisions of ORS 195 related to urban service provider agreements. If need be, Clackamas County Sewer Service District #1 can serve Area C, but no planning is in place to proceed with this solution.

## FINANCING PLAN

The following discussion presents the envisioned strategy for financing wastewater service extensions in the Gresham and Portland sections of Pleasant Valley. For analysis purposes, the boundary between Portland and Gresham is presumed to be Mitchell Creek in the west. The Jenne Road area is also presumed to be part of Portland. All other areas in Multnomah County are anticipated to be in Gresham. The final boundary will likely shift away from the creek, but at

this time, the shift is not expected to significantly alter the relative cost burden depicted for Gresham and Portland. This discussion assumes Gresham will serve the Clackamas County area (Area C). The ultimate service and governance providers for Area C have not been determined and will be the subject of future agreements.

***Sanitary Sewer***. Both Gresham and Portland have traditionally relied on developer contributions, SDCs, and retained earnings from the utility to finance system expansion. Each city has borrowed against future utility revenues to make significant improvements to their sewage treatment and conveyance systems. Both cities collect sanitary sewer SDCs to help pay for conveyance and treatment costs related to growth.

The areas of Pleasant Valley that may be annexed to Portland should generate sufficient revenue from private contributions, utility earnings, and SDCs to finance service extensions. There is a capacity limitation in the Portland conveyance system down-gradient from Pleasant Valley, but the flow from the Jenne Road and west Mitchell Creek areas may not significantly alter the scale of that problem or planned solutions to it. Sewer extensions in Portland service areas, therefore, can be financed incrementally with private contributions and SDCs.
In Gresham service areas, the analysis indicates that existing SDCs will not be adequate to finance treatment and collection system improvements. Another solution that may be considered is to use a sewer utility surcharge to offset the added capital and operating costs associated with serving Pleasant Valley. A refinement study to the Gresham Sewer Master Plan will be initiated in FY 2003-04 to analyze this issue and determine which approach should be used.

As with water, there are short-term service issues that also need to be resolved. If development in Pleasant Valley proceeds from west to east, the city will provide capacity by constructing the 24-inch sewer line from Linneman to Jenne Road at Foster Road. As sewer lines are extended east and south, this would provide an orderly sequence for extending sewer service.

If development precedes from east to west, a solution for funding the construction of the new sewer system through undeveloped property to the Kelley Creek pump station site is through the use of reimbursement districts. The City will likely receive proposals for constructing interim pump stations that would convey sewage from eastern development tracts to existing sewer lines in Gresham. These existing sewer lines were not designed to carry the additional flow that would result from allowing interim pump stations. From a sewer service perspective, this is an undesirable approach because it involves duplicative system investment and additional regulatory and operating costs in high-maintenance pump facilities. It is a policy decision for Gresham to decide if it wishes to allow interim pumping, but this may be a viable short-term service solution.

## GOALS, POLICIES AND ACTION MEASURES

### GOALS AND POLICIES

Applicable goals and policies that relate to the provision of public facilities in the existing comprehensive plans for the cities of Portland and Gresham also apply to the Pleasant Valley PFP. In addition to those goals and policies, the following policies are made part of this plan.

1. The City of Gresham and Clackamas County will work cooperatively to identify a cost effective solution for serving that part of Clackamas County that is within the Pleasant

Valley Concept Plan area. If agreement between Gresham and the County does not anticipate annexation of this area to Gresham, it will comply with provisions of ORS 195 for urban service providers.

## ACTION MEASURES

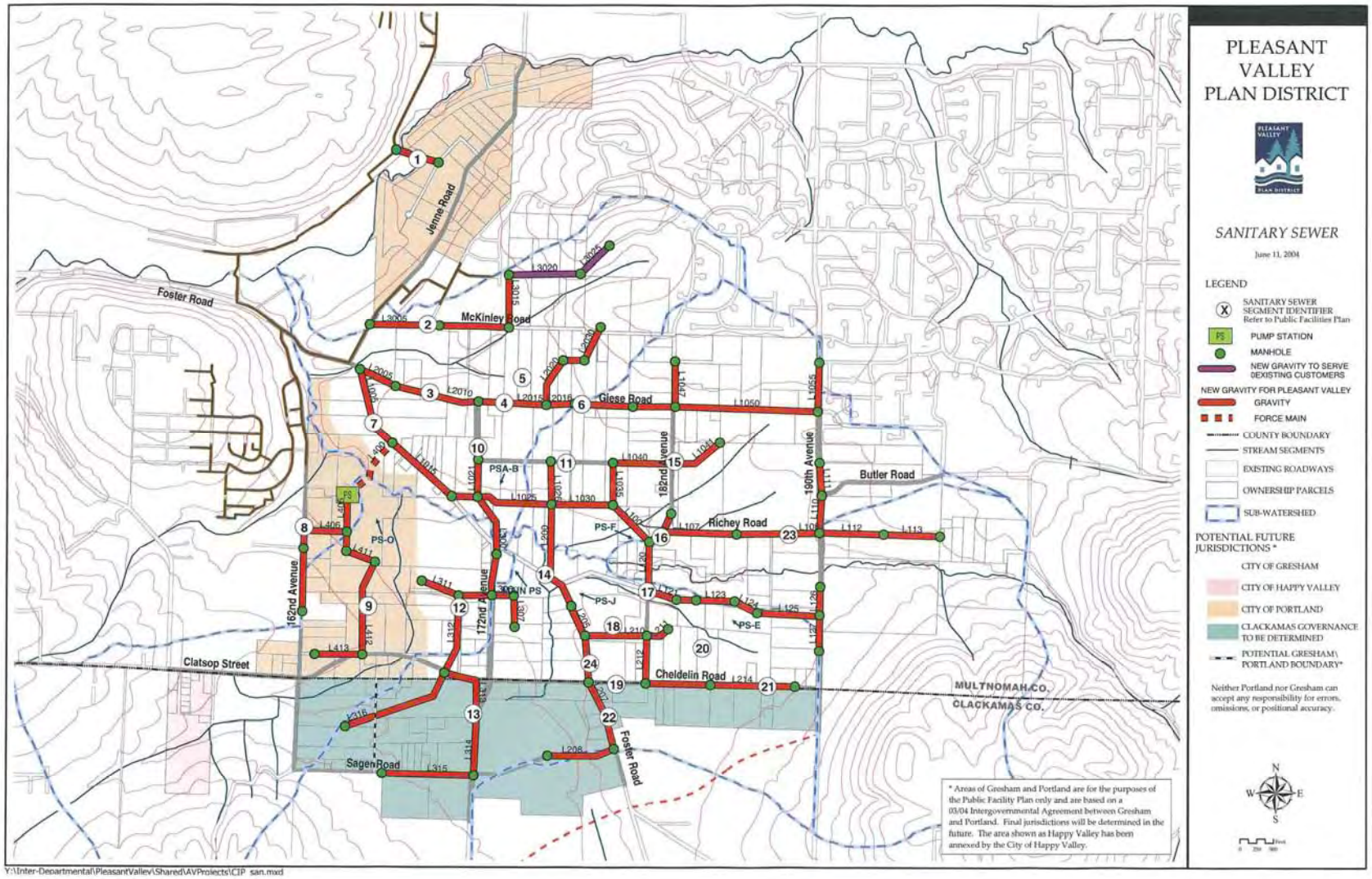
1. Update the City of Portland public facility plan to establish the size and preferred routing for sewer system improvements serving Area B.

2. Update the City of Gresham sewer master plan to establish the size and preferred routing for sewer system improvements serving Area A and C.

3. Review and, if necessary, update the City of Gresham and Portland system development charges for sewers. Update the SDC improvement project list to include the relevant Yr 1-5 sewer projects listed in the CIP section of this plan.

4. Update the Portland and Gresham 5-Year Capital Improvement Plan to include critical path sewer system improvements consistent with the annexation strategy that emerges for Pleasant Valley and the conveyance and treatment option that is selected.

5. Gresham and Clackamas County need to conclude negotiations for territorial expansion and/or service agreements for Area C. Regardless of the solution, the agreement needs to comply with provisions of ORS 195 that relate to urban service providers.


PLEASANT VALLEY PLAN DISTRICT
SANITARY SEWER
June 11, 2004
LEGEND
SANITARY SEWER SEGMENT IDENTIFIER Refer to Public Facilities Plan
PUMP STATION
MANHOLE
NEW GRAVITY TO SERVE DEXISTING CUSTOMERS
NEW GRAVITY FOR PLEASANT VALLEY
GRAVITY
FORCE MAIN
COUNTY BOUNDARY
STREAM SEGMENTS
EXISTING ROADWAYS
OWNERSHIP PARCELS
SUB-WATERSHED
POTENTIAL FUTURE JURISDICTIONS *
CITY OF GRESHAM
CITY OF HAPPY VALLEY
CITY OF PORTLAND
CLACKAMAS GOVERNANCE TO BE DETERMINED
POTENTIAL GRESHAM\ PORTLAND BOUNDARY*
Neither Portland nor Gresham can accept any responsibility for errors, omissions, or positional accuracy.
* Areas of Gresham and Portland are for the purposes of the Public Facility Plan only and are based on a 03/04 Intergovernmental Agreement between Gresham and Portland. Final jurisdictions will be determined in the future. The area shown as Happy Valley has been annexed by the City of Happy Valley.
Jenne Road
Foster Road
McKinley Road
Giese Road
Butler Road
Richey Road
Cheldelin Road
Clatsop Street
Sager Road
162nd Avenue
172nd Avenue
182nd Avenue
190th Avenue
PSA-B
PS-F
PS-O
PS-J
PS-E
MULTNOMAH CO.
CLACKAMAS CO.
Y:\Inter-Departmental\PleasantValley\Shared\AVProjects\CIP san.mxd

**Section 10.722 – Appendix B**

Pleasant Valley Public Facility Plan

**Sanitary Sewer Capital Improvement Project List**

| Annexation Area | Pipe Name/ Run | Pipe Size (in) | Pipe Length (ft) | 2004 Cost | Construction Contingency | Construction Cost | Engineering | Admin. | Project Total | Timing | Responsible Jurisdiction | Funding Source |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Area 1A | L4005 | 8 | 660 | $79,400 | $3,820 | $103,220 | $18,580 | $ 3,097 | $ 124,896 | 6-20 | Portland | SDC/Local |
| | **Area 1A Subtotal** | | | **$79,400** | **$23,820** | **$103,220** | **$ 18,580** | **$ 3,097** | **$ 124,896** | **6-20** | **Portland** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 2A | L3005-L3015 | 8 | 2,870 | $178,732 | $53,620 | $232,352 | $ 41,823 | $ 6,971 | $ 281,145 | 6-20 | Gresham | SDC/Local |
| | L2005-L2015 | 12 | 2,865 | $405,000 | $121,00 | $526,500 | $ 94,770 | $ 15,795 | $ 637,065 | 6-20 | Gresham | SDC/Local |
| | L2020-L2025 | 8 | 1,055 | $126,000 | $37,800 | $163,800 | $ 29,484 | $ 4,914 | $ 198,198 | 6-20 | Gresham | SDC/Local |
| | **Area 2A Subtotal** | | | **$709,732** | **$12,920** | **$922,652** | **$ 166,077** | **$ 27,680** | **$ 1,116,408** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 3A | L1047 | 8 | 675 | $ 81,100 | $24,330 | $105,430 | $ 18,977 | $ 3,163 | $ 127,570 | 6-20 | Gresham | SDC/Local |
| | L2030 | 8 | 555 | $67,800 | $20,340 | $ 88,140 | $ 15,865 | $ 2,644 | $ 106,649 | 6-20 | Gresham | SDC/Local |
| | L2016-L2055 | 8 | 4,780 | $561,000 | $68,300 | $729,300 | $ 131,274 | $ 21,879 | $ 882,453 | 6-20 | Gresham | SDC/Local |
| | **Area 3A Subtotal** | | | **$ 709,900** | **$212,970** | **$922,870** | **$ 166,117** | **$ 27,686** | **$ 1,116,673** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 2B | L1005 | 24 | 715 | $ 151,000 | $45,300 | $196,300 | $ 35,334 | $ 5,889 | $ 237,523 | 6-20 | Gresham | SDC/Local |
| | L1015 | 24 | 790 | $ 224,000 | $67,200 | $291,200 | $ 52,416 | $ 8,736 | $ 352,352 | 6-20 | Gresham | SDC/Local |
| | L1020 | 24 | 365 | $ 76,900 | $23,070 | $99,970 | $ 17,995 | $ 2,999 | $ 120,964 | 6-20 | Gresham | SDC/Local |
| | Microtunnel-L1015-L1005 | 24 | 975 | $1,070,000 | $ 321,000 | $1,391,000 | $ 250,380 | $ 41,730 | $ 1,683,110 | 6-20 | Gresham | SDC/Local |
| | **Area 2B Subtotal** | | | **$1,521,900** | **$ 456,570** | **$1,978,470** | **$ 356,125** | **$ 59,354** | **$ 2,393,949** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 2D | L1021 | 12 | 550 | $88,500 | $26,550 | $115,050 | $ 20,709 | $ 3,452 | $ 139,211 | 6-20 | Gresham | SDC/Local |
| | L1025 | 24 | 1,130 | $268,000 | 80,400 | $348,400 | $ 62,712 | $ 10,452 | $ 421,564 | 6-20 | Gresham | SDC/Local |
| | **Area 2D Subtotal** | | | **$356,500** | **$106,950** | **$463,450** | **$ 83,421** | **$ 13,904** | **$560,775** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 2C | L1026 | 18 | 635 | $130,000 | $39,000 | $169,000 | $ 30,420 | $ 5,070 | $ 204,490 | 6-20 | Gresham | SDC/Local |
| | L1030 | 18 | 915 | $185,000 | $55,500 | $240,500 | $ 43,290 | $ 7,215 | $ 291,005 | 6-20 | Gresham | SDC/Local |
| | L1035 | 12 | 620 | $128,000 | $38,400 | $166,400 | $ 29,952 | $ 4,992 | $ 201,344 | 6-20 | Gresham | SDC/Local |
| | L1040 | 8 | 900 | $118,000 | $35,400 | $153,400 | $ 27,612 | $ 4,602 | $ 185,614 | 6-20 | Gresham | SDC/Local |

| Annexation Area | Pipe Name/ Run | Pipe Size (in) | Pipe Length (ft) | 2004 Cost | Construction Contingency | Construction Cost | Engineering | Admin. | Project Total | Timing | Responsible Jurisdiction | Funding Source |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pedestrian Bridge | N/A | N/A | $8,960 | $2,688 | $11,648 | $ 2,097 | $ 349 | $ 14,094 | 6-20 | Gresham | SDC/Local |
| | **Area 2C Subtotal** | | | **$569,960** | **$170,988** | **$740,948** | **$ 133,371** | **$ 22,228** | **$ 896,547** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 3B | L1041 | 8 | 810 | $96,000 | $28,800 | $ 124,800 | $ 22,464 | $ 3,744 | $ 151,008 | 6-20 | Gresham | SDC/Local |
| | L100 | 18 | 775 | $100,000 | $30,000 | $ 130,000 | $ 23,400 | $ 3,900 | $ 157,300 | 6-20 | Gresham | SDC/Local |
| | L105 | 18 | 255 | $56,900 | $17,070 | $ 73,970 | $ 13,315 | $ 2,219 | $ 89,504 | 6-20 | Gresham | SDC/Local |
| | L106 | 12 | 300 | $55,100 | $16,530 | $ 71,630 | $ 12,893 | $ 2,149 | $ 86,672 | 6-20 | Gresham | SDC/Local |
| | L107 | 8 | 1,100 | $131,000 | $39,300 | $ 170,300 | $ 30,654 | $ 5,109 | $ 206,063 | 6-20 | Gresham | SDC/Local |
| | L108 | 8 | 1,255 | $148,000 | $44,400 | $ 192,400 | $ 34,632 | $ 5,772 | $ 232,804 | 6-20 | Gresham | SDC/Local |
| | **Area 3B Subtotal** | | | **$587,000** | **$176,100** | **$ 763,100** | **$ 137,358** | **$ 22,893** | **$ 923,351** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 3C | L110-L111 | 8 | 1,040 | $125,000 | $37,500 | $ 162,500 | $ 29,250 | $ 4,875 | $ 196,625 | 6-20 | Gresham | SDC/Local |
| | L112-L113 | 8 | 1,800 | $212,000 | $63,600 | $ 275,600 | $ 49,608 | $ 8,268 | $ 333,476 | 6-20 | Gresham | SDC/Local |
| | **Area 3C Subtotal** | | | **$337,000** | **$101,100** | **$ 438,100** | **$ 78,858** | **$ 13,143** | **$ 530,101** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 1B | L406-L408 | 8 | 1,840 | $ 216,000 | $ 64,800 | $ 280,800 | $ 50,544 | $ 8,424 | $ 339,768 | 6-20 | Portland | SDC/Local |
| | L412-L413 | 8 | 2,135 | $ 252,000 | $ 75,600 | $ 327,600 | $ 58,968 | $ 9,828 | $ 396,396 | 6-20 | Portland | SDC/Local |
| | L411 | 8 | 460 | $ 69,800 | $ 20,940 | $ 90,740 | $ 16,333 | $ 2,722 | $ 109,795 | 6-20 | Portland | SDC/Local |
| | L410 | 8 | 295 | $ 35,800 | $ 10,740 | $ 46,540 | $ 8,377 | $ 1,396 | $ 56,313 | 6-20 | Portland | SDC/Local |
| | L405 | 8 | 550 | $ 76,200 | $ 22,860 | $ 99,060 | $ 17,831 | $ 2,972 | $ 119,863 | 6-20 | Portland | SDC/Local |
| | Force Main | 8 | 1,060 | $ 215,000 | $ 64,500 | $ 279,500 | $ 50,310 | $ 8,385 | $ 338,195 | 6-20 | Portland | SDC/Local |
| | Pump Station | N/A | N/A | $ 361,648 | $ 108,494 | $ 470,142 | $ 84,626 | $ 14,104 | $ 568,872 | 6-20 | Portland | SDC/Local |
| | **Area 1B Subtotal** | | | **$ 1,226,448** | **$ 367,934** | **$ 1,594,382** | **$ 286,989** | **$ 47,831** | **$ 1,929,203** | **6-20** | **Portland** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 1D | L300 | 18 | 950 | $ 122,000 | $ 36,600 | $ 158,600 | $ 28,548 | $ 4,758 | $ 191,906 | 6-20 | Gresham | SDC/Local |
| | L305 | 18 | 625 | $ 111,000 | $ 33,300 | $ 144,300 | $ 25,974 | $ 4,329 | $ 174,603 | 6-20 | Gresham | SDC/Local |
| | L310 | 12 | 495 | $ 75,300 | $ 22,590 | $ 97,890 | $ 17,620 | $ 2,937 | $ 118,447 | 6-20 | Gresham | SDC/Local |
| | L311 | 8 | 595 | $ 78,000 | $ 23,400 | $ 101,400 | $ 18,252 | $ 3,042 | $ 122,694 | 6-20 | Gresham | SDC/Local |
| | L312 | 12 | 1,205 | $ 172,000 | $ 51,600 | $ 223,600 | $ 40,248 | $ 6,708 | $ 270,556 | 6-20 | Gresham | SDC/Local |
| | **Area 1D Subtotal** | | | **$ 558,300** | **$ 167,490** | **$ 725,790** | **$ 130,642** | **$ 21,774** | **$ 878,206** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 4A | L200 | 18 | 1,645 | $ 212,000 | $ 63,600 | $ 275,600 | $ 49,608 | $ 8,268 | $ 333,476 | 6-20 | Gresham | SDC/Local |
| | L205 | 12 | 485 | $ 73,800 | $ 22,140 | $ 95,940 | $ 17,269 | $ 2,878 | $ 116,087 | 6-20 | Gresham | SDC/Local |

| Annexation Area | Pipe Name/ Run | Pipe Size (in) | Pipe Length (ft) | 2004 Cost | Construction Contingency | Construction Cost | Engineering | Admin. | Project Total | Timing | Responsible Jurisdiction | Funding Source |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | L206 | 8 | 705 | $ 117,000 | $ 35,100 | $ 152,100 | $ 27,378 | $ 4,563 | $ 184,041 | 6-20 | Gresham | SDC/Local |
| | L210 | 8 | 920 | $ 150,000 | $ 45,000 | $ 195,000 | $ 35,100 | $ 5,850 | $ 235,950 | 6-20 | Gresham | SDC/Local |
| | L306 | 12 | 330 | $ 51,300 | $ 15,390 | $ 66,690 | $ 12,004 | $ 2,001 | $ 80,695 | 6-20 | Gresham | SDC/Local |
| | L307 | 8 | 465 | $ 54,600 | $ 16,380 | $ 70,980 | $ 12,776 | $ 2,129 | $ 85,886 | 6-20 | Gresham | SDC/Local |
| | **Area 4A Subtotal** | | | **$ 658,700** | **$ 197,610** | **$ 856,310** | **$ 154,136** | **$ 25,689** | **$ 1,036,135** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 4C | L120 | 18 | 735 | $ 150,000 | $ 45,000 | $ 195,000 | $ 35,100 | $ 5,850 | $ 235,950 | 6-20 | Gresham | SDC/Local |
| | L121-L125 | 8 | 2,620 | $ 309,000 | $ 92,700 | $ 401,700 | $ 72,306 | $ 12,051 | $ 486,057 | 6-20 | Gresham | SDC/Local |
| | L126-L127 | 8 | 960 | $ 145,000 | $ 43,500 | $ 188,500 | $ 33,930 | $ 5,655 | $ 228,085 | 6-20 | Gresham | SDC/Local |
| | L211 | 8 | 360 | $ 48,900 | $ 14,670 | $ 63,570 | $ 11,443 | $ 1,907 | $ 76,920 | 6-20 | Gresham | SDC/Local |
| | **Area 4C Subtotal** | | | **$ 652,900** | **$ 195,870** | **$ 848,770** | **$ 152,779** | **$ 25,463** | **$1,027,012** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 5A | L313 | 12 | 1,025 | $ 188,000 | $ 56,400 | $ 244,400 | $ 43,992 | $ 7,332 | $ 295,724 | 6-20 | Gresham | SDC/Local |
| | L314-L315 | 8 | 2,240 | $ 264,000 | $ 79,200 | $ 343,200 | $ 61,776 | $ 10,296 | $ 415,272 | 6-20 | Gresham | SDC/Local |
| | L316 | 12 | 1,770 | $ 319,000 | $ 95,700 | $ 414,700 | $ 74,646 | $ 12,441 | $ 501,787 | 6-20 | Gresham | SDC/Local |
| | **Area 5A Subtotal** | | | **$ 771,000** | **$ 231,300** | **$ 1,002,300** | **$ 180,414** | **$ 30,069** | **$1,212,783** | **6-20** | **Gresham** | **SDC/Local** |
| | | | | | | | | | | | | |
| Area 4B | L207 | 8 | 1,060 | $ 141,000 | $ 42,300 | $ 183,300 | $ 32,994 | $ 5,499 | $ 221,793 | 6-20 | Gresham | SDC/Local |
| | L208 | 8 | 1,005 | $ 168,000 | $ 50,400 | $ 218,400 | $ 39,312 | $ 6,552 | $ 264,264 | 6-20 | Gresham | SDC/Local |
| | **Area 4B Subtotal** | | | **$ 309,000** | **$ 92,700** | **$ 401,700** | **$ 72,306** | **$ 12,051** | **$ 486,057** | **6-20** | **Gresham** | **SDC/Local** |
| Area 4D | L212 | 8 | 720 | $ 97,700 | $ 29,310 | $ 127,010 | $ 22,862 | $ 3,810 | $ 153,682 | 6-20 | Gresham | SDC/Local |
| | L213-L214 | 8 | 2,230 | $ 263,000 | $ 78,900 | $ 341,900 | $ 61,542 | $ 10,257 | $ 413,699 | 6-20 | Gresham | SDC/Local |
| | **Area 4D Subtotal** | | | **$ 360,700** | **$ 108,210** | **$ 468,910** | **$ 84,404** | **$ 14,067** | **$567,381** | **6-20** | **Gresham** | **SDC/Local** |

| | 2004 Cost | Construction Contingency | Construction Cost | Engineering | Admin. | Project Total |
|---|---|---|---|---|---|---|
| **TOTAL PLEASANT VALLEY SERVICE AREA** | **$ 9,408,440** | **$ 2,822,532** | **$ 12,230,972** | **$ 2,201,575** | **$ 366,929** | **$14,799,476** |
| **OFFSITE COSTS (PLEASANT VALLEY SHARE)[1]** | | | | | **$5,369,000** | |
| **TOTAL PROJECT COST** | | | | | | **$20,168,476** |

1. Offsite costs include Jenne/Foster Interceptor, increased capacity at Linnemann Pump Station, and Pleasant Valley share of new interceptor capacity.

## 10.723 STORMWATER MANAGEMENT SYSTEM

SYSTEM DESCRIPTION/CONDITION ASSESSMENT

***Existing Conditions***. Pleasant Valley is a rural area where stormwater is currently conveyed overland in ditches to natural drainageways. Drainage ditches next to public roadways convey runoff from road surfaces, and in some cases from adjacent private properties, to natural stream channels. Some stream channels are in good condition, although many are degraded. Most of the valley, which has shallow soils underlain by hardpan clays, was tilled to drain the native wetland prairies for farming. Many of the area's small tributary streams were either eliminated or excavated for drainage ditches. Most riparian habitat was removed, except in places where steep banks made farming impractical. The result is a significantly altered watershed that now sustains only a fraction of the once abundant fish and wildlife species native to the valley (see the *Evaluation of Aquatic and Upland Habitat for the Kelley Creek Watershed* for more details).

***Planned Improvements***. Urban development has historically had a dramatic adverse impact on watershed health, especially in riparian areas. The recommended stormwater system for Pleasant Valley is intended to minimize this impact and maintain or restore watershed functionality using the goals and recommendations of the Natural Resources/Watersheds Implementation and Green Practices Reports. While urbanization is not anticipated to restore the health of the watershed to pre-development conditions, it may actually improve on current conditions and restore parts of the watershed.

In Pleasant Valley, the envisioned stormwater drainage system will serve an important role as the framework for the community's design. Rather than a conventional approach, which uses storm sewer pipes beneath the street to quickly convey storm runoff to stream channels that are also managed for stormwater conveyance, a more natural system is recommended. In the public right-of-way, adjacent to the area roads, vegetated swales are proposed to convey stormwater. The swales will convey runoff more slowly than a pipe system and provide water quality treatment. These systems cost less to build than an underground pipe system, but are more expensive to maintain.

The swale system will discharge to regional stormwater management facilities that serve two functions. First, they will slow down the stormwater flow and let vegetation in the facility improve water quality by "polishing" the runoff to removing excessive sediment and pollutants. Second, in combination with stormwater management facilities, they will regulate the rate and volume of stormwater discharge to the natural stream channels in the Environmentally Sensitive Restoration Areas ("ESRA") to a level that is no greater than the discharge rate and duration of pre-development conditions to the maximum extent practicable.

Acquiring sites for stormwater management facilities is a high priority in the early years as development takes hold in Pleasant Valley. A map showing the approximate location of the proposed stormwater system improvements is included in Appendix A. The final location of facilities is subject to the outcome of the stormwater master plan.

Finally, within the ESRAs, restoration efforts would be encouraged to improve riparian character and function. This would provide multiple benefits, such as improvements in water quality and fish and wildlife habitat, as well as providing greenway belts throughout the urban landscape. The expected Total Maximum Daily Load limitations for temperature in the Johnson Creek basin

may enable the use of "water quality credits" in the upper part of the watershed to offset development impacts elsewhere in the watershed, which could provide private financing for environmental restoration in the ESRAs.

***Development Regulation***. Development guidelines generally allow, and in some cases require, that runoff from impervious surfaces in residential areas be discharged to the public drainage system. While protective of properties, this practice can result in a significant increase in storm discharge to natural drainages that contribute to bank erosion, scouring and wildly fluctuating stream conditions. Some codes require "on-site" detention to manage the rate of discharge to pre-development conditions for a design storm. The success of these regulations, especially in residential areas, has been mixed. Part of the problem is that "on-site" usually means somewhere in the subdivision, a local detention facility is constructed. Unless these facilities are well maintained, however, they do not function as designed and end up bypassing most of the runoff they were suppose to detain. In addition, detention facilities often manage the rate of flow but not the duration. As a result stormwater can discharge into creeks for longer periods than under natural conditions and cause significant erosion.

In Pleasant Valley, the Concept Plan calls for development codes that will require the on-site management of rain for individual property by offering a menu of stormwater management facilities and landscaping systems designed to allow everyday storm runoff to be infiltrated into the ground or evapotranspired. An overflow system would be designed so that when a larger storm occurs, the runoff would be conveyed through a series of swales in the street right-of-way to the public stormwater facilities. The public system would be oversized to handle larger storm events. It is recommended that the stormwater system serving arterial and collector streets be sized for the 100-year storm. The stormwater systems in other streets could be designed for the nuisance storm that also may be combined with regional stormwater management facilities.

***Implementation***. The stormwater management approach in Pleasant Valley has been designed around a watershed approach. All areas within the watershed need to adhere to the same stormwater management approach for the system to work properly. The stormwater management policies and design guidelines will be incorporated into the SWM plan for the Kelley Creek Watershed. These design guidelines will need to be carefully integrated with street design guidelines. For example, the swale system will have a significant impact on street access from adjoining properties. The whole system will need to be designed differently for pedestrians, cars and trucks, and transit vehicles. To ensure the concept functions seamlessly, both Gresham and Portland will adopt this SWM plan as part of their development code. Both jurisdictions will then enforce the same stormwater design guidelines and regulations.

The stormwater conveyance system will parallel the road system. In addition, the location of regional public stormwater management facilities is only generally known at this time. Their size and how they will work in conjunction with the conveyance system has not been refined to the point where system improvements could be approved for construction. An area stormwater master plan is needed to refine the design concepts for the system to the point where facility design and construction can begin. That planning effort is a critical path element for plan implementation.

## SUMMARY OF FUTURE NEEDS

Stormwater facilities planning needs to be refined for Pleasant Valley in a master plan that more precisely identifies the system design, facility locations, and cost and schedule. The master plan needs to be carefully coordinated with the "green street" transportation system improvements. In addition to facility needs and design goals, the plan also should establish a financing framework for stormwater management in Pleasant Valley. The City of Portland will participate in this planning process because it will be implementing parts of the plan. This planning work is a critical path element for PFP implementation.

Coordination is needed between Gresham, Portland, Multnomah County and Clackamas County regarding stormwater system planning and design guidelines for public roads and stormwater conveyance in Areas A, B, and C. A consistent approach regarding stormwater conveyance standards, development setbacks, allowed uses in the ESRAs, and other issues related to stormwater management should be spelled out in an intergovernmental agreement.

Gresham and Portland need to develop and adopt uniform stormwater management guidelines for residential, commercial, and industrial development in Pleasant Valley as part of the plan district for the area. Portland and Gresham may both wish to extend the district boundaries to encompass areas that are within the Kelley/Mitchell Creek watershed but outside the Pleasant Valley study area boundary.

If a city-wide SDC is preferred (rather than Pleasant Valley-specific SDC), Portland and Gresham will need to modify their SDC improvement fees for stormwater facilities depending on the marginal cost associated with serving Pleasant Valley. Each jurisdiction also will need to modify their SDC improvement fee project list to make near-term priority improvements eligible for financing with SDC revenue.

If a city-wide stormwater utility is preferred (rather than Pleasant Valley-specific rates), Gresham and Portland will need to modify their stormwater utility system to address the added maintenance cost associated with system improvements in Pleasant Valley. An analysis is needed of impacts on existing utility rates, how to phase in rate increases, and how to fairly assess rate adjustments. Both jurisdictions may wish to consider combining stormwater management fees with a street maintenance fee, if available.

Purchase property for regional stormwater management facilities as soon as possible (after completing the Stormwater Master Plan)

## FINANCING PLAN

The following discussion presents the envisioned strategy for financing stormwater service extensions in the Gresham and Portland sections of Pleasant Valley. For analysis purposes, the boundary between Portland and Gresham is presumed to be Mitchell Creek in the west. The Jenne Road area is also presumed to be part of Portland. All other areas are anticipated to be in Gresham. The final boundary will likely shift away from the creek, but at this time, the shift is not expected to significantly alter the relative cost burden depicted for Gresham and Portland. This discussion assumes Gresham will serve the Clackamas County area (Area C). The ultimate service and governance providers for Area C have not been determined and will be the subject of future agreements.

***Stormwater***. Financing the Pleasant Valley stormwater system requires an innovative approach. Gresham and Portland have traditionally relied on developer contributions, SDCs, and street improvements to pay for stormwater improvements. In Pleasant Valley, however, the envisioned "green street" design is significantly different than the system elsewhere in either city. The swale system costs less to build than an underground pipe system connected to storm drains, but has significantly higher operating costs. The swale system has only been conceptually planned and a more detailed stormwater master plan is scheduled to be developed in FY 2003-04. The study also will evaluate existing SDC, utility fees, and other resources to determine how to finance service delivery.

The annexation analysis for Pleasant Valley indicates that even though swale systems are less expensive to build than pipe systems, existing SDCs in Gresham and Portland will not finance the envisioned swale system improvements. The main reason for this is because the cost of storm drains and storm sewers, which constitute most of the drainage conveyance system, is usually embedded in the cost to build roads. In the Pleasant Valley plan, the swale system has been broken out separately. In addition to swales, there are 16 regional stormwater management facilities included in the program costs. The combined shortfall for swales and SWM facilities is around $6 million.

It is likely, therefore, that stormwater system development fees will need to be increased in Pleasant Valley, either by adopting a Pleasant Valley SDC overlay or by treating Pleasant Valley basins as a completely separate drainage system from other parts of Portland and Gresham and developing a separate financing plan for this system that may include SDCs, utility charges, and/or local assessments. The analysis may have consequences for the SDC methodology used in Portland and Gresham.

An even larger shortfall occurs on the operation side, where the difference in operating costs between a pipe system and a swale system is estimated at $1 million per year. At build-out, the operating cost for the storm drainage system is forecast to be between 70% and 80% of the forecast O&M cost for the water system, which could result in a residential service rate as high as $25 per month. One way to offset the difference between existing drainage rates and projected operating costs is to assess Pleasant Valley customers an operating surcharge over and above Gresham's monthly drainage utility fee. Another approach would be to treat Pleasant Valley as a separate drainage district within Gresham (and potentially Portland as well), and establish a basin-wide fee structure for this system. A connection fee also should be considered to finance the initial purchases of specialized equipment for maintaining the swale system.

Finally, financing the stormwater management system will be different than the financing for other infrastructure. As noted above, capital costs for the swale system will likely be significantly less than for a traditional pipe system. Maintenance costs, however, will likely be higher and will affect not only the swale system but also the "green street" system. A financing strategy that examines the feasibility of considering both the capital development as well as the maintenance costs needs to be adopted.

This plan envisions that Pleasant Valley stormwater SDCs will be unique to the area and will pay for constructing both the swale system and the stormwater management facilities. Pleasant Valley residents may also pay a different stormwater utility fee than other areas of Gresham and Portland to recover the higher maintenance costs associated with the swale system. If Gresham

establishes street maintenance fees, it may be possible to combine the SWM fee with a street maintenance fee given the integrated nature of the green street and swale system. At this time, it is anticipated that Stormwater utility will be used to provide maintenance for the green street swale system. The swale system has only been conceptually planned and a more detailed stormwater master plan is being developed in FY 2003-04. The study also will evaluate existing SDC, utility fees, and other resources to determine how to finance service delivery. Preparation of the financing strategy is a critical path element and should be integrated with the SWM master planning process.

Appendix A of this section includes a map showing proposed stormwater system improvements.

## GOALS, POLICIES AND ACTION MEASURES

### GOAL

The Cities shall manage stormwater to minimize impacts on localized and downstream flooding and to protect water quality and aquatic habitat.

### POLICIES

1. Manage stormwater through the use of facilities that rely on infiltration, bio-retention, and evapotranspiration or other processes that mimic the natural hydrologic regime. All local, state and federal permit requirements related to implementation of stormwater management facilities must be met by the owner/operator prior to facility use.

2. Stormwater management shall avoid a net negative impact on nearby streams, wetlands, groundwater, and other water bodies to maximum extent practicable.

3. The quantity of stormwater after development shall be equal to or less than the quantity of stormwater before development, wherever practicable.

    a. Development shall mitigate all project impervious surfaces through retention and on-site infiltration to the maximum extent practicable for up to the nuisance storm event (the nuisance storm is based on a real rainfall event. That closely resembles the 10-year simulated design event). Stormwater discharges from on-site facilities shall be conveyed via an approved drainage facility.

    b. Where lots are too small for on-site stormwater facilities adjacent private developments may manage stormwater in a shared facility that is appropriately sized and meets water quality and flow control design standards.

    c. Public stormwater facilities shall be designed such that the rate and duration of flow discharging from facilities for up to a nuisance storm does not lengthen the period of time the stream channel sustains erosion causing flows.

    d. Conveyance swales and public stormwater facilities shall be designed to provide conveyance for the 100-year storm event.

    e. Public stormwater facilities shall be designed to provide storage for the nuisance storm event. Facility design is based on the following:

| Type of Facility | Design Storm Frequency |
|---|---|
| Arterial or collector | 100 year |
| All others | 10 year |

4. The quality of stormwater after development shall be equal to or better than the quality of stormwater before development, as much as is practicable, based on the following criteria:

   a. Stormwater facilities shall be designed to achieve a jointly adopted SWM Master Plan for the Cities of Portland and Gresham. Presently, Portland requires facilities to be designed to treat at least 70% removal of the Total Suspended Solids ("TSS") from the flow entering the facility for the design storm specified in the City of Portland Stormwater Management Manual. Gresham's requirements use presumptive approach rather than performance approach.

   b. Land use activities of particular concern as pollution sources shall be required to implement additional pollution controls, including, but not limited to, those management practices specified in a jointly adopted SWM Master Plan for Pleasant Valley.

   c. Stormwater facilities shall meet the requirements for established Total Maximum Daily Load limitations, as provided under the Federal Clean Water Act, Oregon Law, Administrative Rules and other legal mechanisms.

5. Stormwater facilities shall be designed to safely convey the less frequent, higher flows through or around facilities without damage to both upstream and downstream properties, including creek channels.

6. Public stormwater facilities shall be designed using approaches that integrate stormwater and vegetation such as swales, trees, vegetated planters and constructed wetlands. Jurisdictional wetlands cannot be used as stormwater treatment facilities.

7. Conveyance of stormwater from on-site facilities to approved public stormwater facilities shall generally take place within the public right-of-way through vegetated swales or other stormwater management and conveyance facilities as specified in Metro's Green Streets Manual or the City of Portland Water Quality Friendly Street Designs or a jointly adopted Pleasant Valley District Plan.

   The encroachment of structures and other permanent improvements over public and private stormwater facilities and within public stormwater easements, drainage ways, creeks, streams, seasonal waterways, seeps and springs is prohibited.

8. Equitable funding mechanisms shall be developed:

   a. For stormwater management facilities maintenance.

   b. To resolve the deficiencies of the existing system and provide adequate stormwater management services to developing areas.

   c. To implement a capital improvement program ("CIP") for the stormwater management system.

9. If agreement between Gresham and the County does not anticipate annexation of Area C to Gresham, it will comply with provisions of ORS 195 for urban service providers.

ACTION MEASURES

1. Update the City of Portland public facility plan to establish stormwater management system improvements serving Area B.

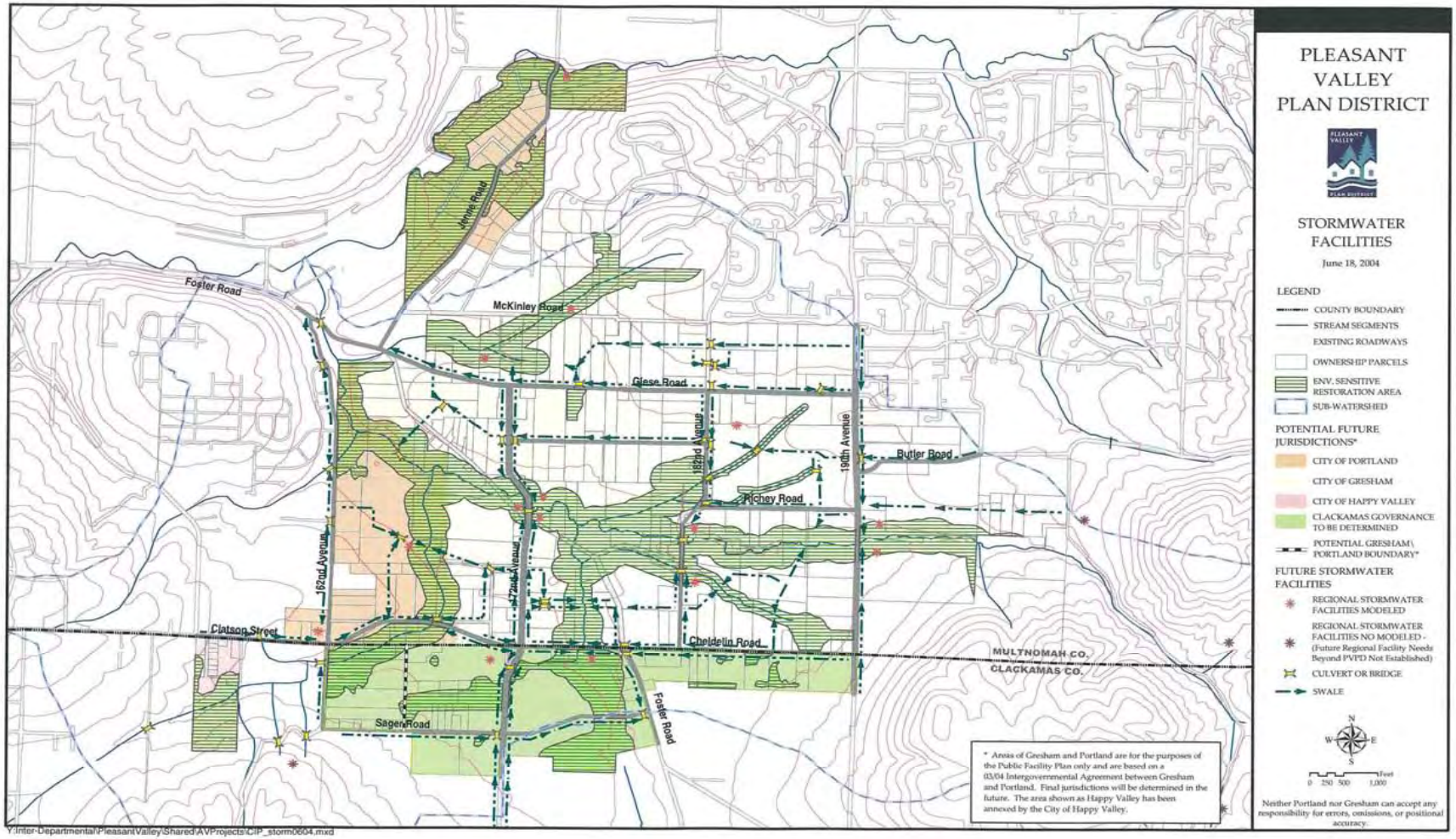
2. Update the City of Gresham stormwater master plan to establish stormwater management system improvements serving Area A and C.

3. Review and, if necessary, update the City of Gresham and Portland system development charges for stormwater. Update the SDC improvement project list to include the relevant Year 1-5 stormwater projects listed in the CIP section of this plan.

4. Update the Portland and Gresham 5-Year Capital Improvement Plan to include critical path stormwater system improvements consistent with the annexation strategy that emerges for Pleasant Valley.

5. Gresham and Clackamas County need to conclude negotiations for territorial expansion and/or service agreements for Area C. Regardless of the solution, the agreement needs to comply with provisions of ORS 195 that relate to urban service providers.

Section 10.723 - Appendix A



## Section 10.723 - Appendix B

## Pleasant Valley Public Facility Plan
## Stormwater Capital Improvements Project List*

| Project # | Project | Description | Linear Feet of Swales | Cost | Timing | Responsible Jurisdiction | Funding Source | Comments |
|---|---|---|---|---|---|---|---|---|
| **Swales** | | | | | | | | |
| **New Road Segments** | | | | | | | | |
| R1 | Foster North | New extension – 1,395 LF | 0 | $0 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| R2 | Giese Ext. | New extension – 2,018 LF | 1,711 | $148,857 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| R3 | Butler Ext. | New extension – 2,835 LF | 1,860 | $161,820 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| R4 | Clatsop Ext. | New extension - 2,938 LF | 2,905 | $252,735 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| R5 | Foster South | New extension – 2,581 LF | 1,237 | $107,619 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| **Road Extensions** | | | | | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On 190th** | | | | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 1 | Segment 1 | Boundary to Butler – improvement to existing – 122,137.5 LF | 1,858 | $161,646 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 2 | Segment 2 | Butler to Richey – improvement to existing – 787.5 LF | 654 | $56,898 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 3 | Segment 3 | Richey to Cheldelin – improvement to existing – 1,912.5 LF | 1,904 | $165,648 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 4 | Segment 4 | Cheldelin to So Boundary – improvement to existing – 600 LF | 557 | $48,459 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On Butler** | | | | | | | |
| 5 | Segment 5 | 190th to Ea. Boundary – improvement to existing – 1,800 LF | 1,596 | $138,852 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On Richey** | | | | | | | |
| 6 | Segment 6 | 182nd to 190th – improvement to existing – 2,325 LF | 2,163 | $188,181 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On 182nd** | | | | | | | |
| 7 | Segment 7 | Giese to Richey – improvement to existing – 2,025 LF | 2,033 | $176,871 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 8 | Segment 8 | Richey to Cheldelin – improvement to existing – 2,362.5 LF | 1,626 | $141,462 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On 172nd** | | | | | | | |
| 9 | Segment 9 | Giese to Butler Ext. – improvement to existing – 900 LF | 1,379 | $119,973 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 10 | Segment 10 | Butler ext. to unknown – | 2,935 | $255,345 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |

| Project # | Project | Description | Linear Feet of Swales | Cost | Timing | Responsible Jurisdiction | Funding Source | Comments |
|---|---|---|---|---|---|---|---|---|
| | | improvement to existing – 1,537.5 LF | | | | | | |
| 11 | Segment 11 | unknown to Cheldelin – improvement to existing – 1,275 LF | 1,945 | $169,215 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 15 | Segment 15 | Cheldelin to Boundary – improvement to existing – 1,800 LF | 2,555 | $222,285 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On Cheldelin** | | | | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 12 | Segment 12 | 172nd to 182nd – improvement to existing – 2,325 LF | 3,703 | $322,161 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 13 | Segment 13 | 182nd to 190th – improvement to existing 2,550 LF | 3,700 | $321,900 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On Clatsop** | | | | | | | |
| 14 | Segment 14 | 162nd to Boundary – improvement to existing – 1,912.5 LF | 1,557 | $135,459 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On 162nd** | | | | | | | |
| 16 | Segment 16 | Foster to unknown – improvement to existing 3,000 LF | 2,843 | $247,341 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 17 | Segment 17 | unknown to Clatsop – improvement to existing – 2,175 LF | 1,413 | $122,931 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 18 | Segment 18 | Clatsop to Boundary – improvement to existing – 1,350 LF | 875 | $76,125 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On Sager Road** | | | | | | | |
| 19 | Segment 19 | 182nd to 172nd – improvement to existing – 2,662.5 LF | 2,176 | $189,312 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 20 | Segment 20 | 172nd to Foster – improvement to existing 2,137.5 LF | 2,143 | $186,441 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On Giese** | | | | | | | |
| 21 | Segment 21 | 172nd to 182nd - improvement to existing – 2,925 LF | 2,584 | $224,808 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| 22 | Segment 22 | 182nd to 190th – improvement to existing – 2,175 LF | 1,788 | $155,556 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| | **On Jenne Rd** | | | | | | | |
| 23 | Segment 23 | All – improvement to existing – 4,500 LF | 0 | $0 | 6 to 20 | Portland | SDC/Local | Timing w/ road imp. |
| | | | | | | | | |
| | **Unnamed local connecting streets** | Swales associated w/ unnamed road segments, w/in subarea extent | 33,523 | $2,916,501 | 6 to 20 | Portland/ Gresham | SDC/Local | Timing w/ road imp. |
| | **Outside/Adjacent to PV Plan Area** | Swales may or may not be associated w/ named road, outside | 9,723 | $845,901 | 6 to 20 | Portland/ Gresham | SDC/Local | Timing w/ road imp. |

| Project # | Project | Description | Linear Feet of Swales | Cost | Timing | Responsible Jurisdiction | Funding Source | Comments |
|---|---|---|---|---|---|---|---|---|
| | | subarea context | | | | | | |
| **Culverts**[2] | | | | | | | | |
| | 23 | Various culvert locations @ 100' each | | $462,300 | 6 to 20 | Portland | SDC/Local | Timing w/ road imp. |
| | 44 | Various culvert locations @ 100' each | | $884,400 | 6 to 20 | Gresham | SDC/Local | Timing w/ road imp. |
| **Regional Detention Facilities**[3] | | | | | 6 to 20 | | SDC/Local | Timing w/ road imp. |
| In Gresham | 13 | Various Locations | | $14,984,000 | 6 to 20 | Gresham | SDC/Utility/ Grants | Timing w/ road imp |
| In Portland | 3 | Various Location | | $3,746,000 | 6 to 20 | Portland | SDC/Utility/ Grants | Timing w/ road imp |
| **Planning Studies** | | | | | | | | |
| Pleasant Valley Stormwater Master Plan | | Combined planning effort | | $250,000 | 1 to 5 | Portland/ Gresham | SDC/Utility | Priority project |
| SDC and Utility rate analysis for SWM | | Separate utility feasibility/rate analysis | | $50,000 | 1 to 5 | Portland/ Gresham | SDC/Utility | Priority project |
| | | | | | | | | |
| **Total swale cost** | | | | $8,260,302 | | | | |
| **Total culvert cost** | | | | $1,346,700 | | | | |
| **Total Regional Detention Facilities** | | | | $18,730,000 | | | | |
| **Total Planning Studies** | | | | $300,000 | | | | |
| **Total Cost** | | | | $28,637,002 | | | | |

[1]Includes construction, engineering, inspection and contract administration
[2]Culvert location will be included in the master plan
[3] Sites for regional detention facilities have not yet been determined

***NOTE: As noted in the text of the PFP, this document is followed by a system master plan. The users are directed to review the Stormwater Master Plan for an up-to-date project list.**

## 10.724 PARKS AND RECREATION SYSTEM

SYSTEM DESCRIPTION/CONDITION ASSESSMENT

***Existing and Planned Facilities***. According to the Parks and Open Spaces Implementation Strategies Report, the goal of the Pleasant Valley Parks and Recreation System is to locate and develop neighborhood and community parks, open spaces and trails throughout the Pleasant Valley community. By identifying critical elements for evaluating parks and making effective use of valuable space, parks and recreational areas can be accessible to everyone.

There are no parks located in the Pleasant Valley plan area. One City of Gresham neighborhood park has been developed in the vicinity of the Pleasant Valley Concept Plan area, Butler Creek Park. Butler Creek Park is 3.6 acres in size, and has a basketball court, play equipment, and a picnic area. It is located south of SW 27th Drive and about ½-mile from the project area. The Butler Creek hiking/walking trail passes through the park. The trail extends north of the Park to the Springwater Trail Corridor and south to just south of SW Willow Parkway. A non-funded CIP project exists to extend the trail south to SW Butler Road. This undeveloped section of the trail passes through Centennial School District property. A portion of the site has been recently developed for a new elementary school.

There is an additional, non-funded CIP project for a second City of Gresham neighborhood park, Jenne Butte Park. This park would be located on the north border of the Pleasant Valley Concept Plan area just west of SW Nancy Drive. Jenne Butte Park would be 6.8 acres in size, with amenities such as a basketball court, a picnic area and possibly a softball and/or soccer field. It would connect to the Jenne Butte trail system to the north, which ultimately connects to the Springwater Trail.

The Springwater Trail Corridor is a paved multi-purpose trail that runs alongside or near Johnson Creek. It runs through the portion of the Pleasant Valley project area intersecting at Jenne Road/174th Avenue. The trail is a 'rails-to-trail' project extending approximately 16.8 miles from McLoughlin Boulevard in Portland, east to the City of Boring. Jenne Road/174th Avenue intersects the trail within the Pleasant Valley Concept Plan area.

Just north of Pleasant Valley is the City of Portland's Powell Butte Nature Park, a 569-acre natural area that was once a dairy farm. Powell Butte is a massive volcanic mound with heavily forested slopes and large expanses of open meadows on top of the lava dome. The park includes over 9 miles of trails that are suitable for mountain biking, horseback riding, and hiking. It includes a .6 mile handicapped accessible paved trail. Powell Butte includes a 50,000,000-gallon underground water reservoir that is part of the Bull Run water system. Master plans call for construction of additional reservoirs and a regional water treatment plant within the park.

***Background***. The Metro Council brought the Pleasant Valley area into the Urban Growth Boundary (UGB) in December 1998. When land is brought into the UGB Title 11 of the Metro Urban Growth Management Functional Plan requires a conceptual public facilities and services plan that provides, among others, for parks and it requires mapping to show the general locations for public open space, plazas, neighborhood centers and parks. Title 11 requires that the City must adopt the parks plan and map as a comprehensive plan amendment before annexation/urbanization.

In 1998, a partnership of jurisdictions sponsored a series of citizen and affected parties meetings concerning Pleasant Valley. A set of preliminary planning goals was developed as part of this process. Elements concerning parks were included in these preliminary goals:

- The natural resources of the area, including the streams, should be coordinated and included in the parks master planning for this area.
- To ensure that each neighborhood develops into a community with an identity, they shall include provision for local shopping and parks.
- Some open space/plaza will be included in the town center area. The town center area should be developed to protect watercourses and sensitive environmental areas.

In December 1998, Gresham and Portland jointly adopted an Intergovernmental Agreement (IGA) regarding Pleasant Valley. The IGA concerns provisions for creating a plan, future annexations and future provisions for urban services. The IGA provides the Gresham and Portland coordination in creating an urban plan. The goals mentioned above were attached to the IGA and are to be considered when creating the urban plan. The IGA also provides that no urban zoning be applied until the urban plan was adopted by Gresham and Portland and approved by Metro.

The Pleasant Valley Concept Plan Steering Committee endorsed the series of goals at their May 2, 2001 meeting. These goals reflected the vision and values underlying the Concept Plan. They were used in evaluating the four plan alternatives. The goal for parks was: ***Locate and develop parks and open spaces throughout the community***. *Neighborhood parks, small greenspaces, and open spaces will be within a short walk of all homes. A network of bicycle and pedestrian routes, equestrian trails and multi-use paths will connect the parks and open spaces. The park and trail system will be connected to the Springwater Trail, Powell Butte, and other regional trails and greenspaces.*

***Other goals also addressed parks***. The "Town Center" goal noted "a central green or plaza will be included as a community gathering space." The "Create a Community" goal included "recreational" and "open space" in the wide range of opportunities that will foster a unique sense of community. The "Create a Community" goal noted that community includes Pleasant Valley's "unique areas" and "unique regional landscape."

*The alternatives evaluation generally focused on three components of the park and open space system:*

- ***Neighborhood parks***. These are smaller parks (1 to 13 acres), located within biking and walking distance of users. They provide for basic recreational opportunities. This can include pocket (plaza) parks (usually smaller than 1 acre) that can be located in denser areas.
- ***Community parks***. These are larger than neighborhood parks (13 to 90 acres). They provide active and passive recreational opportunities and accommodations for larger groups. They are intended to serve several neighborhoods.

- ***Open space***. These are areas of natural quality for protection of natural resources, nature-oriented outdoor recreation and trail-oriented activities.

Comparative evaluation measures focused on park and open space acreage per person, proximity and ease of access for neighborhood parks and general locations relative to housing, schools and the town center.

Following an extensive evaluation and refinement process, the Steering Committee, at their final meeting on May 14, 2002, endorsed the Pleasant Valley Concept Plan Map and Implementing Strategies. In summary, the central theme of the plan is to create an urban community through the integration of land use, transportation and natural resource elements.

*Selected features of the parks concept plan are:*

- ***Nine neighborhood parks*** – These are 1- to 3-acre facilities that provide access to basic recreation opportunities for nearby residents of all ages and contribute to neighborhood identity. They are generally located near the centers of neighborhoods, although a few occupy edge locations to serve adjacent attached housing. A general descriptor for each park is included in Appendix C.
- ***Community Park*** – The 29-acre community park is located between the power line and natural gas line easements east of the town center. The purpose of this community park is to provide active and passive recreational opportunities for community residents and accommodate activities for large groups. Facilities could include a children's play area, competitive sports facilities, off-street parking (must include), permanent restrooms, public art/fountains, group picnic areas, paths, botanical gardens, community centers, amphitheaters, festival space, swimming pools and interpretive facilities.
- ***Plazas*** – Three plazas are proposed – in the town center and in each of the two neighborhood centers. These will serve as focal points for each of the centers and are expected to be relatively small (1/4-acre for the town center and 1/8-acre or smaller for the neighborhood centers). They may be developed as a multi-use paved area, community green or hybrid.
- ***Trails*** – The purpose of trails is to interconnect parks and open spaces to maximize access to programs and facilities; to promote physical fitness and health for a variety of users; to encourage social interaction and community pride; to provide opportunities for rest and relaxation within a natural setting through trail-related recreation; to reduce auto-dependency and enhance connections to transit facilities; to link open space amenities with homes, workplaces and other community facilities; and to provide "outdoor classroom" opportunities for environmental education. About 6.6 miles of regional trails are proposed. These trails connect to the Springwater Corridor, Powell Butte and other regional trails and green spaces. They also connect to major destinations – such as the Community Park, town center, employment districts and elementary/middle school complex.
    - The East Buttes Powerline Corridor Trail follows the BPA powerline easement and provides an important north/south connection from the Springwater Corridor Trail and the proposed Gresham/Fairview Trail to the Clackamas River Greenway near Damascus.

- The East Buttes Loop Trail goes through the heart of Pleasant Valley and parallels Kelley Creek on its north and south sides. The East Buttes Loop Trail connects historic and natural landmarks with the town center and neighborhoods.

- ***Open Space***. The purpose of open space is to set aside natural undeveloped areas for the protection of natural resources, nature-oriented outdoor recreation, and trail-corridors. They provide opportunities for rest and relaxation, protect valuable natural resources, provide wildlife habitat, and contribute to the environmental health of the community. Benchmarks for Pleasant Valley open space areas are:
  - Ten acres of open space per 1,000 residents are protected. [Note: Metro Open Space 1997 benchmark standards are calculated at 20.9 acres of parks and open space per 1,000 population.]
  - Habitat areas are enhanced or restored.
  - It includes streams, creeks, or tributaries that are enhanced or restored.
  - Habitat parks can accentuate open space. Habitat parks are partly habitat and partly Community Park.
  - Open space can also include trails, trailheads and interpretive facilities. Some characteristics of open spaces include:
    - A size large enough to protect the identified resource.
    - Spaces may include trails, trailhead amenities (bike racks, picnic areas, portable restrooms, trash enclosures), benches, interpretive signs, and native plants.

A map of proposed park and open space system improvements is included in Appendix A.

## SUMMARY OF MAJOR ISSUES

*The following are some of the major issues that were considered in a park plan for Pleasant Valley*:

*The Pleasant Valley Concept Plan has an opportunity to plan comprehensively for parks and open spaces and, more importantly, to implement the plan.* An appropriate park system for Pleasant Valley could be developed around three main components:

- Natural areas lands constitute the framework of the open space system. Because of the amount of area involved, the parks system should be organized to complement it and, wherever possible, the land should be used to create opportunities for people to pursue low intensity and low impact recreational activities. However, acquiring and protecting these lands should not be accomplished in lieu of creating other types of recreation spaces.
- A network of neighborhood and community parks equitably distributed and sized to meet demands. The network would provide the majority of recreation opportunities for local residents.
- A series of other parks, such as plazas, boulevards, public gardens and recreation pockets are created to give identify and form to the town center and to define its different precincts. This latter concept can be a powerful tool for creating a memorable and livable new urban community (a potential not often fulfilled).

***Schools and Parks***. Schools and parks can share facilities such as informal soccer/football, etc., fields and basketball hoops. Sharing facilities can reduce maintenance costs and the amount of acreage needed if the fields were not shared.

***Environmentally Sensitive Areas***. Caution should be used in locating improved park space or schools next to natural resource areas. Landscaping requirements (fertilizers, etc.) may conflict with natural resources. Field turf and hardscape areas can result in impervious surfaces that may conflict with natural resources. Spreading out parks in neighborhoods away from natural resources can relieve pressures (such as walking the dog) that otherwise might impact natural resources. Because neighborhood parks generally serve different recreational needs than natural areas, the primary consideration for location should be access to the residents it is intended to serve. Often this coincides with the location of schools. Natural areas next to schools can provide important education benefits. Location should ensure that there is a buffer between areas of high activity and natural areas.

***Open space***. The environmentally sensitive areas do not necessarily provide recreation functions. In some cases, human access should be very limited or prohibited in order to protect natural resource values. Environmentally Sensitive/Restoration Areas (ESRA) should be evaluated for their capacity to support passive recreation use in order to determine whether or not additional open space land is needed to meet projected demands. Given the importance of ESRAs and the fact that it will be a visible identifying feature of the new urban center, it makes sense to locate any additional space adjacent to it. It will be important to identify connected and integrated open space systems within the Kelley Creek/Mitchell Creek system.

***Proximity to Higher Density Areas***. Locating parks adjacent to higher density areas is important. Note that park spaces for high-density areas should either be larger or more frequent than in low-density areas because the service area contains more people. Traditionally these areas have been underserved with parks.

***Trails and Parks***. Opportunities for easy connection of a park to the proposed regional trails should be sought.

***Town Center and Parks***. The town center should include a handsome well-proportioned park or plaza to serve as a focal point for collective civic action. It should be a space that defines a role for the buildings that surround it, rather than being a remnant space left after the buildings have been designed. A public space will help create a community oriented town center and will support retail. A large central park in the heart of the town center may not be appropriate and could dilute its functionality. A better alternative could be a small hardscape plaza or series of plazas immediately adjacent to retail uses. The size and location can vary depending on design objectives, but might be between 1 and 3 acres in size. However, smaller may be better in the core of the town center and could be as little as 1/8 to ¼ of an acre –depending on design.

***Other Centers and Transit Areas***. Consider opportunities for small (less than one acre) urban plazas or recreation pockets at commercial centers and in transit areas. The parks may include multi-purpose paved areas; children's play areas; public art/fountain; seating and basketball hoops.

***The total acreage of neighborhood parks*** should be closer to the benchmark of 1.3 acres per 1,000 residents. A caution utilizing this standard is to consider not only project area but also that adjoining urban neighborhoods might also use the parks.

***The number of neighborhood parks*** should include an easily accessible neighborhood park in every neighborhood. The size and number of parks in any neighborhood should consider the surrounding density.

***Design and size of neighborhood parks and community parks*** should take into account potentially needed recreation facilities. Each park is unique. When designed, parks may include these types of features or other similar features such as: playgrounds, group picnic areas, volleyball courts, basketball courts, soccer fields, football fields, tennis courts, skate park, community garden and/or a community center.

***Consider opportunities for small urban plaza/recreation pocket parks*** at commercial areas and transit areas.

***Identify an open space system*** that will create and connect and integrate an open space network in the Kelley Creek/Mitchell Creek system. The open space should support future Goal 5 (State) natural resources work.

SUMMARY OF FUTURE CIP NEEDS

The Plan Map identifies nine Neighborhood Parks (27.62 acres), one Community Park (29.60 acres) and 441.3 acres of ESRA, or Environmentally Sensitive Restoration Areas. Of the nine Neighborhood Parks, six are proposed to be located in Gresham, one will be situated in Portland and the remaining two will be in Clackamas County. The 29.6-acre Community Park will be sited completely in Gresham. Acreages of the Neighborhood Parks and ESRA parcels cross all areas of governance and have been broken down into the following designations:

| Governance Jurisdiction | Neighborhood Park Acreages | Open Space | ESRA Acreages (Natural Resource Areas) |
|---|---|---|---|
| Clackamas County | 6.96 | 00.0 | 69.60 |
| Gresham | 19.55 | 135.29 | 97.61 |
| Happy Valley | 00.0 | 00.0 | 17.30 |
| Portland North | 00.0 | 00.0 | 90.30 |
| Portland West | 1.11 | 00.0 | 65.50 |
| TOTALS | **27.62** | **135.29** | **323.01** |

City of Gresham Parks and Open Space Standards

- Neighborhood Parks 1.3 acres per 1000 population
- Community Parks 2.0 acres per 1000 population
- Open Space 10.0 acres per 1000 population
- Trails & Connectors ½ mile radius system connects facilities

**Note:** Metro's Open Space standards are 20.9 acres per 1,000 population.

Using the above criteria and applying to the anticipated population trends, the following park needs are illustrated:

| Population | Neighborhood Parks | Community Parks | Open Space |
|---|---|---|---|
| 13,529 | 17.59 acres | 27.06 acres | 135.29 acres |

**Additional Note:** The Pleasant Valley Plan District map shows conceptual and varying sizes for the nine neighborhood parks. For purposes of the CIP list the Neighborhood Park benchmark unit shall be 2.5 acres. Smaller sites tend to lean more towards Urban Plazas. Larger sites may prove to be too costly for acquisition, development and maintenance. Benchmarks will yield minor results than those of standards.

Neighborhood Parks

The Plan District Map illustrates future park properties from A to I and O. Neighborhood parks are intended to serve each residential neighborhood. It is recognized that all acreage, site locations and shapes are considered "floaters" as specific parcels may not be for sale, or purchase costs may prohibit acquisition. Sites have been identified as follows:

Park Site A (2.93 acres) North of Sager Road and west of 172nd Avenue - This park site is the most urban of the neighborhood park system, serving both adjacent residential and commercial components. It should also serve as a visual terminus to the north end of the new pedestrian trail connector over Kelly Creek.

Park Site B (2.87 acres) Nursery Neighborhood between Geise and Richey Roads – Park should be located in the central area of this neighborhood. It is hoped that park edges will connect with two fingers of adjourning ESRA properties.

Park Site C (3.76 acres) An east/west orientation of the park is desired so that it provides a view corridor from the neighborhood. Location as shown also serves as a visual terminus to 182nd Avenue (looking north). This site also provides opportunities for spectacular views "down valley".

Park Site D (3.19 acres) East of 190th near Butler Road – This location is the eastern-most park site. It serves as a pedestrian connector from Butler Road to the East Buttes Loop Trail. The park may be split into two smaller parks, serving north and south neighborhoods.

Park Site E (3.27 acres) South of Cheldelin and East of Foster Road – This site will serve higher residential density neighborhoods. It also is intended as a visual terminus to the south end of 182nd Avenue. This is one of two sites located in Clackamas County.

Park Site F (3.41 acres) West of 190th and north of Cheldelin Road – This park is located between two significant ESRAs in SE Pleasant Valley.

Park Site G (3.39 acres) East of 172nd Avenue and north of Clatsop Street/Cheldelin Road. This park aligns between the ESRA to the east and the Power line Corridor Trail to the west.

Park Site H (1.11 acres) West of Mitchell Creek and adjacent to the planned schools. Located in Portland, this is the smallest park in the inventory. This key site will cross Mitchell Creek and connect with the East Butte Loop Trail.

Park Site I (3.69 acres) North of Sager Road and West of 172nd Avenue – This is the second of two sites located in Clackamas County. Its intent is to connect the two ESRA areas in this SW neighborhood.

### Community Park

Park Site O (29.60 acres) The Community Park is centrally located and will provide a wide variety of recreational opportunities to all residents of Pleasant Valley. The park is sited east of the Town Center, framed on either side by overhead transmission lines and underground natural gas distribution lines. The proposed north/south Power Line Trail lies within its boundaries. The northernmost boundary is north of Giese Road, stretching southerly until it meets up with ESRA lands on the northern bank of Kelly Creek.

## Environmental Sensitive Restoration Areas (ESRAs)

Pleasant Valley contains 475.6 acres of wetlands, streams and stream corridors. Using City of Gresham standards for calculating Open Space, 135.29 acres from the total amount has been so designated. The balance of the ESRAs is labeled Natural Resource Areas. The costs for all land acquisition, conservation easements, restoration and maintenance will be substantial. There is no one method that can or should be used for everything. Discussion is ongoing as to which City Departments would have jurisdiction, or would take the lead on this significant issue.

### Trails

The Plan Map identifies 8.19 miles of trails, including 9 pedestrian bridges over Mitchell, Kelly and two additional un-named tributaries. The vast majority of proposed trails fall within the ESRAs, although some crossings are within existing utility corridors while others alignments are on private property. Whenever possible, it is desirable to connect the trails with the parks and open space system. The preparation of a formal park, trails and open space Master Plan for Pleasant Valley will address many of these concerns.

### FINANCING PLAN

The following discussion presents the envisioned strategy for financing service extensions in the Gresham and Portland sections of Pleasant Valley. For analysis purposes, the boundary between Portland and Gresham is presumed to be Mitchell Creek in the west. The Jenne Road area is also presumed to be part of Portland. All other Multnomah County areas are anticipated to be in Gresham. The final boundary will likely shift away from the creek, but at this time, the shift is not expected to significantly alter the relative cost burden depicted for Gresham and Portland. This discussion assumes Gresham will serve the Clackamas County area (Area C). The ultimate service and governance providers for Area C have not been determined and will be the subject of future agreements.

Gresham and Portland finance park system operations with general fund revenue. SDCs, grants, land dedication, and special G.O. bond measures have traditionally been relied on to finance park

system improvements. Both cities have been successful working with local property owners, developers, civic organizations, and state and federal agencies to create partnerships that have helped develop park and recreation facilities. Metro has been an important partner in this process, especially for the acquisition and development of regional parks and open space facilities.

The analysis indicates that forecast SDC receipts would not be sufficient to finance the planned park and trail improvements and open space acquisition in Pleasant Valley. Nor does the analysis include potential restoration costs for ESRAs. There are, however, fairly significant public benefits that come from the restoration of ESRAs. Some public participation in their restoration seems appropriate.

Financing the park and open space improvements may be more difficult than other public facility system improvements. Several factors contribute to this. On the capital improvement side, SDCs can only finance park system improvements to the existing level of service that is provided in the community. The planned improvements in the Pleasant Valley Community Plan are based on desired service levels, not prevailing service levels. Since prevailing service levels are below the benchmark used in the concept plan, SDC revenues from within Pleasant Valley are understandably below the cost of planned improvements. Some parks in Pleasant Valley will likely provide regional benefits, so investment of SDC resources generated outside Pleasant Valley may be justified. In addition, portions of the trail system in Pleasant Valley connect regionally significant trail systems. This improves the chance that that some contribution from Metro and other outside sources could augment local resources.

On the operation side, the problems and potential solutions are more complex. Gresham is having difficulty maintaining its existing park system. Like many cities in Oregon, Gresham has experienced a reduction in general fund revenue relative to service demands since the passage of Measure 50. Managers and elected officials are beginning to ask if it is appropriate to build park facilities if the revenue is not available to maintain these assets. Solving the operations and maintenance problem is, in many ways, a more complex issue that solving the capital funding problem. Without operating revenues, acquired park sites will remain undeveloped and function only as open space with limited, if any, recreation value. Over time, this results in a lower level of service, which in turn lowers the allowable SDC fee the next time the park SDC methodology is updated. Without a more comprehensive solution to the operating revenue problem, parks will continue to compete with police and fire and other general fund services for limited resources.

## GOAL, POLICIES & ACTION MEASURES

### GOAL

Parks, open space and trails shall be located and developed throughout the Pleasant Valley community.

### POLICIES

1. Neighborhood parks, small green spaces and open spaces shall be within a short walk of all homes.

2. A network of bicycle and pedestrian routes, equestrian trails, walking/hiking trails and multi-use paths will connect the parks and open spaces.

3. The park and trail system will be connected to the Springwater Trail, Powell Butte and other regional trails and greenspaces.

4. The natural area lands will constitute the framework of the open space system. The parks system will be organized to complement the open space system, and, wherever possible, the land should be used to create opportunities for people to pursue low intensity and low impact recreational activities. However, acquiring and protecting these lands should not be accomplished in lieu of creating other types of recreation spaces.

5. There shall be a network of neighborhood parks and a community park equitably distributed and sized to meet demands. The network will provide the majority of recreation opportunities for local residents. A neighborhood park shall be located in every neighborhood. Neighborhood parks and a community park shall be located generally consistent with the preferred concept plan map.

6. A series of other parks, such as plazas, park blocks (boulevards), public gardens and recreation pockets shall be created to give identity and form to the town center. The smaller mixed-use neighborhood centers shall also feature a small park or plaza.

7. There shall be parks located adjacent or near higher density areas.

8. Wherever practical schools and parks shall share facilities such as soccer/football fields and basketball courts. Sharing facilities can reduce maintenance costs and the amount of acreage needed if the fields were not shared.

ACTION MEASURES

1. Amend parks, recreation, open space and trails master plan(s) for Pleasant Valley consistent with the Pleasant Valley Plan District. This includes funding mechanisms and strategies for acquisition, development and operation.

2. Evaluate the natural areas (ESRA) for their capacity to support passive recreation use in order to determine whether or not additional open space land is needed to meet projected demands. The ESRA lands will not necessarily provide recreation. In some cases, human access should be very limited or prohibited in order to protect natural resource values.

3. Conduct a park and recreation needs assessment to more precisely define parks, open space and trails requirements consistent with the Pleasant Valley Plan District plan.

    a. The design and size of parks should take into account potentially needed facilities. These facilities can include features such as, but not limited to, basketball courts, sports fields, picnic facilities, community gardens and community center buildings.

    b. The design and size of open space should take into account the size sufficient to protect resources. A continuous open space network is anticipated for Kelley and Mitchell Creeks. The current city per capita standards for open space acreage is less

than areas identified as state Goal 5 natural resources in Pleasant Valley. Open spaces, in addition to natural resources, can include, but are not limited to, trails, trailhead amenities, benches, interpretative signs and native vegetation.

c. The design and size of trails should take into account the size sufficient to protect resources and accommodate activities. In addition to the actual trails, features can include, but are not limited to, walk-in trailheads, benches, interpretive signs and native vegetation.

4. Develop a strategy to establish the identity, design and funding of the community park. Consideration shall be given to future public involvement strategies including a design charrette.

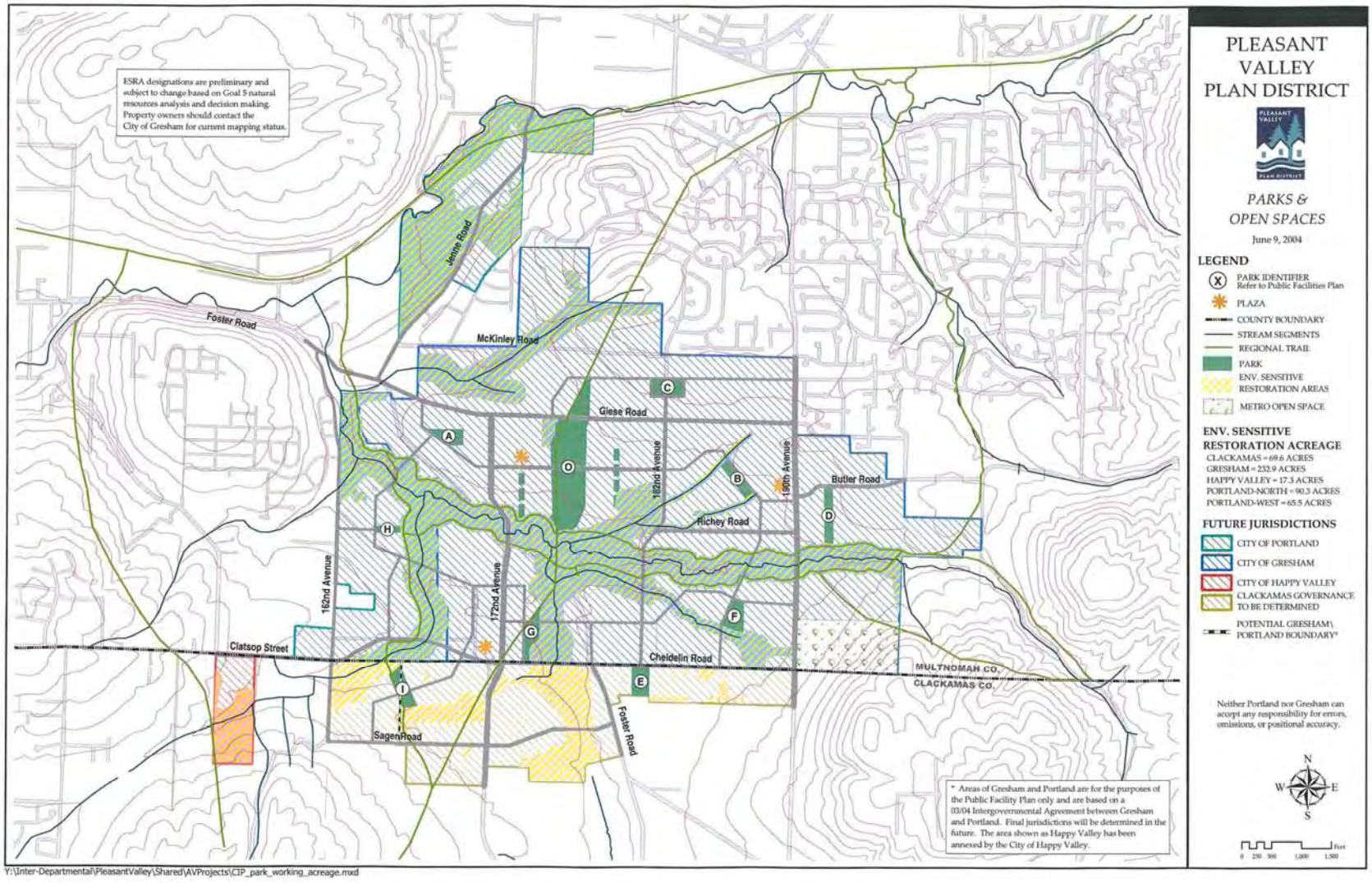
5. Support designation of the Pleasant Valley regional trails system in the Metro Greenspaces Master Plan. Identify funds that can be uses to study the feasibility of the trails, right-of-way acquisition, design and construction. The following have been nominated for inclusion on the Metro Trails and Greenway map:

   a. East Buttes Powerline Corridor Trail. This trail runs north / south partially via the BPA/Northwest Natural Gas line easement. It connects to the Springwater Corridor Trail and the proposed Gresham/Fairview Trail and to the Clackamas River Greenway near Damascus.

   b. East Buttes Loop Trail. The trail runs east / west along both sides of the main stem of Kelley Creek. It runs through the heart of Pleasant Valley and provides connections to the Springwater Corridor Trail; the Gresham Butler Creek Trail and a Metro open space area.

(Sections 10.700 – 10.724 added by Ordinance No. 1597, effective 1/6/05)

Section 10.724 - Appendix A



**Section 10.724 - Appendix B**
**Pleasant Valley Public Facility Plan**

**Parks Capital Improvement Project List**

| Project | Description | Acres/ Length | Cost[1] | Timing | Responsible Jurisdiction | Funding Source |
|---|---|---|---|---|---|---|
| *Parks* | | | | | | |
| A | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham | SDC/Local |
| B | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham | SDC/Local |
| C | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham | SDC/Local |
| D | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham | SDC/Local |
| E | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham/Clackamas | SDC/Local |
| F | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham | SDC/Local |
| G | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham | SDC/Local |
| H | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Portland | SDC/Local |
| I | Neighborhood park | 2.5 | $ 1,175,000 | 6 to 20 | Gresham/Clackamas | SDC/Local |
| O | Community park | 29.6 | $20,524,000 | 6 to 20 | Gresham | SDC/Local |
| | | | | | | |
| **Open Space** | | 135.29 | $ 6,764,500 | 6 to 20 | Gresham | SDC/Local |
| | | | | | | |
| **Natural Resource Areas**[2] | | 69.6 | $ 3,480.000 | 6 to 20 | Gresham/Clackamas | SDC/Local/grants |
| | | 97.61 | $ 4,880,500 | 6 to 20 | Gresham | SDC/Local/grants |
| | | 155.8 | $ 7,790,000 | 6 to 20 | Portland | SDC/Local/grants |
| | | | | | | |
| **Trails** | | **Miles** | | | | |
| | BPA Powerline (9005 LF) | 1.71 | $ 1,282,500 | 6 to 20 | Portland/Gresham | SDC/STP/Metro |
| | Kelley Creek trails west of BPA (14,658 LF) | 2.78 | $ 2,085,000 | 6 to 20 | Portland/Gresham | SDC/STP/Metro |
| | Kelley Creek trails E of BPA (6,887 LF) | 1.30 | $ 975,000 | 6 to 20 | Portland/Gresham | SDC/STP/Metro |
| | Western N/S trail (7,858 LF) | 1.49 | $ 1,110,000 | 6 to 20 | Portland/Gresham | SDC/STP/Metro |
| | SE corner trail (1,692 LF) | 0.32 | $ 240,000 | 6 to 20 | Portland/Gresham | SDC/STP/Metro |
| | N trail; Springwater corridor | 0.59 | $ 442,500 | 6 to 20 | Portland/Gresham | SDC/STP/Metro |
| | Pedestrian Bridges | 9 total | $ 2,250,000 | 6 to 20 | Portland/Gresham | SDC/STP/Metro |
| | | | | | | |
| **Grand Totals** | | | | **Gresham** | **Clackamas** | **Portland** |
| **Neighborhood Parks** | | | $10,575,000.00 | $ 7,050,000.00 | $ 2,350,000.00 | $1,175,000.00 |
| **Community Park** | | | $20,524,000.00 | $20,520,000.00 | | |
| **Open Space** | | | $ 6,764,500.00 | $ 6,764,500.00 | | |
| **Trails & Ped. Bridges** | | | $ 8,385,000.00 | $ 5,087,500.00 | $ 940,000.00 | $ 2,357,000.00 |
| **Natural Resource Areas** | | | $16,150,500.00 | $ 4,880,500.00 | $ 3,480,000.00 | $ 7,790,000.00 |
| **Grand Totals** | | | $62,395,000.00 | $44,302,500.00 | $ 6,770.000.00 | $11,322,500.00 |

[1]Cost includes cost for land acquisition and development *Assumptions:*
Neighborhood Park – Acquisition $200,000/acre; Development $270,000/acre
Community Park – Acquisition $200,000/acre; Development $560,000/acre
Open Space – Acquisition $40,000/acre; Habitat Restoration $10,000/acre
Trails – Acquisition $300,000/mile; Development $450,000/mile; Pedestrian Bridge $250,000 each
Natural Resource Areas – Acquisition $40,000/acre; Habitat Restoration $10,000/acre

[2]Areas in excess of Open Space benchmark standard.

# 10.800 SPRINGWATER PLAN DISTRICT

## STATEWIDE PLANNING GOAL 14: URBANIZATION

*"To provide for orderly and efficient transition from rural to urban land use."*

## INTRODUCTION

In 2003, the City of Gresham in partnership with Multnomah County and in cooperation with Metro, Clackamas County and others, embarked in planning for a new urban area – Springwater. Springwater was added to the region's urban growth boundary (UGB) in December 2002 to accommodate forecasted industrial and employment needs for the region. It is 1,405 acres located in Multnomah County south (to the Multnomah/Clackamas County border) and east (as far as 282nd Avenue) of the current Gresham city limits.

Rural residential are the most widespread existing uses in Springwater with a population of 833 (2000 census). Other uses include a portion of a golf course (Persimmons) and few small commercial buildings. The two miles of the main stem of Johnson Creek flows through the site along with an extensive system of tributaries and wetlands. The existing transportation system was designed primarily to serve the rural residential uses and farm to market route for past agricultural uses. The site is served by Highway 26 traveling north to south. There are no public water, wastewater, or stormwater facilities. There are no public parks. The Springwater Corridor trail, a multi-use regional facility, generally parallels Johnson Creek through the site.

New urban areas must be brought into a City's comprehensive plan prior to urbanization with the intent to promote integration of the new land into existing communities. Planning efforts began with the establishment of the Springwater Community Working Group (CWG) which held its first meeting January 2004.

In May 2004, the CWG endorsed a set of goals and policies to guide development of the Springwater Community Plan and subsequent implementation actions. This established essential goals that the Springwater Community would:

- Be economically and environmentally sustainable
- Provide industrial land to generate a variety of family-wage job opportunities
- Foster sustainability through good environmental stewardship
- Have a high quality of life
- Have a well planned transportation system
- Preserve, protect and enhance natural resources

In October 2004, the CWG endorsed the Springwater Concept Plan Draft Map. The central theme of the Plan is to create an urban community for family-wage jobs through the integration of land use, transportation, and natural resource elements and by utilizing sustainable practices. The Council endorsed the Concept Draft Map in November 2004.

Subsequently implement plans and ordinances based on the Concept Plan Draft Map were developed as the Springwater Community Plan. In April 2005 the CWG endorsed the Springwater Community Plan.

An extensive planning process has resulted in the Springwater Plan District. The Springwater Plan District will fulfill the desire that resulted from the planning process to create a quality and sustainable industrial and employment environment, with a sense of place that is unique to Springwater. The Plan District will implement this through its large industrial and office employment districts, its mixed use Village Center and surrounding townhouse district, single family and estate housing neighborhoods; transportation alternatives including trails and transit, improvements to US 26, pedestrian friendly urban design and the integration of the natural environment into the design of the community. Critical to the sense of place in Springwater is Johnson Creek and other natural resources including an extensive network of streams and wetlands. The Plan District, with a focus on sustainability and jobs, will allow it to develop in such a way that minimizes impact on these natural features, while allowing these features to enhance the built environment.

What follows are goals, policies and action measures for each of the major elements that make up the Springwater Plan District. Endorsed by the Community Working Group and refined during the development of ordinances, these statements focus on the key concepts and policy directions for subsequent regulations and implementation efforts to realize the Plan District to provide for an orderly transition of Springwater from rural to urban uses.

## 10.801 CREATE A COMMUNITY

### BACKGROUND

The Metro Council brought Springwater into the Urban Growth Boundary (UGB) in December 2002. When land is brought into the UGB, Title 11 of the Metro *Urban Growth Management Functional Plan* requires that the added territory be brought into a city's comprehensive plan prior to urbanization with the intent to promote the integration of the new land into existing communities.

Title 11 requires a series of comprehensive plan amendments including maps that address provisions for annexation; housing, commercial, and industrial development; transportation; natural resource protection and enhancement; public facilities and services including parks and open spaces; and schools.

Early in the Springwater Community Plan development, a Community Working Group (CWG) was convened to provide input through the planning effort. Together, the CWG and the project team developed a set of goals and policies that were ultimately adopted by the CWG. The purpose of the goals and policies was to identify the City of Gresham's intent to accomplish certain results through the Springwater Community Plan. The following goal was adopted for creating a community:

***The Springwater Community shall be an economically and environmentally sustainable community.*** *The primary focus of the plan will be on providing a high number of industrial and industry-related jobs that enhance the economic viability of Gresham, the greater East County region and its citizens. Industrial and employment lands will be complemented with a village center and housing and will be carefully integrated with the upper Johnson Creek system. Sustainable green building and development practices will enhance the community's unique character, while supporting the protection and restoration of the area's natural resources.*

In the scenario evaluation process, this goal was used as a way to provide a comprehensive evaluation of the number and type of jobs provided by each scenario, the amount of land used for various employment types, the number of households provided, the impact of Springwater's development on the local and city-wide jobs to housing balance, the ability to logically and cost-effectively provide public services to the community, and the ability to integrate sustainable development features such as low impact development practices.

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in creating a balanced community for Springwater:

- **Creating a Village Center in an accessible, aesthetically-pleasing location**. The Village Center is located at one of the premier view points in Springwater. The Village Center will have a commercial and mixed-use core, with two sets of park blocks intersecting in a public plaza area. The Village Center will be accessible to nearby residential neighborhoods and to the industrial and employment areas through both improved transportation corridors and new pedestrian/bicycle trail loops.
- **Considering total development costs when developing annexation strategies**. Since Springwater does not currently have urban services, the cost of initial development in the planning area is strongly linked to the proximity to existing public services. The annexation strategy for Springwater considers not only market drivers and industrial land needs, but the infrastructure cost that must be borne by either the city or the developer.
- **Offering flexibility in development opportunities**. To maximize the attractiveness of Springwater to potential developers, there needs to be a range of opportunities available for industrial development. The Springwater Plan locates various industrial development types to best match the local topograph and transportation access, but provides flexibility to accommodate a wide range of potential employers who can bring high-value jobs to the region.
- **Providing a variety of housing options**. With housing options ranging from large lot "estate" housing to high-density, mixed-use areas, Springwater will provide housing in close proximity to industrial areas for a range of employees.
- **Protecting natural resources as an amenity to the region**. There are many high value natural resources in Springwater that should be protected or enhanced to protect the riparian and upland species in the region and increase the attractiveness of Springwater to

developers and residents. This will be achieved through a natural resource management plan that outlines priorities for protection and enhancement activities, and a trail plan that provides access to the riparian areas while minimizing the impact to the natural resources.

- **Providing adequate school facilities**. The Gresham/Barlow School District identified the need for two additional schools in the Springwater area. Approximately 25 acres are needed to site one elementary and one middle school. Although a specific site was not selected, the preference would be to locate the school within walking distance of the Village Center and adjacent residential areas.

## GOALS

1. The Springwater Community shall be an economically and environmentally sustainable community.

2. Springwater will provide a high number of family-wage jobs that enhance the economic viability of Gresham, the greater East County region and its citizens.

3. Industrial and employment lands will be complemented with a village center and housing, and will be carefully integrated with the Johnson Creek system.

4. The Springwater Community Plan shall result in a strong rural/urban edge.

## POLICIES

1. The Springwater Community Plan will serve as the basis for the City's comprehensive plan amendments and implementing measures that will guide future urbanization.

2. The Springwater Community Plan will carefully consider Springwater's relationship to adjoining communities and especially its role for economic development as annexations and extensions of public facilities occur.

3. The Springwater Community Plan will provide for full public services including transportation, surface water management, water, sewer, fire and police services, schools, recreation and parks facilities, and connections to open spaces.

4. Urbanization shall be guided by an urban services and financial plan that will ensure that annexation, service provision and development occur in a logical, efficient, and cost-effective manner; that major public facilities are provided at the time they are needed; and that economic development is maximized.

5. Sustainable development will be promoted through a combination of incentives, regulations, and recruitment.

6. The Plan shall create a permanent hard-line UGB edge west of the Orient Rural Center/282$^{nd}$ Avenue.

7. The Plan must comply with State, Regional and Local goals and requirements.

8. The Plan must comply with the Intergovernmental Agreement between the City of Gresham and Multnomah County.

### ACTION MEASURES

1. Update the City of Gresham's Sewer, Water, and Stormwater Master Plans to reflect the infrastructure needs associated with urbanization in Springwater

2. Implement recommendations of the Water and Wastewater SDC study being conducted concurrently with the completion of this Plan. Update the SDC improvement project list to include the relevant near-term projects listed in the CIP section of this plan.

3. Establish equitable funding mechanisms to implement the recommended CIP for the stormwater management system, and provide adequate funding for stormwater management facility maintenance.

4. Continue discussions with Clackamas County and the City of Damascus regarding service provision in the Sunshine Valley area of Damascus, and negotiate service agreements as appropriate. Regardless of the solution, the agreement needs to comply with provisions of ORS 195 that relate to urban service providers.

5. Establish a Plan District. A Plan District designation provides a means to create unique zoning districts and development regulations that address the specific opportunities and problems identified in the Springwater Community Plan.

## 10.802 ECONOMIC DEVELOPMENT

### BACKGROUND

Bringing industrial development and family-wage jobs to east Multnomah County was one of the primary drivers for bringing the Springwater area into the UGB. Gresham offers several advantages as an employment center, including a skilled manufacturing workforce, close proximity to the Portland International Airport and regional rail hubs, a respected community college system, and a strong economic development program backed by committed leadership. The Springwater area has scenic views and access to high-end recreational amenities such as the Springwater Corridor Trail, Mt. Hood, and the Columbia River Gorge.

An economic and industrial employment site study, a Village Center study, and a residential housing study were completed to help inform the land use and economic planning for Springwater. They have informed the planning process and helped shape the scenarios and the concept and the final Plan.

The CWG and planning team developed the following Plan goal related to economic development:

***The Springwater Community shall provide industrial land that will generate a variety of family-wage job opportunities.*** *Job creation is aimed at correcting the imbalance between the number of households and the number of jobs in the East Metro region and increasing the City's economic strength. The plan will actively encourage businesses with an interest in sustainability and protecting the community's rich natural resources. Springwater will include a village center that can serve residents, employees, and businesses.*

## SUMMARY OF MAJOR ISSUES

*Industrial Development – Current and Projected Employment Trends*

While recent employment growth trends in the region have reflected the recession, economic indicators show that the Portland area is in a good position relative to other urban areas to take advantage of industrial growth as the economy recovers. Furthermore, based on its 2025 forecast, Metro clearly sees the East Multnomah County area emerging as more of a job center than it has been in the past, with the area forecast to gain more than 20,000 jobs in the 2000-2010 period. This is more than one-fifth of all new jobs in Multnomah County and 8 to 9 percent of all new jobs metro wide during the decade. Another 30,000 jobs are anticipated for East Multnomah County over the following 15 years, from 2010 to 2025.

However, Metro's forecast suggests that traditional manufacturing will not be a significant factor in the region's job growth. East Multnomah County currently has less than 5 percent of the metro wide industrial employment, and this share is only projected to rise modestly over the next 20 years. As a percent of total jobs added, industrial employment falls from 1 in every 3 jobs added in the 2000-2005 period (32.3 percent) to roughly 1 in 7 by 2020-2025 (13.7 percent).

In addition to global trends affecting manufacturing expansion in general, one reason for the area's relative lag in anticipated industrial job growth may be its occupational structure. Although Gresham does have a skilled blue-collar labor force, these existing skill sets may not be compatible with the new technology job growth (such as those in advanced processing, and computer and design, for instance) that the metro area – and Gresham – hopes to attract in the coming years.

*Telecommunications*

The telecommunications component of the North/South Corridor Plan identified several elements that may be useful for the purposes of the Springwater Community Plan. First, the one corridor without any substantial high capacity (fiber) telecommunications services is Hogan Road - 242nd Avenue. This is also the one corridor that extends south into the new communities of Springwater and Damascus, and, therefore, has the highest potential for new additional services. The land uses adjacent to the 242nd Avenue corridor could benefit from this in terms of the timing of new improvements, and the likelihood that high-quality telecommunications services would come through this route. Also, the study recommends that all arterial and highway improvement projects include, at a minimum, a conduit to carry future telecommunications facilities to be installed by the private service providers. This would significantly simplify future telecommunication system expansion.

*Target Industries*

The team used a combination of quantitative and qualitative methods to identify appropriate industrial targets for Springwater. The target industry list is based on consideration of:

- Existing regional industries and their support services as revealed by an analysis of historical and projected employment patterns in the region and interviews with local economic development and industry professionals
- National growth trends and current market conditions
- A review of published reports and industry cluster studies completed by other researchers and economic development organizations for the region and the state
- The limitations and advantages presented by the Springwater site
- The experience of the project team

The target industries were selected based on existing industry strength in Multnomah County and the Metro region, local industry growth trends higher than those seen nationally, potential to leverage existing research initiatives in the region, ability of the industry to bring high-wage occupations, and the interest of state and local officials in targeting the industry.
Based on this analysis, the target industry list in Table 4 was prepared. Each of these industry targets is profiled in detail in a Target Industry Matrix included in the Reference Documents.
For purposes of this table, "Short-term" timeframe refers to 1 to 3 years, "Mid-term 3 to 5 years, and "Long-term greater than 5 years.

Table 4. Summary of Target Industries

| Target | Appropriate for Springwater? | Timeframe |
|---|---|---|
| Advanced Materials | Yes | Short-term |
| Medical Devices | Yes | Mid-term |
| Specialized Software Applications | Yes | Short-term |
| Forestry & Agricultural Biotechnology | Yes | Mid-term |
| Nanotechnology | Yes | Long-term |
| Recreational Equipment/Recreation Technology | Yes | Short-term |
| Headquarters | Yes | Short-term |
| Professional Services | Yes | Short-term |
| Specialty Food Processing | Possible | Short-term |
| Transportation Equipment/Technology | Possible | Short-term |
| Logistics | Not Likely | Short-term |
| Renewable Energy Technology | Yes | Mid-term |

Core industries (those companies already established in the region) represent the first tier of economic development opportunity. However, the ability to retain "traditional manufacturing," even if successfully lured to an area, is increasingly unlikely. With increasingly advanced fabrication requirements, manufacturing should be seen in a new light. Industries were once thought of as the working of raw material, but are now a matter of design, process control, and assembly. Therefore, identifying companies employing specialized engineering and advanced manufacturing processes should be part of a successful recruitment strategy for Springwater. Within this broad concept, a few specific industries are worthy of consideration, including medical devices, advanced materials, recreational technology, and specialized software applications.

An additional target, corporate headquarters, is also recommended for the study area. There are several obvious benefits from professional service employment, especially when connected with a corporate center. These include environmental friendliness, highly educated workers, and the prestige factor associated with a corporate "brand." Add to these the potential cluster effect of additional professional activity, such as the need for ancillary services in legal, marketing and accounting activity and the argument becomes stronger.

Portions of the Springwater area are in many ways extraordinarily well suited for a corporate center. The quality golf course, the beauty of the setting, and the availability of housing all come into play. In addition, corporate center recruitment in other parts of the country has resulted in the ability to attract manufacturing, distribution, and commercial development in near proximity. Recruiting a corporate headquarters may prove to be the signature project by which the Springwater study area can become known throughout the State.

*Village Center*

Workers and residents of the Springwater community will require supporting commercial services. The development of a Village Center is one means for accomplishing this goal. Two important assumptions guided planning for the Village Center:

- The design of the Village Center should meet the needs of future area industries, businesses and residents, as well as nearby existing urban and rural residents. It should not compete directly with existing retail centers in the Gresham area, such as Historic Downtown, the Rockwood Town Center and planned new areas such as the Pleasant Valley Town Center.
- The Village Center should be a walkable, mixed-use district, including medium-density housing, retail and commercial areas.

An assessment was made of the current retail environment in Gresham and the broader region, and of national data on shopping center characteristics to develop an understanding of uses typically found in neighborhood-serving retail areas. There was an evaluation of whether projected population growth in east Multnomah County and expected increases in retail spending would be sufficient to support a Village Center.

The market assessment indicates sufficient demand in east Multnomah County to support the retail portion of the proposed Village Center. The analysis of market demand, coupled with the

City's vision for the area, and Metro's regulations governing neighborhood-serving retail developments, suggests that an incremental, long-term build-out of the Village Center may be the best strategy for serving the needs of future area industries, businesses, and residents, as well as nearby existing urban and rural residents. The use of an incremental build-out plan would allow specific phases that could be triggered by certain population and employment thresholds.

*Residential*

Springwater was envisioned as a community in which people could live, work, and play. Accomplishing this vision requires some level of housing. As part of the planning process the characteristics of housing needed for the Springwater community and crafting an overall strategy for housing within the area were assessed.

Based on the average number of jobs per household in the region, it would take more than 10,000 households to provide the targeted 15,000 employees in Springwater. While some of these jobs could be filled by current residents of Gresham and Springwater or residents of nearby communities such as Pleasant Valley, it is unlikely that all of them would be. Furthermore, one of the key planning requirements was that the commercial and retail services in Springwater would not compete with adjacent centers. For Springwater's commercial and retail services to be self-supporting, a minimum population of approximately 3,000 people is required. While some of the support for the Village Center may come from outside Springwater, it is difficult to estimate the extent to which existing residents would help support the Village Center. Both of these issues point to the need, and capability, of Springwater to support a certain level of housing.

Housing demand within Springwater is likely to be driven to some extent by the industry targets chosen and the City's success in attracting specific companies to the area. However, given the City's goals and the characteristics of the property, the team views some executive housing as a logical strategy for Springwater. The topography of the site, particularly the buttes on the western edge, and the abundant natural features make it an appealing site for high-end residential development. Existing amenities, such as the Persimmon Golf Course and access to Mt. Hood, make the area attractive to outdoor enthusiasts. With the right mix of uses and scale, the Village Center development could be an important element in creating the "complete environment" for corporate executives and upper-level management.

**GOALS**

1. The Springwater Community will provide industrial land that will generate a variety of family-wage job opportunities.

2. The Plan will actively encourage businesses with an interest in sustainability and protecting the community's rich natural resources.

3. Springwater will include a village center that can serve residents, employees, and businesses.

## POLICIES

1. Maximize the land area and accessibility for industrial and industry-related jobs.

2. Develop a feasible recruitment and marketing plan for short, medium and long-term phasing.

3. Ensure that the site has adequate communication technologies, such as broadband Internet access.

4. Be forward thinking in identifying Springwater industrial job opportunities in anticipating viable opportunities in the short, medium and long-term.

5. Define industrial jobs to include a variety of industrial sectors.

6. Provide for a range of job opportunities, catering to various skill sets and building on the skills of workers in the East Metro region.

7. Consider the relationship of industrial opportunities in Springwater to other employment opportunities including the Oregon Science and Technology Partnership (OSTP), Rockwood Urban Renewal and potential new industrial areas to the south in Clackamas County (Springwater/Damascus) and other new planning areas such as Pleasant Valley.

8. Foster industrial opportunities by enhancing the quality of the built environment.

9. Create a high-quality village center as well as high-quality neighborhoods with a mix of housing options to help foster industrial opportunities.

10. Recruit businesses with a sustainable ("green") philosophy.

11. Provide many diverse opportunities for family-wage jobs.

12. Work to correct the imbalance of jobs to housing within Gresham and the East Metro region.

13. Work with Mt. Hood Community College to ensure that the training and education needs of incoming business and industry are met.

## ACTION MEASURES

1. Initiate a target marketing campaign for Springwater in the context of the City of Gresham's marketing and economic development initiatives.

2. Develop marketing materials (including a brochure, web page, and target industry letters) that reflect a preferred approach and marketing theme. A specific marketing and advertising strategy should be developed with a tracking system that enables the City to

evaluate the effectiveness of each marketing channel (mail-outs, telemarketing, trade events) and adjust marketing activities accordingly

3. Conduct parcel-level inventory for all land within industrial and commercially zoned tracts of Springwater. This inventory should result in the creation of "land briefs" for each parcel that describes all available information on the property, including: ownership, assessed valuation, current sales listing, and available infrastructure.

4. Prepare a list of brokers and owners based on the parcel inventory. Set out a meeting schedule with those brokers and owners to establish interest levels in participation.

5. Identify developer candidates and solicit a request for proposal for specific sites within Springwater. The Village Center should be considered as a pilot project.

6. Work with selected developer(s) to identify and market potential anchor companies. This work should be part of a prospect management system that coordinates the efforts of East County organizations, such as local governments and OSTP.

7. Develop a public relations strategy for Springwater and East County, including the creation of an East County Ambassador program and the preparation of a regional profile.

8. Determine the required level of public commitment to Springwater, including assessing options for public involvement in specific projects and developing an incentive package for Springwater.

9. Ensure that the City development plan code provides for farmers markets as appropriate in the Springwater area.

10. Develop an economic linkage between new Springwater industries and the nursery industry.

11. Consider including conduit for future fiber optic cable as a component of roadway improvements in Springwater.

## 10.803 SUSTAINABILITY

### BACKGROUND

The City of Gresham's goal for Springwater is to develop an economically, environmentally, and socially sustainable community. Providing sustainable development will help integrate the quality of life with the quality of the community that develops as Springwater is urbanized and annexed. The philosophy of sustainable development starts at the community planning level and continues through the design and construction of individual buildings. Each element along the continuum from community to structure is critical to this systematic model. This approach seeks to balance the use of natural resources with the creation of spaces and places needed to meet the community's social, functional, and economic needs.

Early in the Springwater Community Plan development, a Community Working Group (CWG) was convened to provide input through the planning effort. Together, the CWG and the project team developed a set of goals and policies that were ultimately adopted by the CWG. The purpose of the goals and policies was to identify the intent of the City of Gresham to accomplish certain results through the Springwater Community Plan. The following goal was adopted for sustainability:

> ***The Springwater Community shall foster sustainability through encouraging businesses, industries and homes that are designed and built with good environmental stewardship****. This shall be accomplished through green practices that provide for energy efficiency, water conservation, reduced pollution, and avoid environmentally harmful materials and processes. The Springwater Community strives to be a model for successful sustainable industrial development. Development shall also preserve, restore, and enhance natural resources by meeting or exceeding local and regional standards. Land uses, transportation systems and natural resources shall be carefully integrated and balanced.*

## SUMMARY OF MAJOR ISSUES

The following are some of the major issues that were considered in planning for sustainable development in Springwater. These issues represent the full range of sustainable development opportunities, from the community level to the building level.

**Economic Development**. Positioning Springwater as a sustainable community can take several approaches, all of which should be considered during implementation of the Plan.

- Targeting companies that produce environmentally-friendly or holistic products
- Targeting groups of industries that would benefit from co-location and collaboration in the management of resources and environmental concerns such as energy, water, and materials management
- Promoting or requiring green building practices for industrial, commercial, and residential development. The U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Green Building Rating System includes standards for building construction and operation that aim to improve occupant well-being, environmental performance, and economic returns of buildings. The LEED program uses both established and innovative practices, standards, and technologies to improve the environment for building occupants and minimize the impact of building construction. Incorporating elements of the LEED program in the Springwater code and supporting developer participation in the U.S. Green Building Council's LEED Program will result in a more sustainable built environment in Springwater, as well as supporting other sustainability goals.

**Site Development Practices**. Green site development practices are implemented through a combination of techniques that minimize the impact of development on the natural areas and surrounding communities. Green site development incorporate the following elements:

a. *Stormwater Management.* The high level of industrial and urban development planned for Springwater will increase stormwater runoff and pollutant load beyond what is currently

experienced. Green or low impact development uses a system of landscaping features that treat and infiltrate stormwater on the development site instead of using a traditional piped collection and conveyance system. Stormwater that is not managed on individual sites will be conveyed using Green Street swales rather than a conventional piped system. The benefit of green development is that it minimizes the production of stormwater runoff and manages it close to the source. These practices mimic the natural hydrology of the area, minimizing erosion and enhancing water quality in the streams. Green development practices include the following:

i. Minimizing impervious surface coverage

ii. Using ecoroofs to absorb precipitation and reduce runoff from developed areas.

iii. Maximizing tree canopy through preserving and planting trees in landscaped areas and parking lots, on residential property, in street medians, and in neighborhood and community parks

iv. Using onsite stormwater treatment techniques such as bioswales and landscape planters.

v. Using Green Streets for all streets that do not have a high level of on-street parking (as in the Village Center).

b. *Xeriscape Landscaping*. Xeriscape landscaping promotes water conservation by minimizing the amount of native vegetation removed, limiting new vegetation to native or drought tolerant vegetation, and limiting irrigation. This approach also supports and encourages protection and restoration of natural areas where development occurs on parcels adjacent to Environmentally Sensitive Resource Areas.

c. *Minimizing Night Sky Impacts*. Urbanization of Springwater will result in new lighting sources that could increase night sky illumination and impact the nocturnal environment. Applying site lighting restrictions reduces the development impact by avoiding off-site lighting and night sky pollution.

**Water Reuse**. The high density of proposed industrial development, distance from the City of Gresham's existing wastewater treatment plant, and potential demand for reclaimed water for either non-contact industrial uses or environmental benefits (such as aquifer recharge, streamflow augmentation, etc.) support investigating wastewater reuse in Springwater.

## GOAL

1. The Springwater Community shall strive to be a model for successful, sustainable, industrial development, and foster continued sustainability through encouraging businesses, industries and homes that are designed for and built with good environmental stewardship.

## POLICIES

1. Create a sustainable community through business practices, philosophies, and strategies that reduce environmental impacts; for example, using techniques like Leadership in Energy Efficiency and Design (LEED) criteria and renewable energy sources.

2. Target environmental businesses and encourage businesses to use green practices that reduce waste and pollution; avoid waste, pollution, and environmentally harmful materials and processes; conserve water and energy; and protect and enhance the environment, biodiversity and the ecosystem.

3. Utilize green development practices, including green streets. Community design and infrastructure plans should enhance the natural hydrologic system as a fundamental part of managing stormwater and water quality.

4. Create interpretive educational opportunities that allow residents to experience and understand the diverse ecosystem that they are a part of.

5. Preserve, restore and enhance natural resources in ways that help ensure its long-term economic, social and environmental benefits as Springwater urbanizes.

6. Consider wastewater management alternatives other than conveyance to and treatment at the City's existing wastewater treatment facility on Sandy Boulevard.

7. Develop a transportation system that promotes improved air quality and reduced energy consumption by providing alternatives to replace long vehicle trips with shorter trips or with transit or walking/biking trips.

8. Encourage the planting and preservation of trees.

9. Utilize land as efficiently as possible.

10. Encourage diverse economic activities within the context of industrial and industry-related activities and promote the integration of the Springwater economic development community into the greater Gresham and surrounding East Metro community.

11. Incorporate an integrated Pest Management Program for the entire Springwater Community.

**ACTION MEASURES**

1. Develop regulations, incentives, and development standards that include measures to protect and augment the natural stream system with a vegetated buffer system along streams and wetlands that are critical to the ecological health of the watershed.

2. Develop regulations, incentives, and development standards for managing stormwater on-site through green development practices that rely on infiltration, bio-retention and evapotranspiration, or other processes that enhance the natural hydrologic system.

3. Incorporate green streets designs as described in Metro's handbook entitled *Green Streets: Innovative Solutions for Stormwater and Stream Crossings* and as designed in the Pleasant Valley Plan District area.

4. Develop regulations, incentives, and development standards to provide for the planting and preservation of trees throughout the study area, including street rights-of-way, community open spaces, parking lots, and other landscaped areas. Include an enforcement program.

5. As industries begin to locate in Springwater, investigate wastewater discharge or non-potable water demands to assess the potential for a water reuse program.

6. Initiate discussions with the Oregon Department of Environmental Quality (DEQ) to investigate the regulatory precedence for or requirements associated with using treated effluent for environmental benefits such as streamflow augmentation and aquifer recharge.

7. Explore the use of chemical free maintenance in City-owned or maintained parks.

## 10.804 LIVABILITY

### BACKGROUND

The result of developing a complete, sustainable community in which the City's needs for economic development are balanced with natural resource protection and infrastructure development can be summarized in one word: *livability*. The CWG and the project team characterized the livability goal for Springwater as follows:

> ***The Springwater community shall have a high quality of life****. This will be accomplished through compact and sustainable development; a range of housing choices; walkable neighborhoods; access to natural resources and open spaces for employees in the community; preservation of natural resources; and a variety of transportation choices. The community will encompass a village center, or series of village centers, that provide needed services for employees and residents in an attractive human-scale environment. A range of housing choices will be provided within close proximity to services and/or employment areas. Overall, the community shall be a unique environment that creates a sense of place for both residents and businesses, and acts as an economic attractor*.

In the scenario evaluation process, compliance with this goal was measured by miles of trails and greenway connectivity provided, acres of the Plan area allocated to parks and open spaces, park and open space accessibility (number of households within a 5- or 10-minute walk), net residential and job densities, and households in proximity to the Village Center.

### SUMMARY OF MAJOR ISSUES

Primary elements of the Plan that contribute to the livability of Springwater include the following:

**Planning a community- and pedestrian-friendly Village Center**. Two sets of park blocks are planned for the Village Center – one along a north/south axis bordered by high-density residential housing, and one along an east/west axis bordered by mixed and commercial uses.

These park blocks will intersect in a Village Center park and plaza that will help create the identity of the Village Center and provide a community gathering place. These spaces will produce a pedestrian way through the heart of the Village Center. The Village Center and housing areas are located such that over 75% of the residents of Springwater will be located within a quarter mile walk of the Village Center.

**Developing a trail network that provides access to natural resources and employment areas throughout Springwater**. Two trail loops are proposed: a Village Center loop offering views of the riparian areas on the west side of Johnson Creek, and an Employee loop trail offering access to industrial and employment areas on the east side of Johnson Creek. These trails will connect with each other and with existing trails in the region, supporting multimodal transportation.

**Offering a range of housing options to meet a variety of needs.** With a modest number of new households in Springwater, a variety of housing options will be available to meet a range of needs. A portion of the property in Springwater has been designated for large-lot " housing. This area has views of Mt. Hood and/or abuts natural resource areas and will provide opportunities for employees to locate near prospective industrial development sites. A range of townhomes, mixed-use, and single family homes will also provide housing for potential Springwater employees.

**Providing parks that build on the area's natural features and provide appropriate amenities**. Two parks with different uses and amenities are proposed for Springwater. The nature-oriented Springwater Community Park is envisioned to be located along the Johnson Creek Corridor and adjacent to the residential districts. It will provide two youth sports fields, and a regionally significant natural park area, providing interpretive educational opportunities. The athletic facility-oriented East Springwater Park will be located east of US. 26, and will provide two to three adult sports fields for employee recreational opportunities as well as for the adjacent neighborhood to the north.

## GOALS

1. The Springwater Community shall have a high quality of life provided through compact and sustainable development; a range of housing choices in close proximity to services and/or employment areas; walkable neighborhoods; access to natural resource areas, parks, and greenways for employees in the community; preservation of natural resources; and a variety of transportation choices.

2. The park, trail, and open space network shall provide a variety of recreational opportunities for residents, employees, and neighbors of Springwater.

3. The community shall be a unique environment that creates a sense of place both for residences and businesses, and acts as economic attractor.

## POLICIES

1. Provide a variety of high-quality housing choices to include opportunities for large-lot housing within compact and walkable neighborhoods.

2. Promote a high standard for development practices. Promote developments and buildings that are pedestrian friendly.

3. Create a sense of place with respect to the community's cultural and natural history. Incorporate the natural environment into the design of the community.

4. Create a Village Center that serves local residents, businesses and employees. The design of the streets and buildings of the Village Center should emphasize a pedestrian-oriented character where people feel safe.

5. Create a walkable community with an urban form that increases walking, biking and transit options. Access and connections to the Springwater Corridor Trail shall be emphasized as a unique characteristic of the Springwater Community.

6. Locate parks and open spaces throughout the community. Neighborhood parks, small green spaces and open spaces shall be within a short walk of all homes.

7. The park and trail system shall be connected to the Springwater Corridor Trail and connect to other regional trail systems where feasible.

8. The Village Center shall include a plaza, pocket park or other forms or combinations of parks to provide identify and form to the center as well as assembly space.

9. Identify opportunities and needs for civic uses and work with the Gresham/Barlow School District and Mt. Hood Community College to identify the area's education needs.

10. Build upon Springwater's unique characteristics and location, such as its proximity to and views of Mt. Hood.

**ACTION MEASURES**

1. Modify System Development Charges for Springwater to allow acquisition and development of the proposed park areas.

2. Implement design standards for the Village Center that emphasize a human-scale and pedestrian-friendly environment.

3. Seek opportunities for synergies between other city agencies, such as shared park/school sites, regional stormwater management facilities, and trail corridors along transportation routes.

4. Expand on recommended park facility programs to meet the needs of the future residents by holding community workshops and planning days to involve the community in the design process.

5. Look for state and federal funding assistance to help preserve natural resources beyond that open space which will be purchased through Parks fees.

## 10.805 TRANSPORTATION

### BACKGROUND

A well-planned transportation system is critical to both attracting economic development to Springwater and to achieving the area's goals for livability and sustainable development. The team developed the following goal for transportation:

***The Springwater Community will encompass a well-planned transportation system that supports the Springwater Community Plan, while promoting transit, walking, and bicycling.*** *Good design can avoid the effects of heavy traffic on neighborhood safety and the natural environment. A well-connected transportation system using trails, bicycle routes and a variety of street types reinforces a sense of community and provides adequate routes for travel. The site should provide good connections to and from the employment areas and the surrounding community, as well as regional freight and transportation centers.*

The transportation plan for Springwater was developed in compliance with transportation plans adopted by the State of Oregon, Metro, Multnomah County and the City of Gresham. Guidelines from these entities were used as a primary resource to develop the policy framework for the mobility standards and street spacing set forth in the Springwater Transportation System Plan (TSP). Review of the Gresham and Multnomah County Transportation System Plans also revealed the current street functional class designations for existing streets and highways, any planned pathways or trails, and any planned transportation improvements within or close to the Springwater area that should be included in the basic framework of the new planning area.

Key features of the Transportation element of the Plan are:

- Create a network of arterials, collectors, community streets, and local streets that accommodates travel demands and provides multiple routes for travel. Key new street extensions and connections include:
    - Two new east-west arterial connections from 242nd Avenue to Telford Road between Rugg Road and 252nd Avenue.
    - A new grade-separated interchange at US 26 in the Springwater Area.
    - A new street connection to Orient Drive around the east side of the existing Gresham neighborhoods.
- Upgrade existing streets and design all new streets to accommodate biking and walking, with special pedestrian amenities on transit streets. Upgrade intersections with safety issues identified as part of the inventory work.
- Provide regional and community transit service on key roads in Springwater, with direct connections to Gresham, Sandy, Clackamas regional center, Damascus, the Columbia

Corridor, and downtown Portland. Planned transit streets include 242nd Avenue, Orient Drive, and US 26.

- Provide a logical and connected street system that connects directly to community destinations while also avoiding the ESRA where possible. Mitigate where not possible. Plan for a local street system that complements the arterial and collector street system and meets regional connectivity requirements within the residential and mixed use areas of the plan.
- Provide for direct and convenient access to employment centers that lead to regional facilities, and reduce the possibility of traffic intrusions into neighborhood and rural areas.
- Use Green Street designs that are an integral part of the stormwater management system and provide walkable, tree lined streets.
- Plan for a long-term arterial connection from Hogan Road to US 26 north of the Springwater Corridor Trail, to serve long-term regional mobility needs.

## SUMMARY OF MAJOR ISSUES

Major issues faced in the transportation planning for Springwater are described below.

**Develop a network of arterial and collector streets adequate to serve future growth in Springwater, while protecting environmentally sensitive areas and adjacent neighborhoods and rural areas from the effects of urbanization.**

Traffic analysis conducted as part of the update to the Regional Transportation Plan (RTP) demonstrated that future growth in Springwater would likely have widespread effects on the regional transportation system, despite significant improvements to the primary routes serving the area. Springwater's transportation plan must support the land use goals of the community, protect the natural features that define the area, and improve community access by all modes of travel by providing a variety of travel choices.

**The availability of alternative arterials and highways leading away from Springwater are limited.**

The rural Springwater community today, in general, is adequately served by US 26, and several city and county two-lane arterial roadways. Recurring congestion occurs during peak periods at major intersections along Burnside Road, Hogan Drive and Powell Boulevard just north of Springwater inside city limits, but delays are within acceptable levels according to city and state standards.

The planned job growth in will create much higher demand for regional travel to I-84, I-205 and the future Sunrise Corridor. A long-time need for freight traffic on US 26 has been more direct and reliable routes connecting to Interstate 84 and Interstate 205. The current adopted plan that provides this type of facility and service expansion is 242nd Avenue and a new connection to I-84 (the 242nd Avenue connector). On-going work by the City of Gresham and East Multnomah County communities on a parallel study to the Springwater Master Plan is reconsidering the North-South Corridor issue. A separate study is also being conducted to examine options for

access to US 26 within Springwater. Gresham's ongoing participation in these studies is critical to coordinate the studies' evaluations and outcomes with needs for Springwater.

**The existing street system is not adequate to serve future growth. Connect Springwater to major streets in Gresham, Pleasant Valley, and Damascus/Boring in a manner that provides alternatives to US 26 while protecting existing neighborhoods from traffic infiltration.**

Additional connections and improvements to existing streets are needed to increase access from Springwater to other parts of the region. However, evaluation of appropriate north/south street connections needs to address the potential impact of traffic generated in Springwater area on adjacent neighborhoods. The Transportation System Plan must balance the need to provide appropriate connectivity between Springwater and the surrounding neighborhoods while minimizing "through" traffic from Springwater to residential Gresham neighborhoods and maintaining a "hard urban edge" at the eastern boundary of the community as required by Gresham's intergovernmental agreement with Multnomah County.

## GOAL

The Springwater Community will encompass a well-planned transportation system that supports the Springwater Community Plan, while promoting transit, walking and bicycling. The road and trail network will provide good connectivity within Springwater, with existing neighborhoods, and with the regional trail network.

## POLICIES

1. Incorporate the North/South Transportation Study into the implementation of the Springwater Plan to identify better connections between Springwater and I-84 and I-205.

2. Incorporate green streets designs as described in Metro's handbook entitled *Green Streets: Innovative Solutions for Stormwater and Stream Crossings* and as designed in the Pleasant Valley Plan District area.

3. Provide trail and pedestrian connections between residential and employment centers in the district.

4. Design road crossings of the Springwater Corridor Trail to minimize the impact to the greatest practical extent.

5. Develop transportation corridors and associated right-of-way widths for Green Street swales that efficiently convey developed stormwater runoff to the stream system.

6. Create streets for people as well as cars.

7. Encourage alternative modes of transportation within the Springwater community.

8. Provide good connectivity and access to practical destinations.

9. Provide safe and convenient access to and from employment areas, including freight access.

10. Incorporate adequate public safety access.

11. Provide for public transit options, such as bus, streetcar and/or light rail within the Springwater community and for east/west and north/south connections to the greater region.

12. Consider traffic impacts on surrounding rural areas and existing City of Gresham neighborhoods.

13. Manage and preserve the function of rural roads for rural traffic access and circulation by directing new urban industrial and residential traffic away from the rural area.

14. Provide pedestrian and bicycle connections within the Springwater community and to the greater region.

15. Plan roads to accommodate the movement of goods and services (truck traffic).

16. Consider environmental barriers and constraints.

17. Address existing transportation safety issues.

18. Identify and promote the quality and level of telecommunication services needed to serve industrial and other uses in the Springwater Community.

19. Identify improvements to Highway 26 that enhance access and mobility to and through the Springwater Community plan area to support industrial and employment development. Design elements are to be compatible and supportive of the Springwater Community Plan.

20. Create a transportation system that enhances mobility, reliability, and convenient connections to regional destinations.

**ACTION MEASURES**

1. Coordinate Springwater development with future recommendations for improved North/South access between I-84 and the Sunrise Corridor in Damascus.

2. Implement recommended changes to the City's Transportation System Plan, and plan for funding requirements associated with transportation improvements and maintenance.

3. Coordinate Springwater development with the recommendations of the US 26 Access Study, and provide an implementation strategy that maximizes industrial development opportunities in Springwater.

4. Adopt a future street plan and street connectivity standards that meet regional and local connectivity requirements.

5. Work with TriMet to develop a plan for Springwater that provides connection to local regional centers, with service through the industrial areas and Village Center.

6. Future CIP Joint Study with Multnomah County to evaluate Access Management Control along 282nd to lessen the impacts on this facility and retain its rural character.

7. Identify all Arterial and Collector projects that are not currently in the RTP and submit a project list for inclusion in a RTP amendment.

## 10.806 NATURAL RESOURCES

### BACKGROUND

The Springwater Plan area has an extensive natural resource system that includes a two-mile section of mainstem Johnson Creek, four miles of major tributaries, and other unique habitat such as the steep slopes of Hogan Butte. The Johnson Creek Watershed Council has characterized one reach of Johnson Creek (JC16) that flows through Springwater as one of the watershed's highest quality reaches.

To comply with Title 11 of Metro's Urban Growth Management Functional Plan in bringing the Springwater area into the UGB, Gresham's planning for this area must include:

> *Identification, mapping, and a funding strategy for protecting areas from development due to fish and wildlife habitat protection, water quality enhancement and mitigation, and natural hazards mitigation. A natural resource protection plan to protect fish and wildlife habitat, water quality enhancement areas and natural hazard areas shall be completed as part of the comprehensive plan and zoning for lands added to the Urban Growth Boundary prior to urban development. The plan shall include preliminary cost estimates and funding strategies, including likely financing approaches for options such as mitigation, site acquisition, restoration, enhancement, or easement dedication to ensure that all significant natural resources are protected.*

The Natural Resources Plan must also comply with Metro Ordinance 02-969B, Exhibit M regarding the inclusion of the project area in the UGB, and an Intergovernmental Agreement (IGA) between the City of Gresham and Multnomah County establishing guidance for Springwater development planning. Specifically, the IGA states that the Springwater Plan shall:

> *Establish a consistent and comprehensive plan for urban and rural watershed management of stormwater, stream corridors and confluences, and riparian areas for the Upper Johnson Creek Basin (upstream of the 2002 Gresham city limits). Utilize the City's Johnson Creek Master Plan, Metro Goal 5 requirements (which consider the Endangered Species Act, Clean Water Act, and Statewide Goal 5 planning provisions), and habitat protection measures that are at least equivalent in the level*

*of protection to the County's West of Sandy River Rural Area Plan in development of the watershed plan.*

Early in the Springwater Community Plan development, a Community Working Group (CWG) was convened to provide input through the planning effort. Together, the CWG and the project team developed a set of goals and policies that were ultimately adopted by the CWG. The purpose of the goals and policies was to identify the City of Gresham's intent to accomplish certain results through the Springwater Community Plan. The following goal was adopted for natural resources:

> ***The plan will preserve, protect, and enhance natural resources****. It will define, protect, restore and enhance significant natural resources, including stream corridors, wetlands, and forested areas. Resource areas will provide the basis for identifying development constraints as well as serving as open space amenities for the Springwater Community. Resource protection and enhancement will be a shared responsibility of property owners, developers and governments.*

The Natural Resource team used this goal as a basis for defining the Environmentally Sensitive Resource Areas (ESRAs). After a thorough inventory of resources in the study area, the work team presented their findings through a series of inventory maps at public meetings. Local residents made additions and corrections to the maps. This information, combined with extensive field studies conducted by the project team, formed the basis for assigning significance levels to each resource in the study area. The final ESRA was determined through an Environmental, Social, Energy and Economic (ESEE) study to determine where urban development in resource areas should be allowed, limited, or prohibited.

Selected characteristics of the ESRA include:

- Wetlands, riparian habitat, and upland habitat offering both opportunities for protection of high value resources, and opportunities for enhancement of degraded resources.
- Habitat migration routes along the waterways and between the buttes.
- Buffers adjacent to the resources of up to 200 feet, depending on the type of resource.
- Implementation strategies including planning-level project cost, funding strategies, regulatory and incentive options, and restoration priorities.

## SUMMARY OF MAJOR ISSUES

Major issues associated with natural resource planning and enhancement in Springwater are related to the existing rural development and agricultural practices in the area. MacDonald Creek (Badger) has been modified by Telford Road, and urban development at the headwaters of Botefuhr Creek has changed the flow regime of the creek channel. A Himalayan blackberry monoculture has been established in the area west of Hogan Road, and an incised channel has minimized the channel's connectivity to its floodplain. Open (ditched) stormwater systems and failing subsurface wastewater disposal systems contribute negatively to water quality in Johnson Creek and the other tributaries in the study area.

Some of the Springwater riparian reaches have relatively intact diverse, mature riparian growth, however many areas lack high-quality riparian vegetation. Areas that appear as wide canopy trees in aerial photography hide understory that has been cleared, with significant streambank erosion occurring.

**GOAL**

The plan will preserve, protect and enhance natural resources.

**POLICIES**

1. The Springwater Community Plan shall recognize the importance of the upper Johnson Creek system for Gresham, the Portland Metro region and the Willamette Valley.

2. Mitigation for any impacts of development in Springwater to stream corridor function shall be prioritized first on the same tributary within Springwater, secondly in Springwater on Johnson Creek or a tributary, or thirdly as close to the impact area as possible within the Johnson Creek basin.

3. The Plan will result in a green infrastructure that will provide regional natural amenities for future generations.

4. The plan will identify potential opportunities for “natural park” facilities that would enhance the sense of place for economic developments and that could be an attraction for residents and businesses.

5. Stream crossings will be minimized to the greatest extent feasible.

6. Road and pedestrian crossings of the natural resources areas shall be designed for the least impact practical.

7. The entire Johnson Creek Watershed and ecosystem will be considered.

8. To the extent practical, watershed functions and sensitive/natural species will be restored.

9. Barriers to wildlife habitat corridors, such as bridges and roads, shall be designed to provide proper opportunities for wildlife migration.

10. The urbanization of the Springwater Community shall be balanced with the protection of sensitive species and habitat, water quality, and groundwater resources.

11. The urbanization of the Springwater Community shall achieve, to the maximum extent practical, low levels of effective impervious surfaces, high levels of tree protection and reforestation, management of stormwater as close to the point of origin as possible, improved hydrology and flood protection, and removal of barriers to fish passages.

12. Urbanization of the Springwater Community shall provide appropriate erosion control and shall control sedimentation through the use of green development practices, context sensitive design, and appropriate construction management practices, re-vegetation of disturbed areas, and regular maintenance and monitoring.

13. Lands with slopes of 25 percent or above shall be protected.

14. The use of native plants shall be a priority for re-vegetation and Green Streets.

15. The development code for Springwater shall maintain fish and wildlife habitat protection measures that are at least as protective as those adopted by Multnomah County for the West of Sandy River Plan Area upon annexation.

**ACTION MEASURES**

1. Add the Springwater Community Plan area to the Community Development Hillside Special Purpose District Map.

2. Examine habitat between Botefur Creek & Hogan Creek to identify a potential corridor that may be recommended for preservation for wildlife habitat.

3. Examine habitat between Sunshine Creek & buttes to south of Springwater to identify a potential that may be recommended for preservation for wildlife habitat.

4. Evaluate availability of grant funding to support recommendations in the Springwater restoration program.
5. Continue to evaluate long-term funding opportunities for natural resource preservation, enhancement, and maintenance.

6. Coordinate with stormwater and transportation project implementation to maximize benefits to the natural resources.

7. Coordinate with Multnomah County for adoption of Goal 5 resource map and local wetland inventory.

8. Continue to work with the City of Damascus and other stakeholders to coordinate resource preservation and enhancement efforts.

9. Identify funding sources for implementing Natural Resource goals and programs.

## 10.821 PUBLIC FACILITIES

### BACKGROUND

This section addresses water, wastewater, stormwater and park public facilities. It is intended to amend the City's public facilities plans for each facility. Amendments to the Public Facility Plan for transportation are located in a separate amendment to the City's Transportation System Plan.

The Metro Council brought Springwater into the Urban Growth Boundary (UGB) in December 2002. When land is brought into the UGB, Title 11 of the Metro *Urban Growth Management Functional Plan* requires that the added territory be brought into a city's comprehensive plan prior to urbanization with the intent to promote the integration of the new land into existing communities.

Title 11 requires conceptual public facilities plans for each of these services that demonstrate how Springwater can be served. The conceptual plans are to include preliminary cost estimates and funding strategies, including likely financing approaches and maps that show general locations of the public facilities.

Conceptual public facility plans were developed for water, wastewater, stormwater, and parks during the *Concept Plan* phase of the project. The planning area used for development of public facility alternatives included four distinct areas, shown graphically on Figure 1:

- Approximately 1,152 acres of unincorporated Multnomah County which was included in the 2002 Urban Growth Boundary (UGB) expansion. This is the primary area referenced as the "Springwater Site".
- Approximately 140 acres of unincorporated Multnomah County located at the foot of the buttes west of Hogan Road. This area is within Gresham's UGB and its Urban Services Boundary, but planning for urban services has never been provided. This area is also included in the Springwater Site.
- The "Brickworks" site, which is 183 acres of land north of the Springwater area. It is zoned as Heavy Industrial (HI) and is currently within the City of Gresham. It is included in the Springwater Community Planning area to explore redevelopment opportunities in conjunction with the new annexation area.
- Approximately 139 acres located in Clackamas County. This area was also included in the 2002 UGB expansion, and is now part of the newly-incorporated City of Damascus.

The 2002 UGB expansion also included a "Springwater Phase 2" area, which is primarily the area encompassed by the new City of Damascus. Public facility planning conducted as part of this project considered likely service extensions to the Phase 2 area. Potential service provision for the Phase 2/Damascus area is discussed separately for each utility considered in the public facilities plan.

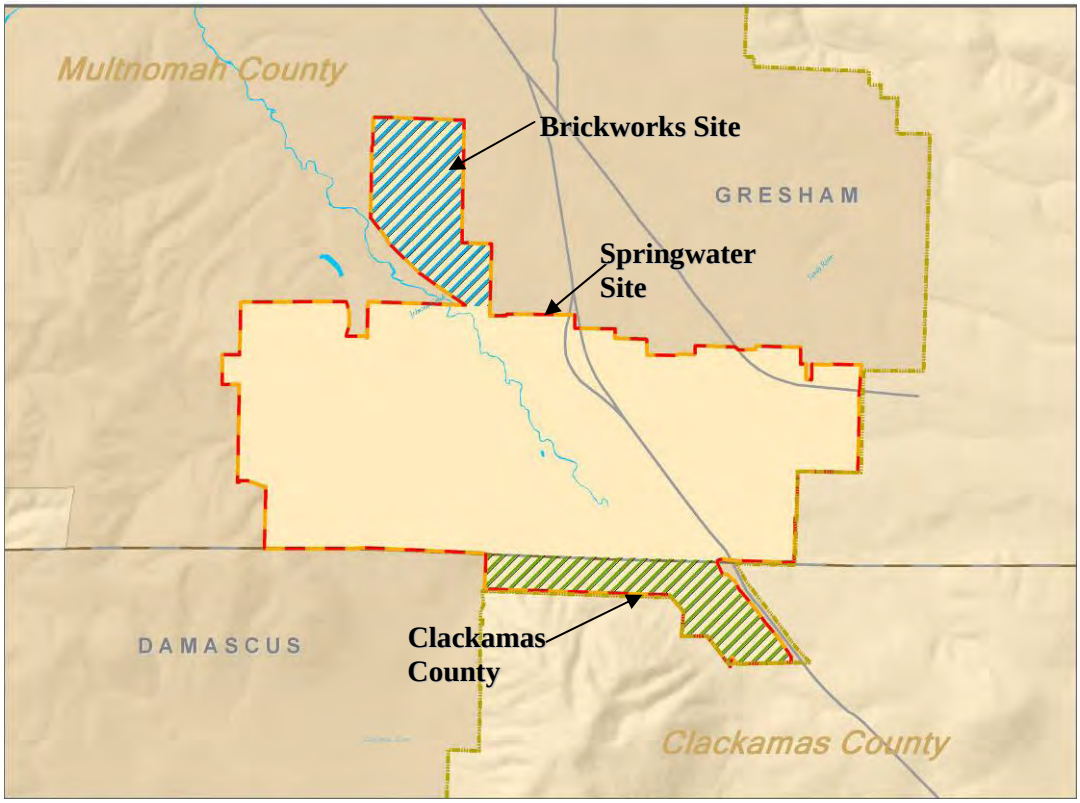



**Figure 1. Springwater Planning Area Elements**

The general steps in generating the conceptual public facilities plans were:

- Developing an inventory of the existing system
- Performing a needs analysis based on planned future uses
- Developing a conceptual system layout for each planning scenario, including facility needs and cost estimates
- Evaluating each conceptual public facility system with respect to project evaluation criteria
- Creating a preferred public facility alternative based on the preferred land use, transportation, and natural resource concepts and the scenario evaluation results
- Refining facility needs, cost estimates, and funding strategies for the recommended plan

The *Concept Plan* also included the Community Working Group's adoption of plan goals. No specific goals were developed for water, wastewater, stormwater, or parks public facilities. However, evaluation measures associated with these public infrastructure areas were incorporated into evaluation measures for the broader community goals (i.e., create a community, livability, sustainability, etc.).

The *Concept Plan* work was the basis for the Public Facilities Plans that are included in this document. These Public Facilities Plans describe the elements necessary to comply with

Statewide Planning Goal 11 and OAR 660-011-0000 necessary to amend the City's Public Facility Plan for each of the public facilities:

660-011-0010

(1) The public facility plan shall contain the following items:

a. An inventory and general assessment of the condition of all the significant public facility systems which support the land uses designated in the acknowledged comprehensive plan;

b. A list of the significant public facility projects which are to support the land uses designated in the acknowledged comprehensive plan. Public facility project descriptions or specifications of these projects as necessary;

c. Rough cost estimates of each public facility project;

d. A map or written description of each public facility project's general location or service area;

e. Policy statement(s) or urban growth management agreement identifying the provider of each public facility system. If there is more than one provider with the authority to provide the system within the area covered by the public facility plan, then the provider of each project shall be designated;

f. An estimate of when each facility project will be needed; and

g. A discussion of the provider's existing funding mechanisms and the ability of these and possible new mechanisms to fund the development of each public facility project or system.

**Service Delivery Overview**

Like most rural development in the area, most residents of Springwater are largely responsible for their own water supply, wastewater treatment, and stormwater systems. Water is currently accessed via underground wells and wastewater is primarily treated in subsurface disposal systems. Stormwater runoff is conveyed to natural drainage areas or to drainage ditches adjacent to local roads. There are no public parks in Springwater. A portion of the Springwater Trail – a multi-use regional trail developed as part of Metro's Greenspaces program – runs through the study area adjacent to Johnson Creek.

**Future Public Facilities Provider Overview**

The Springwater area that was added to the UGB in 2002 lies primarily in unincorporated Multnomah County. The southern portion of Springwater is located in the newly-formed City of Damascus in Clackamas County. The City of Gresham will be responsible for the provision of urban services for areas annexed into Gresham. The portion of Springwater in Clackamas County was included in the Public Facility Plan development for planning purposes, although the ultimate service provider for this area has not been determined.

As part of the 2002 UGB expansion, Metro also added land known as "Springwater Phase 2" that is located entirely within Clackamas County. It is assumed that water service for this area would not be provided by the City of Gresham, as it is unlikely that the Gresham would annex the area. However, the natural drainage of the region slopes toward Gresham, and therefore it may be logical for Gresham to provide wastewater conveyance and treatment for a portion of the Phase 2 area as it currently does for the Cities of Fairview and Wood Village. The portion of the Phase 2 area that drains by gravity to Gresham is known as "Sunshine Valley." The Public Facility Plan for wastewater identifies the infrastructure requirements associated with this scenario as a basis for further intergovernmental discussions regarding logical service providers for the Phase 2 area. It is also assumed that stormwater service for this area would most likely not be provided by the City of Gresham. Because of the natural drainage, however, planning for the area downstream of the Sunshine Valley has utilized the assumption that no additional flow and pollutant will be discharged. A set of planning assumptions has been transmitted to Clackamas County and the City of Damascus. The success of stormwater facilities within the Gresham boundary will depend directly on whether planning efforts for the Sunshine Valley area adhere to these or more restrictive assumptions.

## 10.822 WATER SYSTEM

### System Description/Condition Assessment

***Existing Conditions.*** The Springwater area is currently rural in nature, with some residential development and limited commercial development. Currently, water supplies in the area are served through individual wells that tap into the groundwater aquifer beneath the Springwater area. In addition, there is no domestic water distribution system in place in Springwater. As the area is developed to the level of urban development proposed in the Concept Plan, Gresham's water distribution system will need to expand to provide service to this area.

The City of Gresham provides water to its customers through a wholesale water supply agreement with the City of Portland Water Bureau (PWB) and an intergovernmental agreement with the Rockwood Water People's Utility District (RWPUD). Water is provided through seven metered connections by the PWB and one metered connection from the RWPUD. In addition to the purchased water, the City plans to use groundwater to supplement the current water supply sources. It is anticipated that the Sunrise Water Authority will serve that portion of Springwater located within Clackamas County.

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***Water Distribution.*** The Springwater water distribution system will be an extension of the City's current distribution system and add to the existing network of pipes, valves, pump stations, and reservoirs. Currently the City is divided into seven service levels that provide water to the various parts of the City. The service levels are supplied either by direct gravity from PWB and RWPUD connections, or through pump stations pumping directly from the PWB conduits or booster pump stations located in the system.

The Springwater planning area abuts three of the City's Service Levels: South Hills, Intermediate, and Lusted. These three service levels will be expanded into the Springwater area. The South Hills Service Level currently comprises of about 533 acres and includes the South

Hill Reservoir. This reservoir has a capacity of 2.6 million gallons (MG). Water is supplied to this service level through the Regner Road Pump Station #8 with a current capacity of 2,200 gallons per minute (gpm).

The Intermediate Service Level currently covers approximately 2,977 acres and includes two reservoirs: the Butler Road Reservoir (4.0 MG) and the Regner Reservoir (6.0 MG). This service level is supplied by connections to PWB conduits through the Division Street Pump Station from Conduit #4 with a current capacity of 4,000 gpm and the Main Street Pump Station from Conduit #3 with a current capacity of 3,800 gpm.

The Lusted Service Level is currently about 1,112 acres and is served by the Wheeler Road Reservoir (3.2 MG) and the Lusted Tank (1.2 MG). This service level is supplied through the Powell & Barnes Road Pump Station from Conduit #3 with a current capacity of 1,600 gpm. The Salquist Pump Station has a current capacity of 3,825 gpm and pumps water from the Intermediate Service Level into the Lusted Service Level. The Salquist Pump Station has been constructed with a provision for connecting to a future Conduit #5.

### System Analysis

Water demand from the proposed development was generated by applying an estimated demand per acre of new developable land based on the *1998 Water System Master Plan.* The demands for each service level from the *1998 Water System Master Plan* were projected over a 20-year planning horizon. These projected demands were divided by the current service level acres to obtain a demand per acre for each service level. This value was then used with the new service level areas to estimate the Springwater demand. The area of each new service level did not include land use designated as wildlife preserve, open space, or environmentally-sensitive areas.

Based on the demands projected from the *1998 Water System Master Plan*, the anticipated average day demand generated from the Springwater development totals 1.0 million gallons per day. Table 2 shows the results of this analysis for the three service levels.

**Table 2: Projected Springwater demand based on projected flows in existing service levels**

| Service Level | Existing Area (acres) | Projected 2025 Average Day Demand (mgd) | Projected 2025 Average Day Demand per Acre (mgd/acre) | New Springwater Area (acres) | Projected Springwater Average Day Demand (mgd) |
|---|---|---|---|---|---|
| Lusted | 1,112 | 0.88 | 0.000795 | 212 | 0.17 |
| Intermediate | 2,977 | 3.01 | 0.001167 | 535 | 0.62 |
| South Hills | 533 | 0.91 | 0.001167 | 177 | 0.21 |
| **TOTAL** | **4,622** | **4.80** | | **924** | **1.00** |

Maximum day demands were estimated from the projected average day demands by using a peaking factor of 2.3, the same as the one used in the *1998 Water System Master Plan.*

A new master planning effort is currently underway. Associated with this effort, demand projections are being revised. The Springwater demand projections should be revised based on this new analysis once the information is available.

One difference between Springwater and the existing City is the level of industry anticipated. Industrial customers can have a wide range of water demands and wastewater generation rates. Water demands from large industrial developments can have a significant impact on water infrastructure needs. In addition, industrial customers typically have a higher demand for fire protection. For the Springwater development, fire flow demands for each broad land use type were assumed to be:

- 3,500 gpm for Commercial and Industrial customers
- 1,750 gpm for Medium Density Residential customers
- 2.500 gpm for High Density Residential customers
- 1,750 gpm for Low Density Residential customers with homes larger than 3,600 square feet
- 1,000 gpm for Low Density Residential customers with homes at or less than 3,600 square feet

The following process was used to evaluate water demands associated with Springwater:

- Establish new service level boundaries within the planning area to determine the area to be added to the existing South Hills, Intermediate, and Lusted Service Levels. The shape of the new service levels was determined based on area topography and location to the existing service levels.
- Define pipe networks and projected flows for the land use concepts developed during planning. The networks were designed to provide as much system looping as possible, and to locate mains in existing or proposed road right-of-way to the greatest extent possible.
- Determine the pipe size for the distribution network in Springwater.
- Evaluate the system to determine whether adequate fire protection is available.
- Evaluate the system to determine whether adequate storage is available.

Based on these assumptions, Table 3 below shows the general system components required for the Springwater area. These are also shown in Figure 2.

**Table 3: Springwater water system facilities**

| **New Facilities** | |
|---|---|
| Total Length of New Pipe (LF) | |
| 12-inch diameter (LF) | 39,100 |
| 16-inch diameter (LF) | 47,036 |
| 18-inch diameter (LF) | 19,858 |
| New Pressure Reducing Valves | 3 |
| New Wheeler Road Reservoir (MG) | 3.2 |
| New South Hills Reservoir (MG) | 2.6 |
| | |
| **Upgrades to Existing Facilities** | |
| Replace 8-inch with 12-inch diameter (LF) | 290 |
| Replace 12-inch with 16-inch diameter (LF) | 1,330 |
| New Pumps at Regner Pump Station | 2 @ 1,100 gpm each |

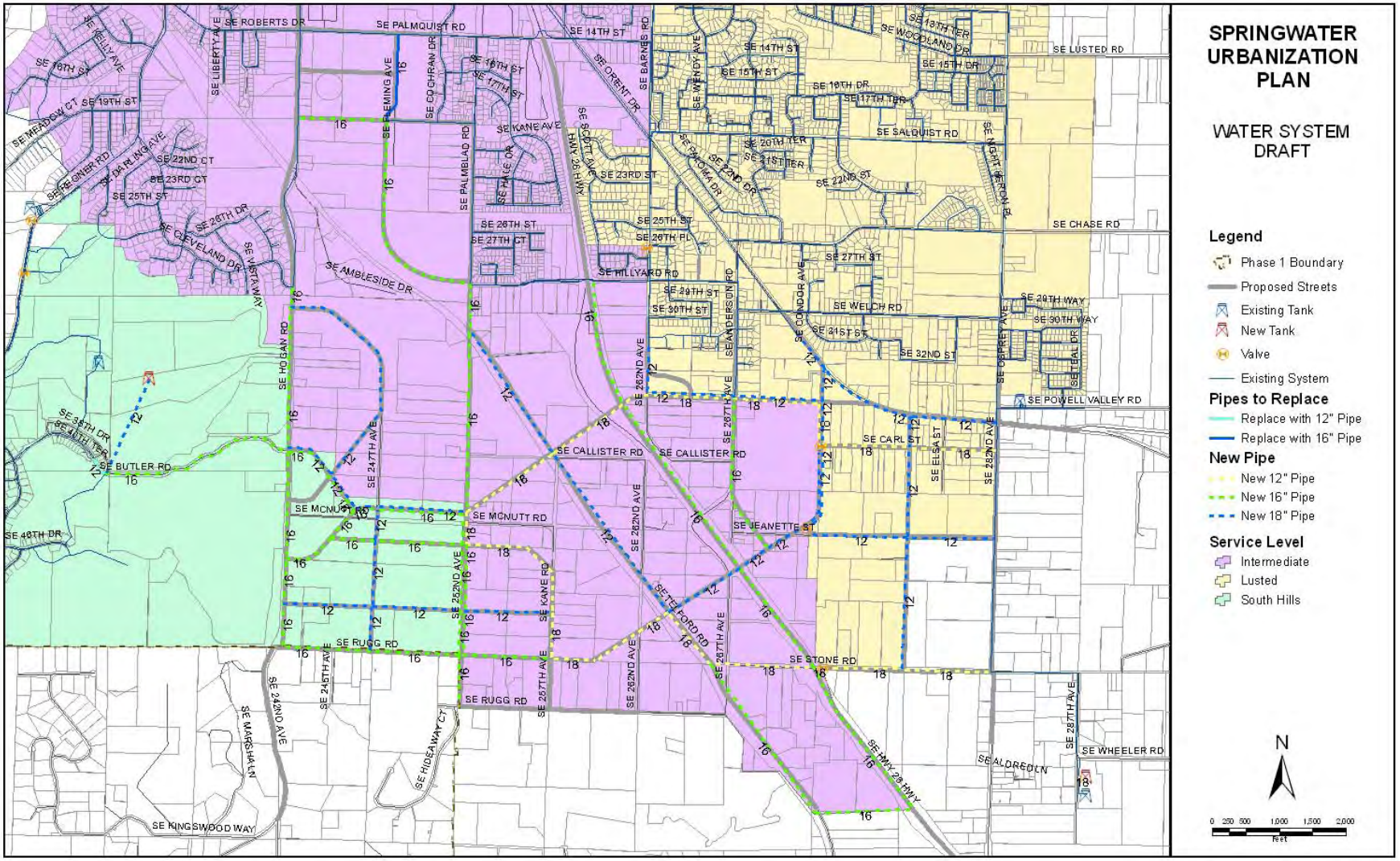



Figure 2 – Proposed Water System Improvements

### Summary of Future Needs

Based on the analysis of the proposed water distribution system, recommendations for water system improvements were developed. These recommendations include a distribution network to serve the Springwater community, and improvements to existing infrastructure in the City to provide additional flow to Springwater from the City's current sources. To maintain consistency with the City's current practices, parallel piping is provided in areas adjacent to two pressure zones to minimize the use of pressure reducing valves (PRVs) where possible. Improvements are summarized below.

- The Springwater system is divided into three service levels – extensions of the South Hills, Intermediate, and Lusted service levels. Within each service level there is a network of distribution mains ranging in size from 12-inch to 18-inch. These mains are looped to the maximum extent possible.
- Existing 8-inch and 12-inch mains in two areas will need to be upsized to accommodate the demands anticipated in Springwater.
- Two new pumps will need to be added to Regner Pump Station. These pumps are to be of similar capacity to those existing at the pump station (1,100 gpm capacity).
- Two new reservoirs will be required. One will be located near and of a similar size as the existing South Hills Reservoir (2.6 MG) and the other will be located near and of the same size as the existing Wheeler Reservoir (3.2 MG). Controls at the Regner, Barnes, and Salquist Pump Stations will have to be modified to incorporate these new tanks.

No provisions are included in the recommended plan to serve the Phase 2 Springwater area. The City of Gresham is participating in ongoing discussions with Clackamas County, the City of Damascus, and the Sunrise Water Authority to determine the appropriate service provider for the Phase 2 area.

Recommended capital improvements and associated costs are shown in Table 4 on the following page. Costs are based on the annexation subareas described in the Summary Report.

Table 4. Projected Water System Costs

| Annexation Subarea | Timing (Years) | Springwater Service Level | Length of Pipe (ft) | Storage (MG) | Other Facilities | Total Project Cost | Funding Source |
|---|---|---|---|---|---|---|---|
| 1 | 0-5 | Intermediate | 5,966 | 0.0 | | **$ 1,061,000** | SDC/Local |
| 2 | 0-5 | South Hills | 4,806 | 2.6 | 2 New Pumps | **$ 7,545,700**[1] | SDC/Local |
| 3a | 0-5 | Intermediate | 2,402 | 0.0 | | **$ 427,200** | SDC/Local |
| 3b1 | 0-5 | Intermediate | 4,420 | 0.0 | | **$ 589,500** | SDC/Local |
| 3b2 | 6-20 | Intermediate | 9,453 | 0.0 | | **$ 1,515,500** | SDC/Local |
| 4a1 | 6-20 | South Hills | 8,885 | 0.0 | | **$ 1,559,200** | SDC/Local |
| 4a2 | 6-20 | Intermediate | 2,530 | 0.0 | | **$ 506,300** | SDC/Local |
| 4b | 6-20 | South Hills | 9,882 | 0.0 | | **$ 1,566,800** | SDC/Local |
| 4c | 6-20 | Intermediate | 6,898 | 0.0 | | **$ 1,227,400** | SDC/Local |
| 5a | 0-5 | Intermediate | 3,179 | 0.0 | | **$ 593,200** | SDC/Local |
| 5b1 | 0-5 | Lusted | 3,296 | 0.0 | | **$ 439,600** | SDC/Local |
| 5b2 | 6-20 | Lusted | 6,102 | 0.0 | | **$ 1,166,900** | SDC/Local |
| 5c | 6-20 | Lusted | 8,028 | 0.0 | 1 New PRV | **$ 1,279,100** | SDC/Local |
| 6a | 6-20 | Intermediate | 5,918 | 0.0 | | **$ 922,100** | SDC/Local |
| 6b1 | 6-20 | Intermediate | 2,592 | 0.0 | | **$ 345,700** | SDC/Local |
| 6b2 | 6-20 | Lusted | 5,504 | 0.0 | 1 New PRV | **$ 817,100** | SDC/Local |
| 7a | 6-20 | Intermediate | 5,824 | 0.0 | | **$ 1,039,800** | SDC/Local |
| 7b | 6-20 | Lusted | 4,474 | 0.0 | 1 New PRV | **$ 846,500** | SDC/Local |
| 8a | 6-20 | Intermediate | 762 | 0.0 | | **$ 135,500** | SDC/Local |
| 8b | 6-20 | Intermediate | 6,694 | 0.0 | | **$ 1,190,400** | SDC/Local |
| Wheeler Res | 6-20 | Lusted | 380 | 3.2 | | **$ 7,615,000** | |
| **TOTAL PROJECT COST** | | | | | | **$32,389,500** | |

Costs based on ENR 20-City Construction Cost Index (CCI) of 7297
1. Includes land acquisition of 3 acres at $150,000/acre, plus 14% administrative markup

**Funding Plan**

The following discussion presents the envisioned strategy for funding water service extensions in Springwater. Gresham relies on developer contributions, system development charges (SDCs) and retained earnings from the utility to finance expansion. In the past, Gresham has borrowed against future utility revenues to finance major improvements in storage and transmission facilities.

Depending on the location of initial development, it may be difficult for Gresham to finance water system improvements in the short-term. Funding needs will be minimized if the initial development all occurs within a single service area, and is close to an existing water storage tank. Over the long-term, assuming the City adopts adequate SDCs to cover the required capital

improvement projects, SDCs should generate enough revenue from within Springwater to capitalize system improvements.
Gresham has recently undertaken a separate effort to evaluate water and wastewater SDCs. This project is examining options for both city-wide and area-specific SDCs, and will make recommendations regarding potential changes to the existing SDC methodology, especially in the improvement fee, to ensure that the fee is adequate to recover forecast capital improvement needs in Springwater.

### GOALS AND POLICIES

Applicable goals and policies that relate to the provision of public facilities in the existing comprehensive plan for the City of Gresham also apply to the Springwater PFP.

### ACTION MEASURES

1. Implement recommendations of the Water and Wastewater SDC study being conducted concurrently with the completion of this PFP.

2. Update the SDC improvement project list to include relevant near-term projects.

3. Continue to coordinate with the Clackamas County, the City of Damascus, the Sunrise Water Authority, and other stakeholders to establish plan for providing water service for the Phase 2 area.

4. Review options to incorporate a “purple pipe” system where water reuse is encouraged and promoted.

## 10.823 WASTEWATER SYSTEM

### System Description/Condition Assessment

***Existing Conditions.*** The Springwater area is currently rural in nature, with some residential development and limited commercial development. Sanitary sewage generated in the Springwater area is currently treated by on-site subsurface disposal systems. When the area is developed to the level of urban development proposed in the Concept Plan, this type of treatment will not be adequate.

The City of Gresham owns and operates a wastewater treatment facility that treats wastewater for over 107,000 residents, businesses, and industries in the City, as well as the Cities of Fairview and Wood Village. Wastewater receives a high level of secondary treatment at the City’s facility on NE Sandy Boulevard and is discharged to the Columbia River. Due to the topography of Springwater, all wastewater generated from the urban development would naturally drain by gravity to the existing wastewater treatment plant.

For planning purposes, it was assumed that all wastewater generated in Springwater would be conveyed to the City of Gresham’s existing collection system and ultimately to the City’s

treatment plant. A portion of the Springwater study area is within the new City of Damascus and Clackamas County (as shown in Figure 1) and therefore could potentially be served by conveying wastewater to the County's treatment plant operated by Water Environment Services of Clackamas County. This option, however, would require pumping to lift wastewater into the County's existing collection system. The City of Damascus potentially could provide wastewater services via creation of a new wastewater utility. Final determination of the appropriate service provider for the Clackamas County portion of Springwater will be determined as the Damascus urban planning efforts are completed.

***Sewage Collection.*** The proposed sewage collection system will be a network of pipes used to convey wastewater from the Springwater planning area to the City's existing system. In general, the most cost-effective and reliable method of conveying wastewater is to locate new pipes in existing or proposed road right-of-way, to use gravity conveyance of wastewater to the greatest extent possible, and to minimize the number of stream crossings.

The Springwater planning area abuts three sewage collection basins in the City of Gresham: Johnson Creek basin, East basin, and Kelly Creek basin. The Johnson Creek basin comprises 4,040 acres and includes the area roughly east of Powell Boulevard from the western City limits to 252$^{nd}$ on the east. This basin is served by a main interceptor (Johnson Creek interceptor) that follows the alignment of the Springwater trail. The interceptor ranges in size from 15- to 42-inches in diameter, and terminates at approximately the intersection of 252$^{nd}$ and Telford Road. Wastewater from this interceptor discharges to the Linneman Pump Station, which conveys the wastewater through a force main and into the main interceptors that deliver wastewater to the treatment plant. Because the Springwater area naturally drains to the Johnson Creek interceptor, and because the 2001*Wastewater System Master Plan* showed significant capacity limitations in the upstream portions of interceptors in the East and Kelly Creek basins, alternatives involving routing flow from Springwater through these basins were not examined.

Analysis of in the 2001 *Wastewater System Master Plan* showed that upstream of Regner Road, the Johnson Creek interceptor has just adequate capacity to serve existing residents through build-out of the service area. Downstream of Regner Road the size of the interceptor increases significantly, ranging from 30 inches immediately downstream of Regner Road to 42 inches upstream of the Linneman Pump Station. Preliminary analysis in the Master Plan indicated that this portion of the interceptor can accept up to 10 cubic feet per second (cfs) of additional flow (from outside of the current service area) without exceeding the hydraulic capacity of the system. The Master Plan indicated that additional improvements would be required in the Linneman Pump Station and downstream force main and interceptors to the treatment plant to accommodate additional flows from outside of the current service area.

### System Analysis

Sewage flows from the proposed development were generated by applying unit flow factors to various land use types, and adding infiltration and inflow (I/I) associated with the 1 in 5 year rainfall event. This "design storm" is established in the Oregon Administrative Rules (OAR) 340-041-120 sections 13 and 14 as the minimum condition under which the City must be able to convey and treat wastewater with no overflows. Unit flow factors and I/I assumptions were similar to the 2001 *Master Plan* and the 2004 *Pleasant Valley Master Plan.*

The primary difference between Springwater and the existing City is the level of industry anticipated. Industrial customers can have a wide range of water demands and wastewater generation rates. Wastewater discharges from large industrial developments can have a significant impact on wastewater infrastructure needs. However, these high discharges are often accompanied by high water and wastewater charges for industrial customers, and therefore many large industries employ on-site water conservation measures which reduce the volume of wastewater discharged.

A large discharger in Springwater would also present a potential opportunity for the City to implement a small-scale reuse program and provide reclaimed water to other industrial customers in Springwater; for example, public uses in and adjacent to Springwater (public parks, the Persimmon golf course, etc.), or agricultural uses in Damascus. Wastewater from such a large discharger (or several large dischargers in close proximity) could be treated in a small package treatment facility. With appropriate treatment to meet the State of Oregon's requirements for reclaimed water quality, effluent from such a treatment plant could be used to offset local water demands through direct reuse, or possibly through aquifer storage and recovery (ASR). Solids from the treatment facility would enter the sewer system for conveyance to and treatment at the City's existing wastewater treatment plant. Pursuing these opportunities, either through onsite conservation programs with individual industries or through a local reuse program, is consistent with the objective of providing a sustainable development in Springwater. Planned infrastructure was sized based on average industrial discharge rates. This assumption reflects a balance between high volume wastewater dischargers and ultimate implementation of some level of local greater recycling or small-scale effluent reuse.

The following process was used to evaluate wastewater needs associated with Springwater:

- Establish sewershed boundaries (sewer service sub-areas) within the planning area to define areas tributary to the model nodes (manholes). The shape of the sewersheds was determined based on projected future land use and area topography.
- Define pipe networks and projected flows for each of the three land use concepts developed during planning. The networks were designed to use gravity for conveyance to the greatest extent possible, and to locate sewers in existing or proposed road right-of-way to the greatest extent possible.
- Determine pipe size and slope for the three collection system networks associated with the three land use concepts.
- Compare alternatives based on evaluation criteria established in project goals and policies.
- Apply evaluation results to selected Concept Plan land use and transportation network to develop final recommendations for wastewater system improvements.

The three land use scenarios resulted in similar wastewater system needs and costs.

**Summary of Future Needs**

Based on the analysis of the three sewer system scenarios and the final Concept Plan map, recommendations for sewer system improvements were developed. These recommendations include a gravity collection system to serve the Springwater community, and improvements to existing infrastructure in the City to convey the additional flow from Springwater to the City's treatment plant. Improvements are summarized below and shown in Figure 3.

- The backbone of the Springwater collection system is the extension of the Johnson Creek interceptor along Telford road. The interceptor will extend from the terminus of the existing system at 252nd/Telford Road to approximately Stone Road/Telford Road. The interceptor size will range in diameter from 12 inches at Stone Road to 21 inches at the connection to the existing system.
- A series of 8-inch to 18-inch gravity sewers will convey wastewater from the development areas to the interceptor extension. These new sewers will be routed in existing or proposed roadways.
- Two new 8-inch collectors are required to facilitate proposed development on the Brickworks site.
- Several new sewers will discharge directly to the existing Johnson Creek interceptor. These include the collectors from the Village Center area, the residential neighborhood north of the Village Center.
- Downstream of discharges into the Johnson Creek interceptor, several existing pipes will need to upsized from 15 inches to 21 inches in diameter. These upgrades include pipes 3655-4-001, 3654-4-160, 3654-4-150, 3554-4-220, 3554-4-160, 3554-4-150, and 3554-4-140.
- The capacity of the Linneman Pump Station will need to be increased by 7.2 cfs (4.7 mgd) to provide adequate capacity for flows from Springwater. This is in addition to the capacity increase at Linneman required due to growth within the city limits and the addition of Pleasant Valley.
- A second, parallel 18-inch force main will need to be added downstream of the Linneman Pump Station to maintain acceptable velocities when flows from Springwater and Pleasant Valley are added to the system.

Preliminary infrastructure improvements to serve Springwater Phase 2 (southwest of the current planning area) were developed. These improvements are based on the assumption that all of the area that drains by gravity from Springwater will be served by the City of Gresham. The topography in the Phase 2 area results in gravity wastewater flow being conveyed along Sunshine Creek. The location of the Sunshine Creek drainage area within Damascus/Springwater Phase 2 is shown in Figure 4. It is anticipated that flow from the Phase 2 area would enter the Springwater system at approximately the intersection of 252nd and Rugg Road. In order for the City of Gresham to provide service to this area, the main interceptor through Springwater would need to be upsized, and a new interceptor provided to route this flow from approximately the intersection of 252nd and Telford Road to the treatment plant. An alignment study for this new

interceptor would need to be provided in the future to determine the optimal routing of such an interceptor.

Additional capacity at the City's wastewater treatment plant on NE Sandy Boulevard will also need to be allocated to flow generated in Springwater. Planning for future wastewater treatment improvements are addressed in the City's Wastewater Facility Plan.

Recommended capital improvements and associated costs are shown in Table 5. Pipe costs are based on the Tabula 1.0 Conveyance System Cost Estimation software made available by King County, Washington. Costs are based on an Engineering News Record (ENR) 20-City Construction Cost Index (CCI) of 7297.

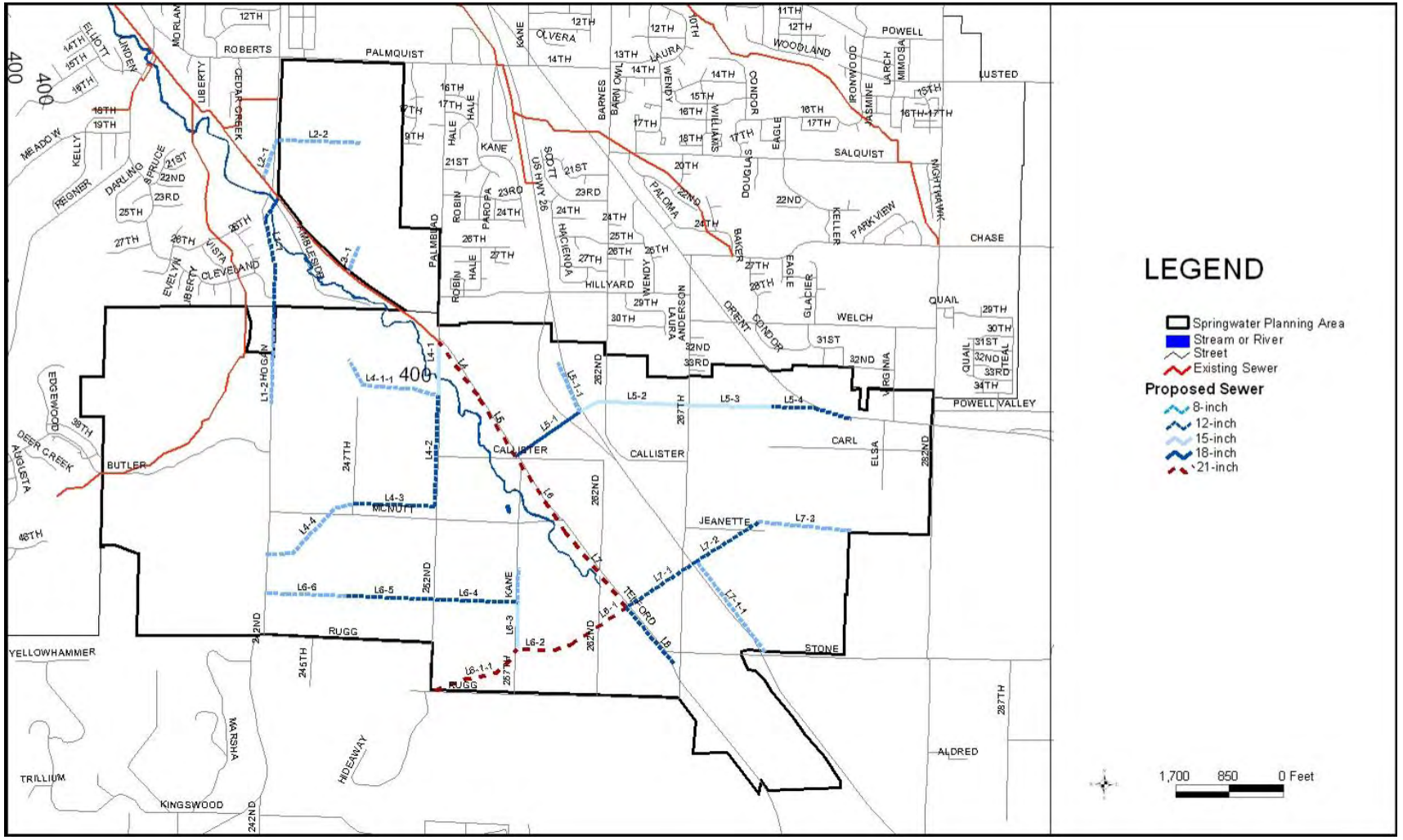


Figure 3 – Proposed Sewer System Improvements

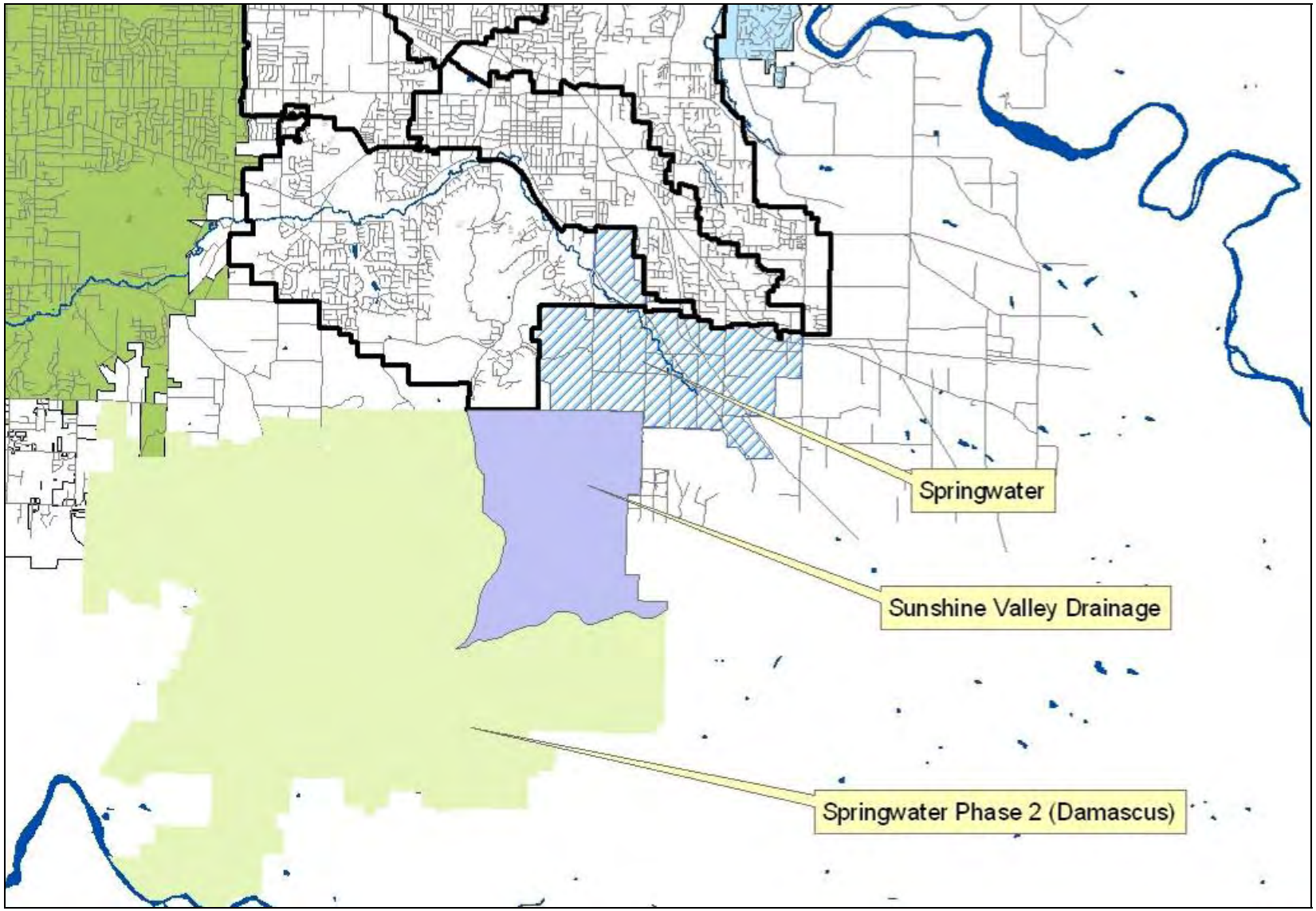


Figure 4 – Springwater Phase 2 and Sunshine Valley Drainage Area

**Table 5. Capital Costs of Wastewater Collection and Conveyance Improvements[1]**

| Pipe ID | Pipe Length (ft) | Pipe Size (in) | Timing (years) | Total Project Cost | Responsible Jurisdiction | Funding Source |
|---|---|---|---|---|---|---|
| **New Pipes in Springwater** | | | | | | |
| L6-1-1 | 1525.5 | 21 | 6-20 | $ 1,325,100 | Damascus | SDC/Local |
| L6-2 | 864 | 21 | 6-20 | $ 1,108,600 | Gresham | SDC/Local |
| L6-3 | 738 | 15 | 6-20 | $ 582,300 | Gresham | SDC/Local |
| L6-1 | 1,066 | 21 | 6-20 | $ 691,500 | Gresham | SDC/Local |
| L8 | 1,178 | 12 | 6-20 | $ 671,500 | Gresham | SDC/Local |
| L7 | 1,524 | 21 | 6-20 | $ 1,126,600 | Gresham | SDC/Local |
| L7-1 | 1,337 | 12 | 6-20 | $ 756,200 | Gresham | SDC/Local |
| L7-1-1 | 1,817 | 8 | 6-20 | $ 923,900 | Gresham | SDC/Local |
| L7-3 | 1,490 | 8 | 6-20 | $ 582,800 | Gresham | SDC/Local |
| L7-2 | 1,169 | 12 | 6-20 | $ 525,500 | Gresham | SDC/Local |
| L5-4 | 1,294 | 12 | 6-20 | $ 581,600 | Gresham | SDC/Local |
| L5-3 | 1,333 | 15 | 6-20 | $ 670,200 | Gresham | SDC/Local |
| L5-2 | 1,777 | 15 | 6-20 | $ 893,200 | Gresham | SDC/Local |
| L5-1 | 1,243 | 18 | 1-5 | $ 671,600 | Gresham | SDC/Local |
| L6 | 1,467 | 21 | 1-5 | $ 868,400 | Gresham | SDC/Local |
| L5 | 1,126 | 21 | 1-5 | $ 666,800 | Gresham | SDC/Local |
| L4-4 | 1,712 | 8 | 6-20 | $ 669,700 | Gresham | SDC/Local |
| L4-3 | 1,293 | 12 | 6-20 | $ 581,000 | Gresham | SDC/Local |
| L6-6 | 1,261 | 8 | 6-20 | $ 493,400 | Gresham | SDC/Local |
| L6-5 | 1,368 | 12 | 6-20 | $ 614,800 | Gresham | SDC/Local |
| L6-4 | 1,363 | 12 | 6-20 | $ 528,600 | Gresham | SDC/Local |
| L4-2 | 1,765 | 12 | 1-5 | $ 793,500 | Gresham | SDC/Local |
| L4-1 | 893 | 15 | 1-5 | $ 583,500 | Gresham | SDC/Local |
| L4 | 1,107 | 21 | 6-20 | $ 655,400 | Gresham | SDC/Local |
| L4-1-1 | 1,681 | 8 | 6-20 | $ 657,600 | Gresham | SDC/Local |
| L1-2 | 1,355 | 8 | 6-20 | $ 530,200 | Gresham | SDC/Local |
| L1-1 | 2,175 | 12 | 6-20 | $ 977,700 | Gresham | SDC/Local |
| L6-2-1 | 550 | 8 | 6-20 | $ 180,200 | Gresham | SDC/Local |
| L5-1-1 | 865 | 8 | 6-20 | $ 338,500 | Gresham | SDC/Local |
| **New Pipes in Existing City Limits** | | | | | | |
| L3-1 | 458 | 8 | 6-20 | $ 232,900 | Gresham | SDC/Local |
| L2-2 | 1,336 | 8 | 6-20 | $ 522,700 | Gresham | SDC/Local |
| L2-1 | 693 | 8 | 6-20 | $ 352,700 | Gresham | SDC/Local |
| ***Subtotal Springwater Planning Area*** | | | | ***$ 21,358,200*** | | |
| | | | | | | |
| **Offsite Upgrades** | | | | | | |
| Linneman Pump Station Upgrade | | | 6-20 | $ 2,033,500 | Gresham | SDC/Local |
| Parallel Force Main | | | 6-20 | $ 1,836,100 | Gresham | SDC/Local |
| Upsize Existing Pipes | | | 6-20 | $ 1,486,000 | Gresham | SDC/Local |
| ***Subtotal Offsite Improvements*** | | | | ***$ 5,355,600*** | | |
| | | | | | | |
| ***Total Wastewater Improvements*** | | | | ***$ 26,713,800*** | | |

1. Does not include Wastewater Treatment Plan infrastructure required by Springwater.

Additional future needs include:

- Updating the City's Master Plan to include both capital improvements within Springwater and capital improvements downstream in the City's existing system required as a result of development in Springwater.
- Updating the City's sewer SDC improvement fees to provide adequate funding for improvements resulting from development in Springwater.
- Determining the appropriate service provider for the portion of Springwater Phase 1 located in Clackamas County.
- Coordinating with the City of Damascus regarding wastewater system planning and design guidelines for the portion of the study area in Damascus (south of Rugg/Stone roads).
- Continuing to investigate the opportunity for wastewater reuse through satellite wastewater treatment systems in Springwater. Satellite wastewater treatment is becoming more cost-effective for onsite treatment of sanitary wastewater from large industrial sites. There could be multiple benefits of satellite treatment in Springwater, including:
    - Providing irrigation water for public parks or other public areas (schools, government facilities, etc.)
    - Providing flow augmentation in Johnson Creek
    - Providing irrigation water for nursery or agricultural land outside of the study area in exchange for water rights

In addition to these benefits, satellite treatment and effluent reuse is consistent with the desire to make Springwater a green development. Use of satellite or onsite treatment could even be incorporated in a public demonstration project in a highly visible area such as the Village Center to educate the public and further promote sustainable development in the community. The Master Plan should include provisions to allow the City to evaluate the viability of satellite treatment and effluent reuse associated with the unique needs and features of developments in Springwater.

### Funding Plan

The following discussion presents the envisioned strategy for funding wastewater service extensions in Springwater. Gresham relies on developer contributions, system development charges (SDCs) and retained earnings from the utility to finance expansion. In the past, Gresham has borrowed against future utility revenues to finance major improvements in wastewater treatment capacity. This approach required wastewater rate increases for existing customers to finance these improvements. The City has not utilized this capital investment acquisition strategy to finance new pipelines or pipeline capacity projects.

Depending on the location of initial development, it may be difficult for Gresham to finance wastewater system improvements in the short term. There are no initial strategic investments that must occur prior to any wastewater system expansion in Springwater. However, since the closest connection to the existing gravity sewer system is in the northwest portion of the study area,

parts of Springwater adjacent or close to this existing system would be the easiest to fund in the short term. Furthermore, the main interceptor through Springwater will be along Telford road. If initial development occurs in the southeastern portion of the Plan District (away from the existing system) or toward the eastern or western boundaries of the Plan District (away from Telford), the cost of initial system improvements will increase and may be difficult for the City to fund in the short term. Over the long term, assuming the City adopts adequate SDCs to cover the required capital improvement projects, SDCs should generate enough revenue from within Springwater to capitalize system improvements.

Gresham has recently undertaken a separate effort to evaluate water and wastewater SDCs. This project is examining options for both city-wide and area-specific SDCs, and will make recommendations regarding potential changes to the existing SDC methodology, especially in the improvement fee, to ensure that the fee is adequate to recover forecast capital improvement needs in Springwater.

## GOALS AND POLICIES

Applicable goals and policies that relate to the provision of public facilities in the existing comprehensive plan for the City of Gresham also apply to the Springwater PFP.

## ACTION MEASURES

1. Implement recommendations of the Wastewater SDC study being conducted concurrently with the completion of this PFP.
2. Continue to coordinate with the City of Damascus and/or Water Environment Services of Clackamas County to determine the appropriate service provider for Sunshine Valley.
3. If Gresham is to provide treatment for any portion of flow from the City of Damascus, participate with City of Damascus and/or Water Environment Services of Clackamas County on an alignment study to identify the appropriate alignment for a new interceptor to convey wastewater to Gresham's wastewater treatment plant.
4. Conclude Gresham and Clackamas County negotiations for service agreements for the portion of Springwater Phase 1 located in Clackamas County. Regardless of the solution, the agreement needs to comply with provisions of ORS 195 that relate to urban service providers.
5. Investigate wastewater discharge or non-potable water demands as industries begin to locate in Springwater to assess the potential for a water reuse program.
6. Initiate discussions with the Oregon Department of Environmental Quality (DEQ) to investigate the regulatory precedence for or requirements associated with using treated effluent for environmental benefits such as streamflow augmentation and aquifer recharge.

## 10.824 STORMWATER MANAGEMENT SYSTEM

### System Description/Condition Assessment

***Existing Conditions.*** Springwater is a rural area where stormwater is currently conveyed overland in ditches to natural drainages. Natural drainages include approximately 2.5 miles of Johnson Creek (ODFW reaches 16 through 19), and eight tributaries, four each on the northeast and southwest sides of the mainstem Johnson Creek. Drainage ditches next to public roadways convey runoff from road surfaces, and in some cases from adjacent private properties, to natural stream systems. Some stream channels are in good condition, although many are degraded. Predominant soils in the area include Cascade Silt Loam, Wolent Silt Loam, Powell Silt Loam, and Wapato Silt Loam. These are generally considered hydric soils with poor drainage characteristics. Many properties in Springwater have been tiled to drain the native wetland prairies for farming. Some riparian habitat has been removed, predominantly in flat areas where farming is prevalent.

***Design Criteria.*** Regional stormwater management facilities (detention ponds) were designed to include adequate volume for water quality, flood control, and channel stability. The water quality volume is defined as 1/3 of the two-year storm. The flood control volume includes the additional volume of runoff under developed conditions from the 10-year nuisance storm (146-hour storm event). The channel stability volume includes additional volume required to limit release rates to less than the geomorphically significant flow (i.e., flow capable of moving sediment). In this case, the channel stability volume was 50% of the two-year storm under existing conditions. Swales, swale culverts, and drainage channels were designed to carry the 10-year nuisance storm. Stream crossings were designed to convey the 100-year storm for streets identified as arterials and collectors. All other stream crossings were designed to carry the 10-year nuisance storm.

***Planned Improvements***. Springwater is a rural area where historical drainage practices have resulted in a significantly altered watershed and have had a dramatic adverse impact on watershed health, especially in riparian areas. The recommended stormwater system for Springwater is intended to minimize the impact of development and maintain or restore watershed functionality using the goals and recommendations described below.

Stormwater management in Springwater is based on green practices that include both onsite stormwater management and public infrastructure facilities. Both components use techniques and processes that mimic natural hydrology to the greatest extent practical, reducing impacts of runoff to pre-development conditions, or improving over current conditions.

Rather than routing runoff to underground pipes for conveyance, runoff will be conveyed through green street swales and swale culverts, or through drainage channels in areas that do not drain to roadways. Vegetated swales located between the roadway and sidewalks and drainage channels located along environmentally sensitive resource areas (ESRAs) will slow the flow of runoff and also provide some infiltration, reducing the quantity of stormwater that must be managed in regional facilities. Figure 5 shows the proposed location of CIP swales, swale culverts, and drainage channels. These swales and drainage channels will generally have an 8-foot top width, 2-foot bottom width, and 4:1 side slope. In areas where the standard swale

geometry does not provide adequate capacity, a 10-foot top width will be provided. Approximately 150,000 lineal feet of swale and drainage channel improvements are recommended.

Twenty-one stream crossings have been identified. These crossings will be a combination of reinforced concrete box culverts, circular culverts, and bridges. All crossings were assumed to provide fish passage. Costs of the culverts or bridges have not been included in the stormwater CIP but will be included in the transportation CIP.

Regional facilities will control the flow of runoff back to the streams in order to regulate the rate and volume of flow entering the stream. In addition, vegetation in the facility will improve water quality by "polishing" the runoff to remove excessive sediment and pollutants[1]. Twenty two new regional stormwater facilities have been identified for the Springwater planning area, as shown in Figure 5. Most (20) of the regional facilities are currently planned to be ponds, and two facilities (located on or adjacent to the mainstem of Johnson Creek) will be dedicated water quality treatment swales. The 22 new facilities includes two facilities in the Brickworks area in the existing City limits, one facility at the base of the Persimmon Country Club, and 19 facilities within the area added as part of the 2002 Urban Growth Boundary expansion. All of the proposed facilities are located in Multnomah County. The facilities range in size from 4 acre-feet to 22 acre-feet, providing volume for flood control, channel stability enhancement, and water quality enhancement.

Siting for the stormwater facilities is an important consideration; by optimizing the location of facilities, the City's investment can be used to maximize public benefit. All of the facilities are located in proposed ESRAs, and acquisition of the property for these facilities will provide the additional benefit of promoting natural resource enhancement or restoration. For example, the ESRA in the vicinity of the Highway #1 regional facility and the drainage channel immediately upstream along the North Fork Johnson Creek has been identified for riparian rehabilitation, and the Highway #2 pond could be developed as part of the Johnson Creek/ Highway 26 wetland complex and floodplain reconnection project identified in the Natural Resource Management Plan. As specific stormwater projects are designed and implemented, the City should refine the stormwater conveyance, detention, and treatment facilities to maximize the opportunity to acquire ESRAs through the stormwater management program and to support implementation of the Natural Resource Management Plan. One of the facilities is located adjacent to a proposed Community Park location north of the Village Center, and could be used to promote public education regarding stormwater management and watershed protection issues. Two of the facilities (Springwater Trail #2 and #3) are located adjacent to the Village Center Loop Trail. Land acquisition costs for these facilities could be offset by Parks department purchase of the ESRA adjoining the trail.

[1] Pleasant Valley Implementation Plan Report, December 2003.

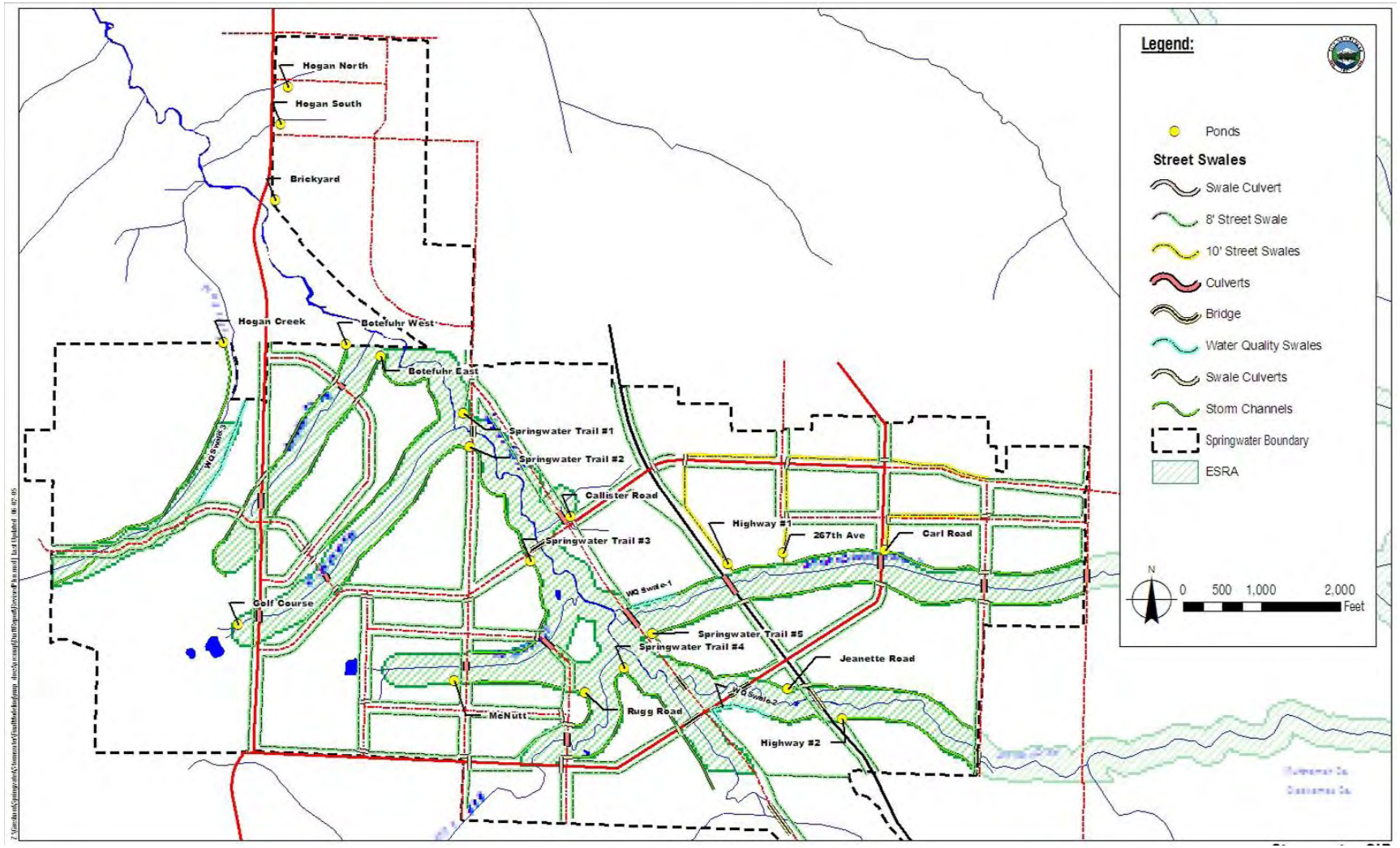


Figure 5. Proposed Stormwater Facilities

With proper maintenance, the drainage channels will provide water quality treatment prior to discharge of stormwater to the regional facilities. However, if maintenance proves to be difficult due to the location of the drainage channels, appropriate treatment will be provided in the regional facilities. This allows for a wide variety of vegetation in the drainage channels, to ease the City's ability to maintain the facilities.

Costs associated with the public stormwater infrastructure recommended in Springwater are shown in Tables 6 and 7 below. Costs are based on the annexation subareas described in the Summary Report. These costs were developed using the same unit cost assumptions as used in the Pleasant Valley Stormwater Master Plan, and are based on an ENR 20-City Construction Cost Index (CCI) of 7297. Land acquisition costs are included for the regional detention facilities, and vary depending on whether or not the facility is located in an ESRA. Costs associated with stream crossings (culverts and bridges shown on Figure 5) are included in transportation CIP costs[2]. The total cost of recommend stormwater improvements in Springwater is $27.7 million.

**Table 6. Regional Stormwater Facility Cost Summary**

| Pond Name | Total Volume (CY) | | Cost Estimate | Timing | Jurisdiction | Funding Source |
|---|---|---|---|---|---|---|
| 267th Ave | 30,336 | $ | 2,418,400 | 6-20 | Gresham | SDC/Local |
| Carl Road | 17,041 | $ | 1,368,000 | 6-20 | Gresham | SDC/Local |
| Jeanette Road | 20,946 | $ | 1,676,600 | 6-20 | Gresham | SDC/Local |
| Highway #2 | 6,804 | $ | 558,400 | 6-20 | Gresham | SDC/Local |
| Highway #1 | 25,601 | $ | 2,044,300 | 6-20 | Gresham | SDC/Local |
| Hogan South | 14,868 | $ | 1,196,300 | 6-20 | Gresham | SDC/Local |
| McNutt | 16,192 | $ | 1,672,200 | 6-20 | Gresham | SDC/Local |
| Springwater Trail #4 | 10,343 | $ | 838,400 | 6-20 | Gresham | SDC/Local |
| Golf Course | 14,588 | $ | 1,174,100 | 6-20 | Gresham | SDC/Local |
| Springwater Trail #3 | 9,869 | $ | 800,900 | 6-20 | Gresham | SDC/Local |
| Hogan North | 20,827 | $ | 1,667,200 | 6-20 | Gresham | SDC/Local |
| Callister Road | 19,410 | $ | 1,555,300 | 6-20 | Gresham | SDC/Local |
| Rugg Road | 19,955 | $ | 1,598,300 | 6-20 | Gresham | SDC/Local |
| Springwater Trail #2 | 8,468 | $ | 690,100 | 0-5 | Gresham | SDC/Local |
| Springwater Trail #1 | 18,226 | $ | 1,461,600 | 0-5 | Gresham | SDC/Local |
| Hogan Creek | 7,641 | $ | 624,600 | 6-20 | Gresham | SDC/Local |
| Botefuhr West | 10,878 | $ | 880,700 | 0-5 | Gresham | SDC/Local |
| Botefuhr East | 5,904 | $ | 487,200 | 0-5 | Gresham | SDC/Local |
| Springwater Trail #5 | 16,508 | $ | 1,325,900 | 6-20 | Gresham | SDC/Local |
| Brickyard | 14,071 | $ | 1,133,200 | 6-20 | Gresham | SDC/Local |
| | **308,476** | **$** | **25,172,000** | | | |

[2] Costs were calculated for informational purposes, and are included in the Reference Documents.

Table 7. CIP Swale and Drainage Channel Cost Summary

**8' Top Width Swale Cost Summary**

| Annex Area | Length | Total Cost ($) | Timing (years) | Jurisdiction | Funding Source |
|---|---|---|---|---|---|
| 1 | 179 | $ 3,000 | 6-20 | Gresham | SDC/Local |
| 2 | 8,249 | $ 136,500 | 6-20 | Gresham | SDC/Local |
| 3a | 5,676 | $ 93,900 | 6-20 | Gresham | SDC/Local |
| 3b1 | 8,783 | $ 145,300 | 0-5 | Gresham | SDC/Local |
| 3b2 | 12,339 | $ 204,100 | 0-5 | Gresham | SDC/Local |
| 4a | 4,385 | $ 72,500 | 6-20 | Gresham | SDC/Local |
| 4b | 9,437 | $ 156,100 | 6-20 | Gresham | SDC/Local |
| 4c | 7,332 | $ 121,300 | 6-20 | Gresham | SDC/Local |
| 5a | 7,706 | $ 127,500 | 0-5 | Gresham | SDC/Local |
| 5b | 9,041 | $ 149,500 | 0-5 | Gresham | SDC/Local |
| 5c | 10,396 | $ 172,000 | 6-20 | Gresham | SDC/Local |
| 6a | 2,930 | $ 48,500 | 6-20 | Gresham | SDC/Local |
| 6b | 6,164 | $ 102,000 | 6-20 | Gresham | SDC/Local |
| 7a | 3,489 | $ 57,700 | 6-20 | Gresham | SDC/Local |
| 8a | 3,534 | $ 58,500 | 6-20 | Damascus | SDC/Local |
| 8b | 1,354 | $ 22,400 | 6-20 | Damascus | SDC/Local |
| | | **$ 1,670,800** | | | |

**10' Top Width Swale Cost Summary**

| Annex Area | Length | Total Cost ($) | Timing (years) | Jurisdiction | Funding Source |
|---|---|---|---|---|---|
| 5b | 4,814 | $ 93,000 | 0-5 | Gresham | SDC/Local |
| 5c | 2,815 | $ 54,400 | 6-20 | Gresham | SDC/Local |
| 6a | 93 | $ 1,800 | 6-20 | Gresham | SDC/Local |
| | | **$ 149,200** | | | |

**Drainage Channels**

| Annex Area | Length | Total Cost ($) | Timing (years) | Jurisdiction | Funding Source |
|---|---|---|---|---|---|
| 2 | 4,125 | $ 74,600 | 6-20 | Gresham | SDC/Local |
| 3a | 4,080 | $ 73,800 | 6-20 | Gresham | SDC/Local |
| 3b1 | 6,644 | $ 120,100 | 0-5 | Gresham | SDC/Local |
| 3b2 | 3,380 | $ 61,100 | 0-5 | Gresham | SDC/Local |
| 4a | 1,702 | $ 30,800 | 6-20 | Gresham | SDC/Local |
| 4c | 3,839 | $ 69,400 | 6-20 | Gresham | SDC/Local |
| 5b | 1,451 | $ 26,300 | 0-5 | Gresham | SDC/Local |
| 5c | 2,258 | $ 40,800 | 6-20 | Gresham | SDC/Local |
| 6a | 3,485 | $ 63,000 | 6-20 | Gresham | SDC/Local |
| 6b | 3,811 | $ 68,900 | 6-20 | Gresham | SDC/Local |
| 7a | 2,575 | $ 46,600 | 6-20 | Gresham | SDC/Local |
| 7b | 3,449 | $ 62,400 | 6-20 | Gresham | SDC/Local |
| | | **$ 737,808** | | | |

***Onsite Practices***. Onsite stormwater management in Springwater requires green development practices. Green development practices are a set of techniques that mimic and incorporate the predevelopment hydrology of a site into future development. Green development practices include site management techniques that minimize (1) disturbance to existing soils, tree canopy,

and other sensitive natural resource features and (2) impervious surfaces, to reduce the production of surface runoff. They also manage runoff through techniques that use natural areas and landscaping to treat, retain, attenuate, and infiltrate stormwater within each development site instead of using traditional piped collection and conveyance systems. Stormwater management plans relying on green development practices accommodate onsite facilities using the hydrology processes of infiltration to soil and evapotranspiration to atmosphere.[3]

An approved Stormwater Management Plan will be required under the new Springwater code. Stormwater management plans provide a mechanism for the City to review how development proposals for stormwater facilities meet the requirements for onsite stormwater management practices. The intention is that the stormwater management plans be submitted and approved along with site plan or preliminary development plat approval. Stormwater management considerations should be included in the City's business recruitment program for Springwater.

### Summary of Future Needs

- Coordination is needed between Gresham and the new City of Damascus regarding stormwater system planning and design guidelines for the portion of the study area in Damascus (south of Rugg/Stone roads). A consistent approach regarding stormwater conveyance standards, development setbacks, allowed uses in ESRAs, and other issues related to stormwater management should be identified in an intergovernmental agreement.
- Modification of the SDC improvement fee may be necessary to fund required improvements in Springwater.
- Purchase of properties required for regional stormwater management facilities should transpire as soon as the Master Plan is completed, adequate funding is secured, and successful acquisition negotiations completed.
- The City of Gresham will not be responsible for NPDES and TMDL compliance for Springwater until areas are annexed to the City. Prior to annexation, regulatory permitting requirements need to be addressed.

### Funding Plan

The following discussion presents the envisioned strategy for funding stormwater service extensions in Springwater. Gresham relies on developer contributions, system development charges (SDCs) and retained earnings from the utility to finance expansion. In the past, Gresham has borrowed against future utility revenues to finance major improvements in stormwater facilities needs.

Depending on the location of initial development, it may be difficult for Gresham to finance stormwater system improvements in the short term. There are no initial strategic investments that must occur prior to any stormwater system development in Springwater. However, since the likely initial annexation areas are located to the east and west of Johnson Creek adjacent to the existing City limits, the City may want to prioritize the Springwater Trail Ponds #1 and #2 for

[3] Pleasant Valley Stormwater Master Plan, CH2M Hill, July 2004.

early funding. Likewise, CIP swales located along 252nd should be prioritized for early funding to support the potential annexation of these areas.

## GOAL

The City of Gresham shall manage stormwater to minimize impacts on localized and downstream flooding and protect water quality and aquatic habitat.

## POLICIES

The following policies are made part of this plan:

1. Manage stormwater through green development practices that rely on infiltration, bio-retention and evapotranspiration or other processes that enhance the natural hydrologic system.

2. Incorporate green streets designs as described in Metro's handbook entitled *Green Streets: Innovative Solutions for Stormwater and Stream Crossings* and as designed in the Pleasant Valley Plan District area.

3. Design culvert improvements for existing and proposed stream crossings to eliminate barriers to fish passage.

4. Ensure that the quantity of stormwater after development will be equal to or less than the quantity of stormwater before development, wherever practicable.

5. Ensure that the quality of stormwater after development will be equal to or better than the quality of stormwater before development, wherever practicable.

6. Design public stormwater facilities using approaches that integrate stormwater vegetation such as swales, trees, vegetated planters and wetlands.

7. Prohibit the encroachment of structures and other permanent improvements over public and private stormwater facilities and within public stormwater easements, drainage ways, creeks, streams, seasonal waterways, seeps and springs.

8. Develop equitable funding mechanisms to implement a CIP for the stormwater management system and provide adequate funding for stormwater management facility maintenance.

## ACTION MEASURES

1. Implement an SDC policy to provide adequate funding for stormwater facilities in Springwater.

2. Review stormwater utility rates and modify as appropriate to support maintenance of facilities in Springwater.

3. Coordinate with the Parks Division to ensure that development of the Village Center Loop trail is adequately protective of natural resources.

4. Look for opportunities to enhance natural resource areas through the construction and maintenance of stormwater facilities.

5. Update the City's onsite stormwater management program to address land use types in Springwater.

6. Coordinate with the Parks Division to investigate the option of combining drainage channels and multi-use trails if the Employee Loop trail is located along stream corridors.

## 10.825 Parks, Open Space and Trails System

### System Description/Condition Assessment

There are currently no parks in Springwater. There is one trail – the Springwater Trail – which bisects the planning area. Both regional and site conditions directly affect the potential of parks, open space, and trails in Springwater. These regional and site conditions are described below.

***Regional Connections.*** The expansion of the Urban Growth Boundary places Springwater at the southeast gateway into the Portland metro area, within a short drive of over 1.5 million residents. Major population centers include: Downtown Portland (14 miles to the west), downtown Gresham (2 miles to the north), and downtown Sandy (9 miles to the southeast). Primary regional access routes include US Highway 26, Hogan Road running north-south through Springwater, and Butler Road which is planned to connect Springwater to Pleasant Valley.

***Regional Natural Connections.*** The buttes and Johnson Creek create a very diverse landscape throughout the region. Intertwined with the natural features are several regional trails that have been outlined by Metro's Trails Master Plan. Their pattern, along with the open space that has been assembled, is directly correlated to the creeks and buttes in the region. Listed below are several of the regional trails that will potentially link to Springwater's local trail system. Major trails include the following:

- **Springwater Trail**, the nation's 499$^{th}$ rail to trails conversion, is one of the most significant trails in the state connecting west from the study area to Milwaukie, OR. It is planned to extend east beyond the study area to Estacada and the Mt. Hood National Forest to connect to the Pacific Coast Trail.
- **40 Mile Loop Trail**, which was part of the original Olmsted Brothers Master Plan, will be located less than a mile to the northeast of the study area along Beaver Creek creating a 160 mile continuous trail.

- The proposed **East Buttes Loop Trail**, which will be located directly to the west of the study area, will connect the Springwater Trail to the **Scouter Mountain Trail** and will loop back to the Springwater. Unlike the Springwater Trail, both of these trails travel along butte peaks offering more intensive hiking.

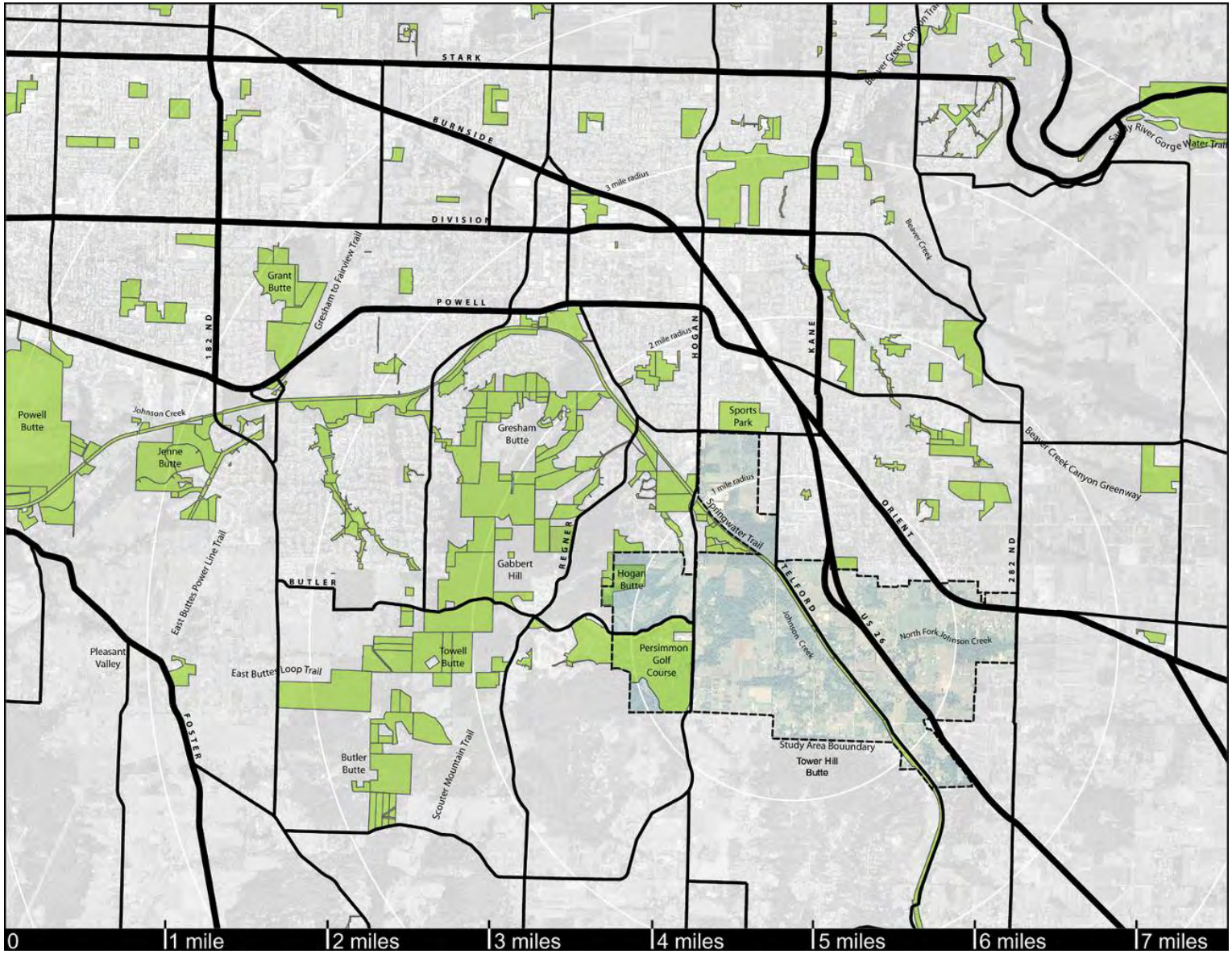


Figure 7. Regional Access and Open Space Diagram

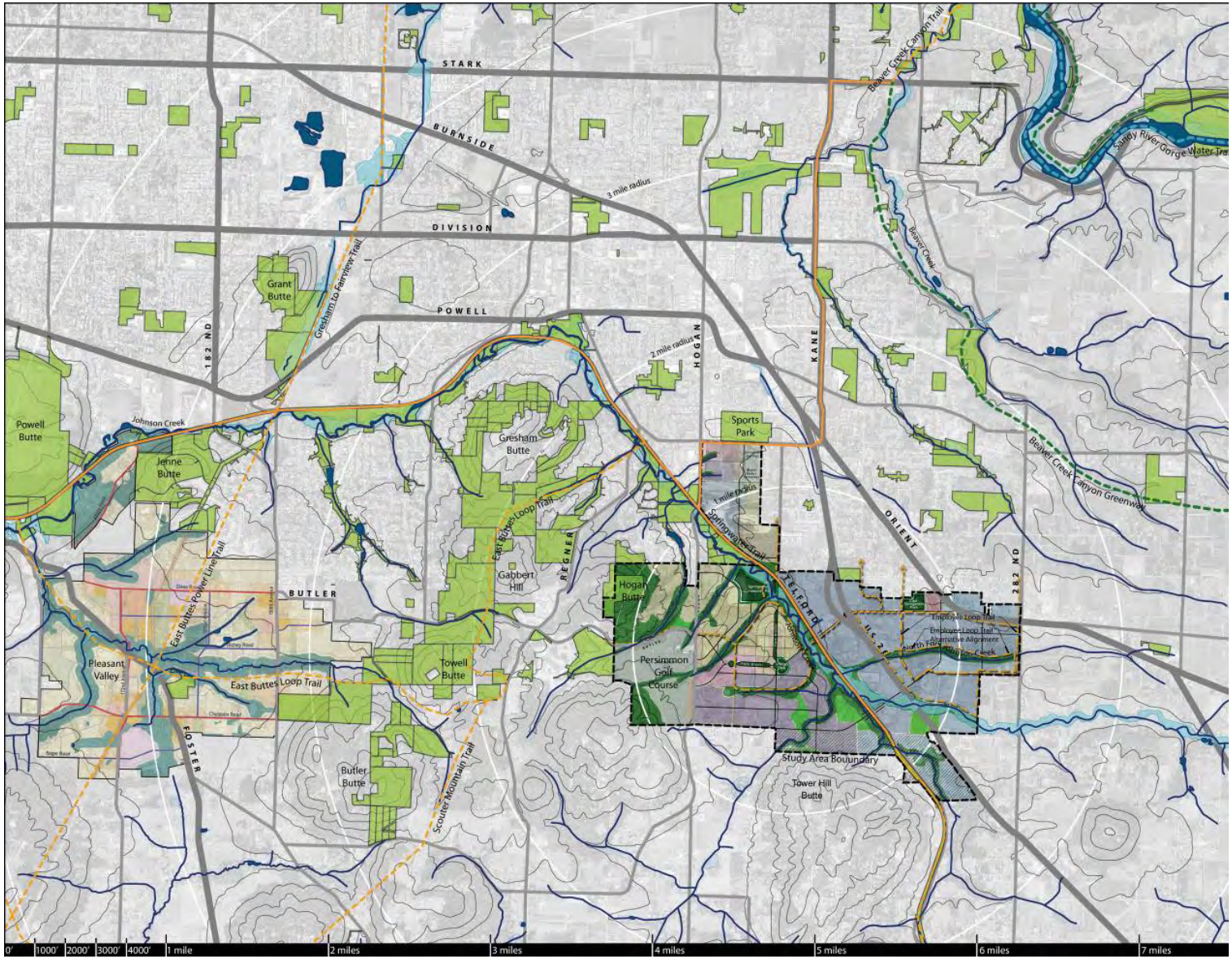


Figure 8. Regional Natural Connections and Trails Diagram

***Natural Features.*** The physical features of the site can easily be seen in the topographic map below. Johnson Creek is the lowest elevation in Springwater, with the east and west portions of the site sloping down toward it. The best views in the area are from the high points between tributaries of the buttes surrounding the site. Looking into the site the best views are from the buttes to the west and south. In addition to these long views, incidental views into the creeks occur frequently along corridors. Specific natural features in the study area include:

- **Buttes** – Hogan Butte is the only butte actually in the study area. Along with the two other buttes to the south it forms an impressive backdrop for views out of Springwater and creates the potential for trails and view points into the study area from their summits.
- **Johnson Creek and Tributaries** – The corridors define the low points on the map below. It is easy to see how the creek corridors have divided the districts into several smaller parcels, especially Johnson Creek and the east-west division it creates.
- **Forested Areas** – The most significant forested areas are along the creek corridors. However there are several forest stands that are important to habitat, recreational activities and educational opportunities outside the creek corridors that should be considered for possible open space acquisition. The graphic below shows the five most significant stands outside the creek corridors. See the Springwater Natural Resources Report for more information.

***Parks and Open Space.*** There are several parks and open space areas adjacent to Springwater. These are described below:

- **Sports Community Park** is a 33.35 acre youth recreation facility within a 30-minute walk of most future residents of Springwater and will help meet future active recreation needs for the district.
- **Southeast Neighborhood Park** is an undeveloped 6.15-acre neighborhood park located directly north of the project boundary adjacent to US 26.
- **Southeast Community Park** is an undeveloped 10-acre community park that may be developed in conjunction with a proposed school adjacent to the site.
- There is a large amount of **open space along the Springwater Corridor** directly to the northwest of the study area, which will play into the overall open space system for Springwater. Most of this land is owned by the City of Gresham and Metro.
- **Persimmon Golf Course**, while privately owned, offers a visual amenity as well as a recreational opportunity not serviced by the City. Connections to it from adjacent neighborhoods could expand the open space system beyond the public parks open space and trail system.

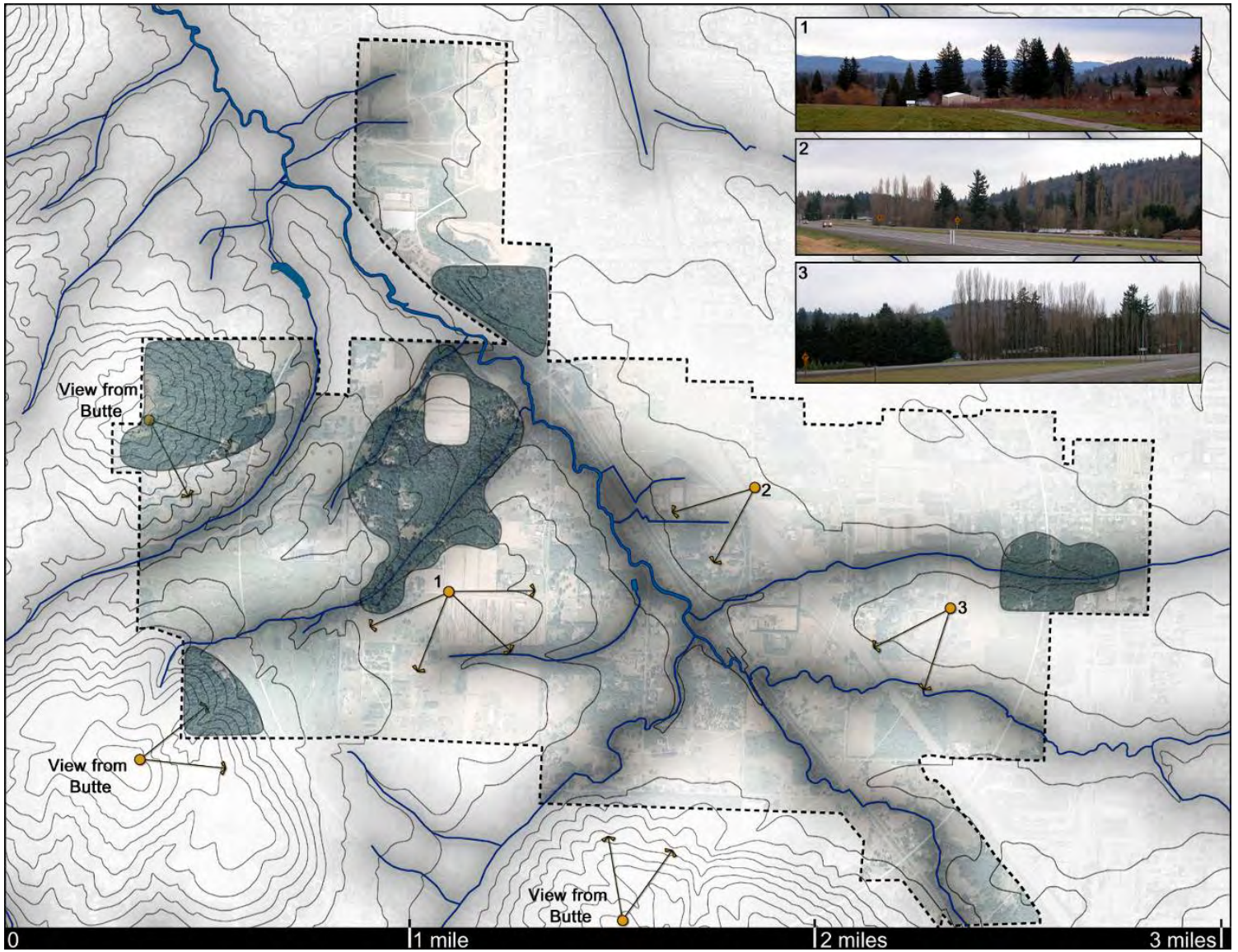


Figure 9. Natural Features and View Corridors Diagram

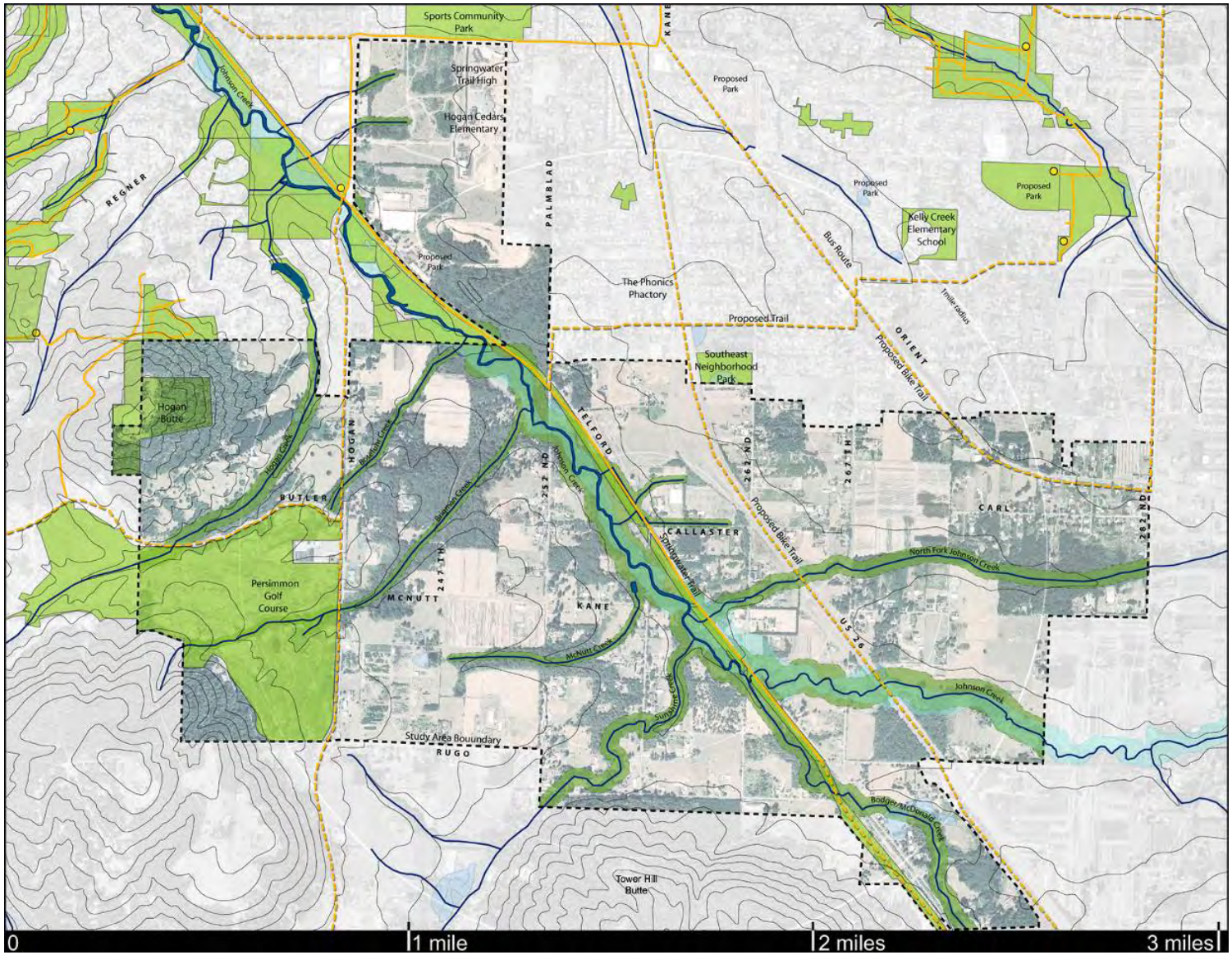



Figure 10. Local Parks, Open Space and Trail Connections Diagram

## System Analysis

### Springwater Levels of Service

Parks, open space and trails standards are intended to facilitate the creation of public amenities for the enjoyment of passive and active recreational activities by the residents and employees of a particular area. This plan has made recommendations for the level at which each type of amenity is offered based on comparisons to national standards and benchmarks created by the National Recreation and Park Association, and Gresham's previous master planning documents.

Level of Service or LOS is the tool by which the amount of a particular park type is measured to meet the needs of the community. It is calculated by dividing the area, number or length of an amenity by the number of residents in the same district. LOS is usually calculated as a total (usually acres) per 1000 residents.

### Springwater Standards

The following LOS recommendations and resulting amenity totals have created the framework by which parks and open space have been allocated in the Springwater district. Park placement and sizing has been considered in reference to the total acres or miles of amenities listed below. Because there has been a range of housing population proposed for Springwater the resulting park amenities has also been listed as a range. These totals are a reference point based on the land use planning process's best estimate for an eventual total build-out for the district. As Springwater develops, the parks department will have to balance funding resources with existing and future demands to implement the master plan as closely as possible.

The following table is based on the City of Gresham's adopted list of park types, open spaces and trails, but has been modified for the needs and conditions of Springwater. The totals are based on estimated population ranges of 2,500 to 3,500 households and 17,000 employees at final build-out.[4]

Table 8. Springwater Parks, Open Space, and Trails Level of Service

| Facility | Size/Placement | Benchmark | Total Acres/Miles |
|---|---|---|---|
| **Neighborhood Park** | .25 to 13 acres, within ¼ mile of residents being served. | 1.3 acres/ 1000 residents | 8.80 - 12.30 acres |
| **Community Park** | 5 to 50 acres for active recreation, but may be smaller for alternative functions. | 2 acres/ 1000 residents including employees equaling .32 residents. | 24.40 – 29.80 acres |
| **Open Space** | Varies | 10 acres/ 1000 residents including employees equaling .32 residents. | 121.90 – 148.90 acres |
| **Trails and Connectors** | Connections from neighborhoods and employment centers to all major green space and civic amenities. | Based on 1/2 mile walk radius from neighborhoods and employment centers. | Estimated 6.2 miles |

[4] To calculate total residents, households are multiplied by 2.7 residents per household.

### Modifications to Springwater's Standards from Gresham's Adopted Standards

The following items have been modified or added from the City of Gresham's Standards because of the unique development conditions of Springwater.

- **Removal of Urban Plazas** – Gresham's standards define urban plazas as a separate category without a specific LOS assigned to it. Because of the low densities in Springwater the category was removed. However, in the Village Center, a plaza and park block will be considered a neighborhood park and the size allocated for each will be removed from the overall neighborhood parkland available.
- **LOS Calculation for Community Park** – Based on the population range being proposed in Springwater, an LOS of 2 acres per 1000 residents would create 13.5- 18.0 acres of community park. A park this size would not support many of the land intensive activities usually associated with community parks, nor would it allow for any facilities to support the 17,000 employees expected to be working in the district. By including employees in the LOS calculation as being equivalent to 0.32 residents, the available area of community park land increases to a size able to support a nature-oriented community park and an employee-focused adult sports park.
- **LOS Calculation for Open Space** –Much like the community park calculation, the area of land available for protection of natural resources and for trail connectivity is limited using the existing residential LOS calculation. By including employees in the LOS calculation as being equivalent to 0.32 residents, open space will be able to be preserved in residential and employee districts to provide trail connections and natural resource protection. The comparison to Pleasant Valley, provided as an appendix, illustrates the need for including employees in the calculation. By using the 0.32 resident equivalents for employees, the total acreage for open space in Springwater is comparable to the total acreage that will be provided for the primarily residential Pleasant Valley district.

### Neighborhood Parks
### General Description

The purpose of neighborhood parks is to provide access to basic recreation opportunities for nearby residents of all ages and contribute to neighborhood identity. They should be located within biking and walking distance of all users. Neighborhood parks may be urban plazas in denser areas to provide space for community events. Neighborhood parks include the following general characteristics:

- Size and Location: 0.25 - 13 acres, within ¼ mile of residents being served.
- May include: a children's play area, a multi-purpose paved area, non-organized sports facilities, seating, picnic areas, paths, public art, permanent restrooms, and community gardens.
- Typically would not include off-street parking.

### Plan Recommendations

Use the available neighborhood park area to create a unique identity for the Village Center. Two park blocks are proposed along the north-south and east-west axis of the Village Center. These will connect to a Village Center Park and Plaza that will serve as the primary public park for the district.

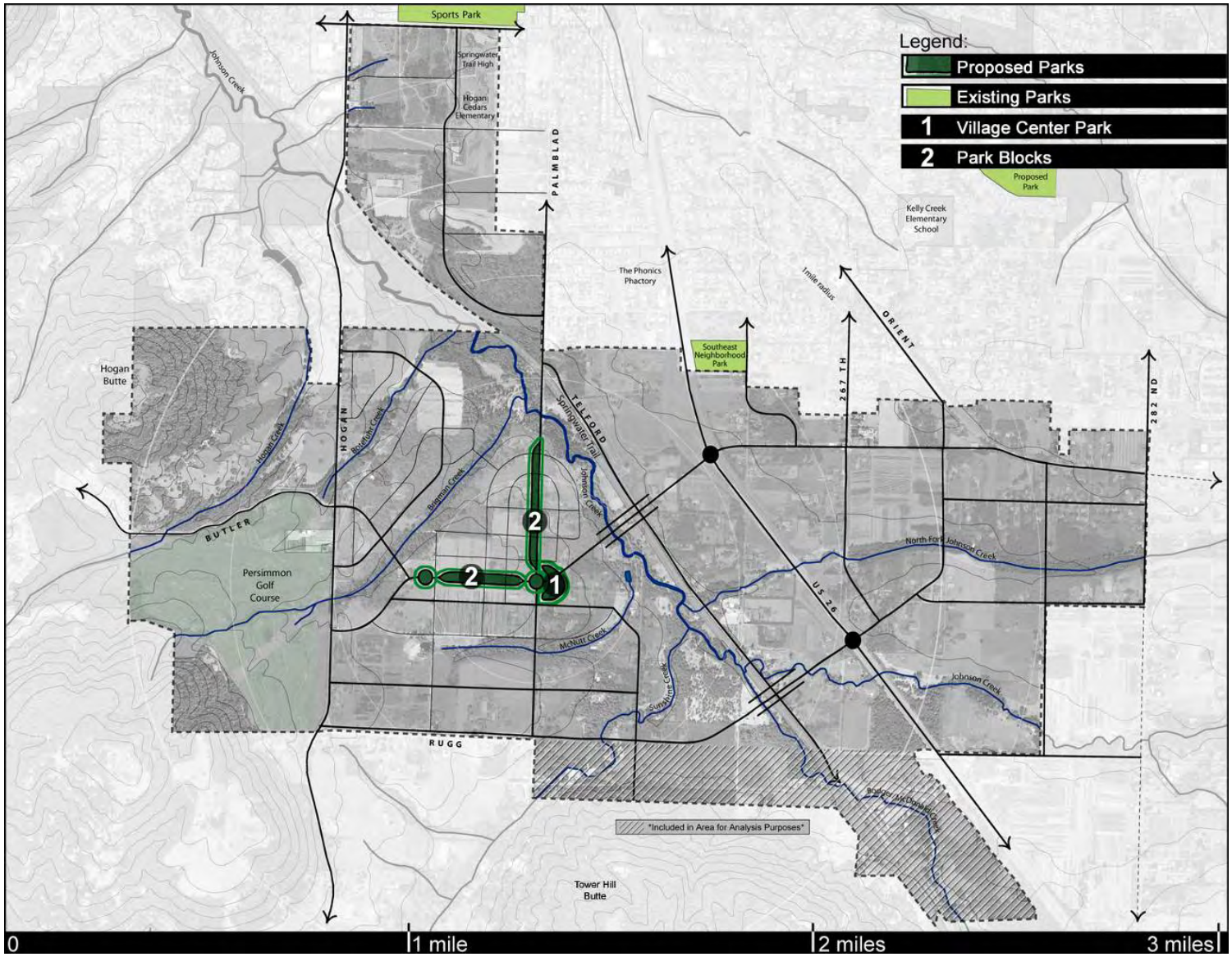



Figure 11. Proposed Neighborhood Parks Diagram

### Park Blocks

The west end of the east-west park block is located at the highest point in the Village Center. From this point there is an unobstructed view of Mt. Hood across the project area. Through selective planting, it is envisioned that this view is preserved along the length of the park blocks. The east-west park blocks will be surrounded by mixed-use and commercial uses, in contrast to the north-south park blocks, which will be bordered primarily by dense residential housing. These blocks will define a linear center for the Village Center and a pedestrian way through the heart of the district.

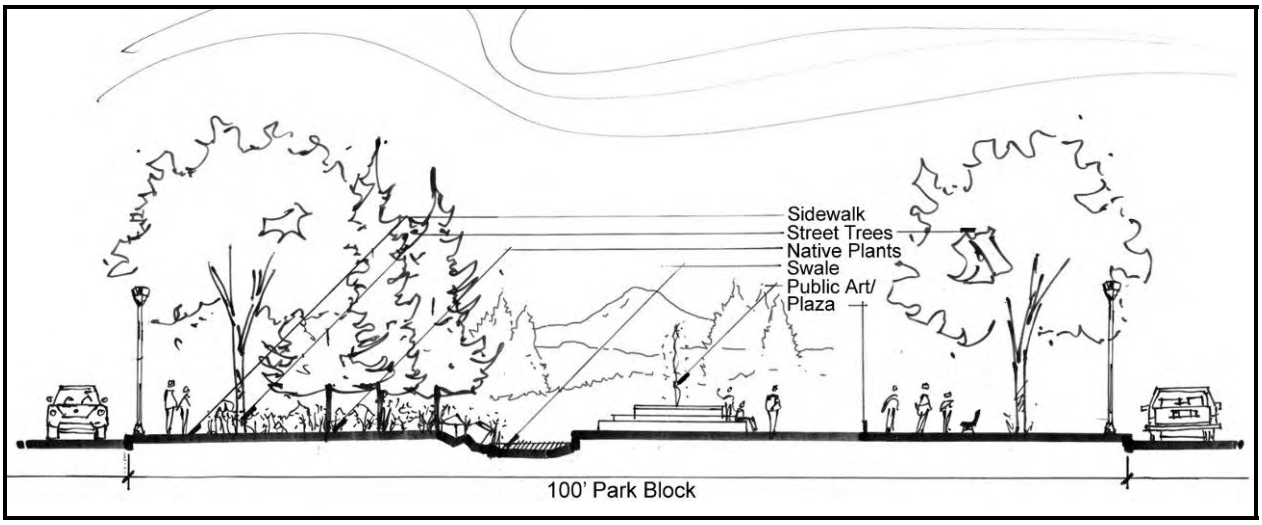
**South Park Blocks, Portland**

**Size:** approximately 100’ curb to curb.

**Program Elements:** seating, small performance space, public art, pedestrian walks, children’s play equipment, and small-scale sports facilities such as basketball and bocce ball.

### Potential Synergies:

- Stormwater Management – look for opportunities to incorporate best management practices into the park blocks.
- Transportation – bicycle transportation may be incorporated into the park blocks.




Typical Park Block Section

## Village Center Park and Plaza

It is proposed that the Village Center Park and Plaza will be located at the intersection of the north-south and east-west park blocks. They will help to create the identity for the Village Center and should be named accordingly. The plaza should be located adjacent to the densest development in the Village Center creating a transition into the larger neighborhood park site.

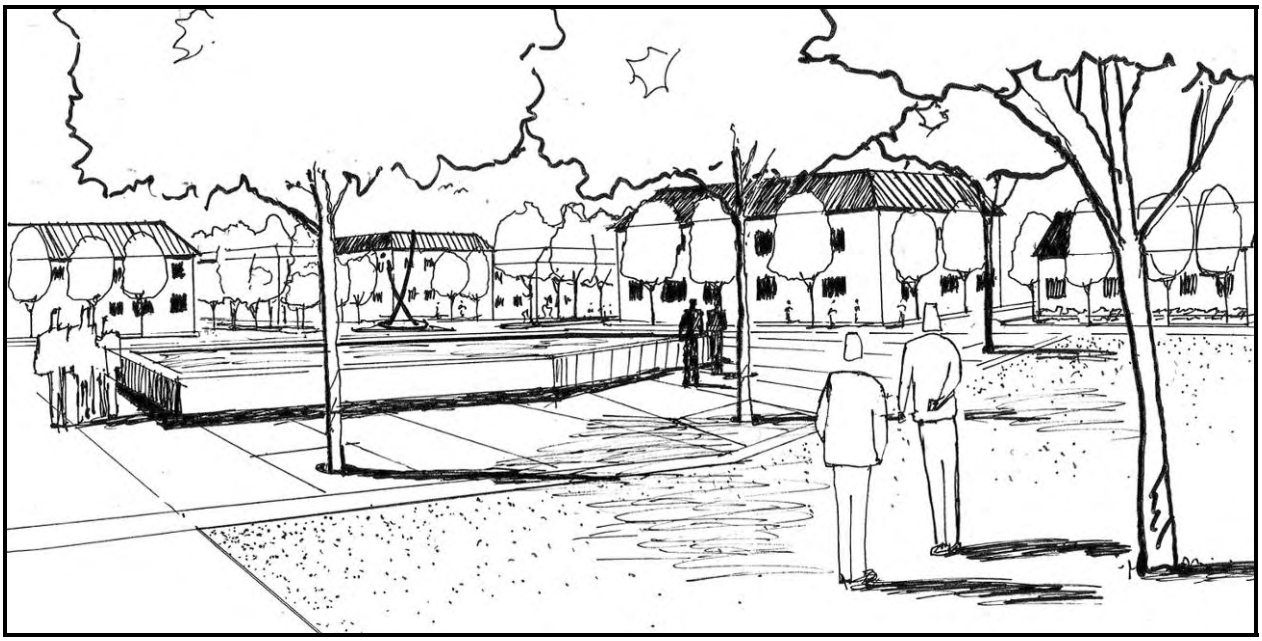
**View to Mt. Hood from proposed Village Center Park site**

**Size:** 3-5 acres plus a ½ acre plaza.

**Program Elements:** multi-use plaza, seating, public art, pedestrian walks, permanent restrooms, children's play equipment, and non-organized sports facilities.

**Potential Synergies:**

- Stormwater Management – look for potential regional detention facilities to be located adjacent or inside the park site.
- School Sites – if an elementary school is located in the Springwater district, locating it adjacent to the park could eliminate the need for another play area adjacent to the school.



Village Center Park Character Sketch

**Community Parks**
**General Description**

The purpose of a community park is to provide active and passive recreational opportunities for all city residents and employees. Community parks accommodate larger group activities, provide a variety of accessible recreation opportunities for all age groups, offer environmental education opportunities, serve the recreational needs of families, and create opportunities for community social activities. Characteristics of community parks include:

- Size: 5 to 50 acres in size
- May include: children's play area, competitive sports facilities, off-street parking, permanent restrooms, public art, group picnic areas, natural areas, paths, botanical gardens, community centers, amphitheaters, festival space, swimming pools, and interpretive facilities

**Plan Recommendations**

Create two new community parks, located adjacent to natural resources and/or in areas with good vehicular accessibility. The nature-oriented Springwater Community Park is envisioned to be located along the Johnson Creek Corridor and adjacent to the residential districts. It will provide two youth sports fields, and a regionally-significant natural park area, providing interpretive educational opportunities. The athletic facility-oriented East Springwater Park will be located east of US. 26, and will provide two to three adult sports fields for employee recreational opportunities as well as facilities for the adjacent neighborhood to the north.

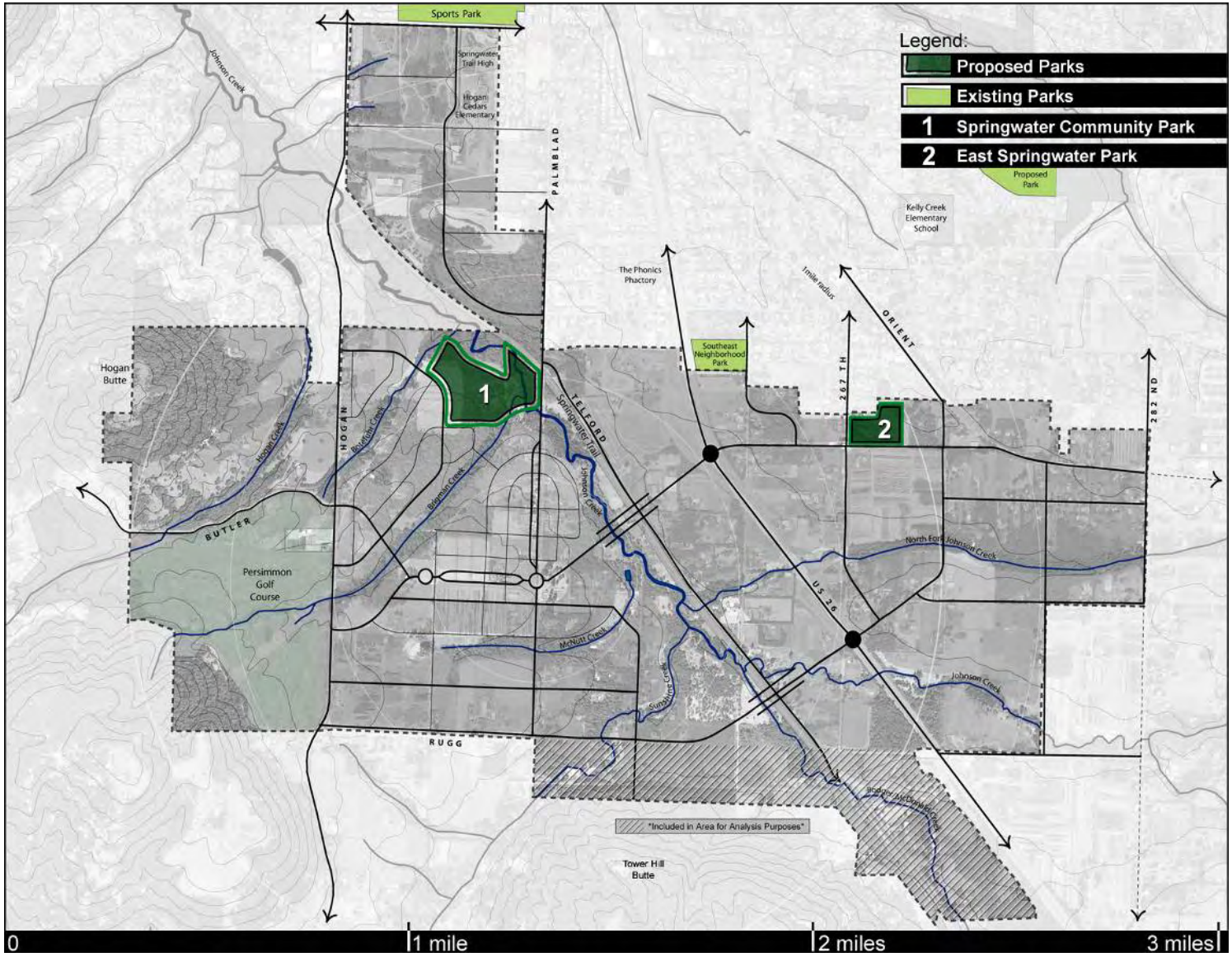



Figure 12. Proposed Community Parks Diagram

**Springwater Community Park**

The proposed Springwater Community Park is intended to tie together open space, trails, and interpretive opportunities into a respectful and educational encounter with the natural environment. By locating the park along the Johnson Creek and Springwater Trail corridor, visitors would be able to enjoy the natural features of the district and become informed of the challenges facing the overall watershed. It is envisioned that this park become the identity of the district. The larger district goals of sustainability should be expressed in the design and implementation of the park.

**Fairview Community Park, Fairview**

**Size:** 20-25 acres

**Program Elements:** Two youth sports fields in the upland area of the park, children's play area, off-street parking, permanent restrooms, public art, group picnic areas, interpretive trails, nature center, and amphitheater

**Potential Synergies:**

- Stormwater Management - look for potential regional detention facilites to be located adjacent or inside the park site.
- School Sites – if an elementary school is located in the Springwater district, locating it adjacent to the park would eliminate the need for another play area adjacent to the school.

**East Springwater Park**

A new community park on the east side of US 26 will serve the existing neighborhood to the north of the project boundary and the future employee population to be concentrated to the south of the proposed park location. The park is intended to be a community-wide resource with organized sports fields for adults and youth, and therefore be accessible by pedestrians, bicyclists and motorists.

**East Delta Park, Portland**

**Size:** 5-10 acres

**Program Elements:** Two to three adult/youth sports fields, off-street parking, permanent restrooms, seating, pedestrian walks, and children's play equipment

**Open Space**
**General Description**

The purpose of open space, greenways and corridors is for the protection and restoration of natural and scenic resources, and the creation of nature-oriented outdoor recreation and trail-oriented activities. It provides opportunities for rest and relaxation, protects valuable natural resources, protects wildlife, and contributes to the environmental health of the community. By preserving and providing access to open space the surrounding property becomes more valuable because of the amenities and views that are created. Characteristics of open space are as follows:

- Large enough to protect resources and support recreational activities.
- May include trails, trailhead amenities (bicycle racks, picnic areas, portable restrooms, and trash enclosures), benches, and interpretive signs.

**Plan Recommendations**

There will be 121.90 – 148.90 acres of Parks funded open space available for purchase based on the LOS recommendations discussed earlier in this section. While this does not limit the total amount of open space that could be acquired in the district, it does give a reasonable goal to be achieved through various funding strategies. Some of this open space will have to be used for the creation of trail corridors.The natural resource assessment has also identified 383 acres of Environmental Resource Area and additional wildlife corridors and natural areas Realistically, not all of this land will be able to be acquired. The following guidelines have been developed to determine which areas have the highest priority for acquisition when funds become available:

1. Acquire land that contributes to the recreational goals of the district.

2. Acquire land that has the highest natural resource significance that is outside of regulation, including areas with high restoration potential and proposed habitat connections.

3. Acquire land that has the highest natural resource significance that is inside of regulation, including creek corridors, wetlands, upland forests and buttes.

**Potential Synergies:**

- Stormwater Management - look for potential regional detention facilites to be located adjacent to or in open space.
- Identity – the open space which surrounds the entrance of US. 26 into the urban growth boundary could be enhanced to create a gateway feature into the larger metro area.

The following map and following list have been developed as an outline for open space acquisition and are based on the guidelines discussed on the previous page. The blue line on the map highlights the area that is the focus of open space acquisition for recreational opportunities and includes a large portion of the most valuable natural resources in the district. The list below describes the acquisition hierarchy for the entire district based on recreational and natural resource value. Consult the Springwater Natural Resources Report for further descriptions of natural resource value and potential when making acquisition decisions.

1. Areas along the Johnson Creek and Springwater Trail Corridor, which have the highest resource significance and are part of the trail corridor.

2. The McNutt and Brigman Creek Corridors, which will have the Village Center Loop Trail paralleling them.

3. Wildlife corridors and other natural resources that also have recreational or identity value for the district.

4. The connection from Botefuhr to Hogan Creek, which will provide lowland to upland habitat connectivity and serve as a trail link along Butler.

5. The wetland and forested area along US 26, which will serve as a gateway and identity to the larger metro region, as well as being an important wetland habitat along the Johnson Creek Corridor.

6. All other wildlife connections and natural resources that fall outside of regulation.

7. All other creek corridors, concentrating on those with the highest natural resources value.

8. Upland forests and Buttes with steep slopes.

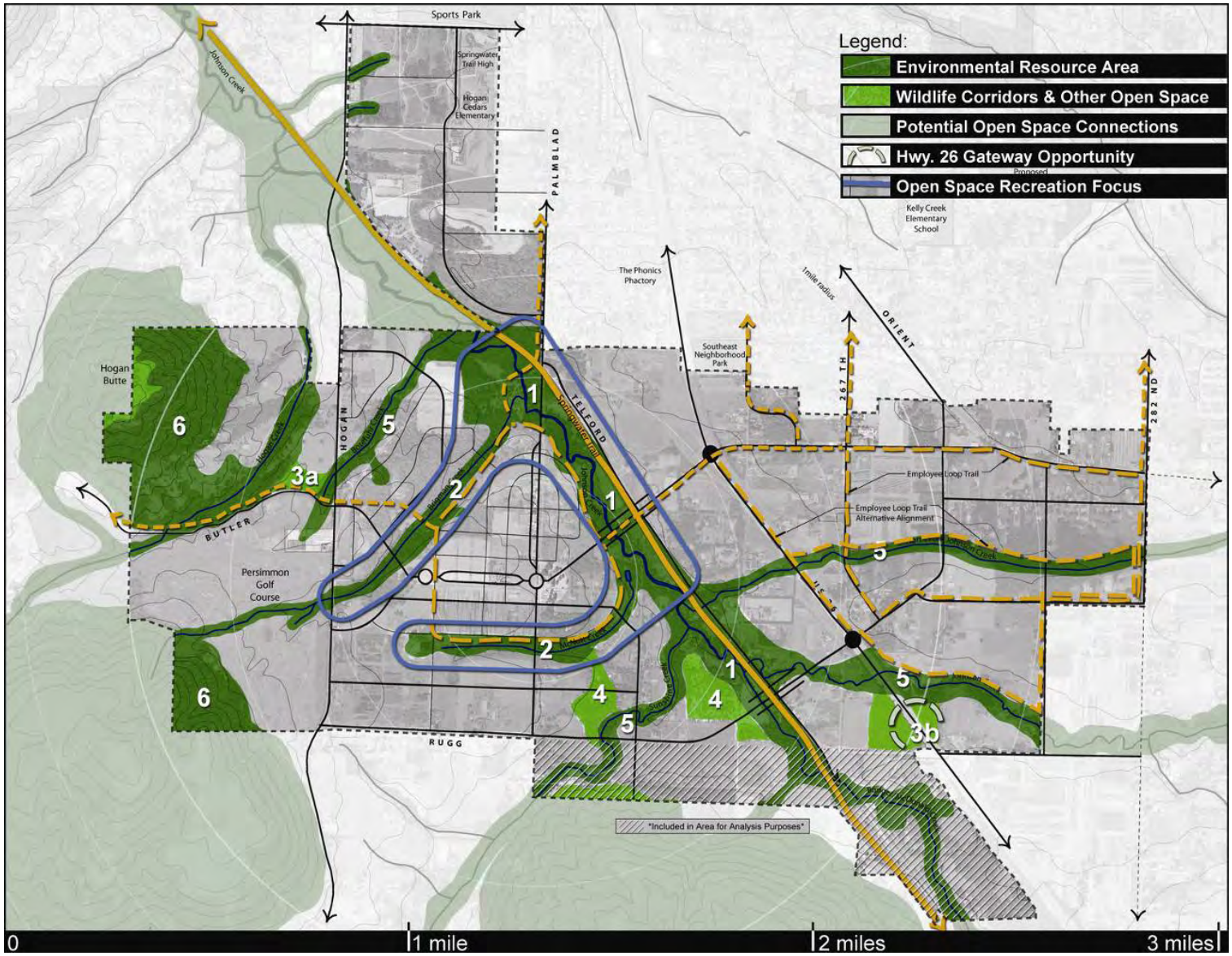



Figure 13. Proposed Open Space and Acquisition Hierarchy Diagram

**Trails System**
**General Description**

The purpose of the trail system is to interconnect parks and open spaces; to maximize access to programs and facilities; to promote physical fitness and health for a variety of users; to encourage social interaction and community pride; and to provide opportunities for rest and relaxation within natural settings through trail-related recreation. These trails also serve to reduce auto-dependency and enhance connections to transit facilities; to link open space amenities with homes, workplaces and other community facilities; and to provide outdoor classroom opportunities for environmental education. Trail characteristics are described below.

- Multi-purpose trails are intended for a broad range of non-motorized uses such as bicycles, wheelchairs, strollers and horseback riding as well as pedestrian uses such as walking, hiking and running. Multi-purpose trails are 10-12 feet wide with 2-foot wide shoulders.
- Walking/hiking trails are intended for specific activities. Some of these trails may be single-use trails restricted to pedestrian use only due to steep slopes, erosive soils, or other sensitive environmental considerations. Walking/hiking trails are 4-6 feet wide with 2-foot wide shoulders
- To the extent possible, trail construction will comply with Metro's Green Trails handbook.

Noble Woods Park – Hillsboro, OR

**Plan Recommendations**

Create a Village Center Loop Trail to the west of US. 26 which will follow creek corridors at an appropriate distance to maximize pedestrian experience. This trail should work in conjunction with the vehicular network where roads parallel creek corridors, and be located inside of purchased open space.

Create an Employee Loop Trail to the east of US. 26 which either follows the road network or runs parallel to stream corridors.

Create connections:

- East Buttes Loop Trail to the west along Butler Road
- The existing schools and Sports Park to the north of the Springwater Community either along Palmblad or through the proposed development west of Palmblad.
- The existing neighborhoods to the north of the Springwater Community.
- Beaver Creek Trail to the North East along 282nd.
- The Village Center and Employee Loops by crossing US. 26.

The trail system could also include a connection from Butler Road to the Cedar Lake subdivision along the Hogan Creek corridor, however this option would be pursued through private development rather than as a part of the City of Gresham's capital improvement program.

**Potential Synergies:**

- Wastewater Management – Look for potential pedestrian bridge crossings that could be combined with wastewater and other utilities. Specifically, a combined bridge crossing over Johnson Creek between the Hogan Cedars and Springwater Community Park may be needed.
- Stormwater Management – If the Employee Loop Trail is constructed adjacent to streams, investigate opportunities for combining stormwater conveyance and management with the multi-use trail.

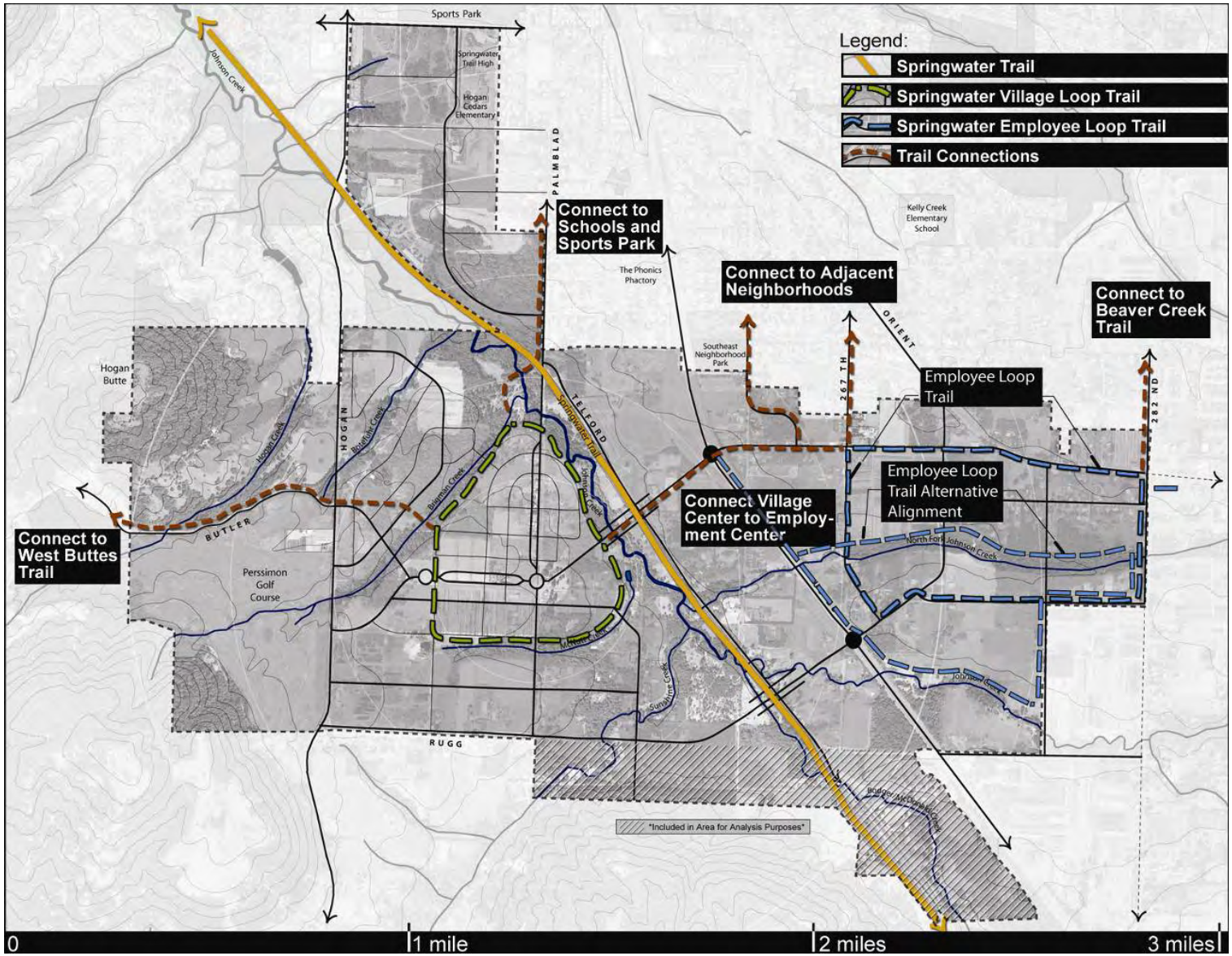
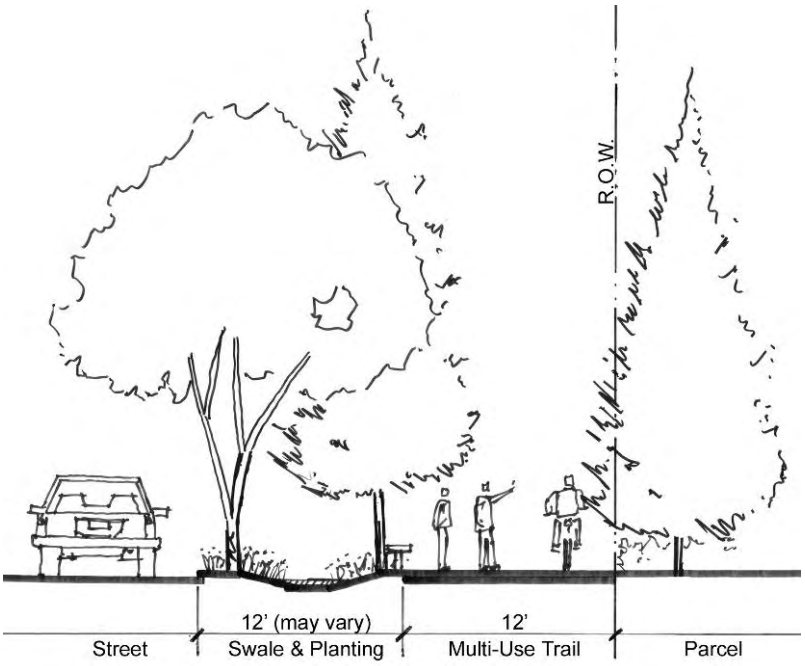



Figure 14. Proposed Trails Diagram

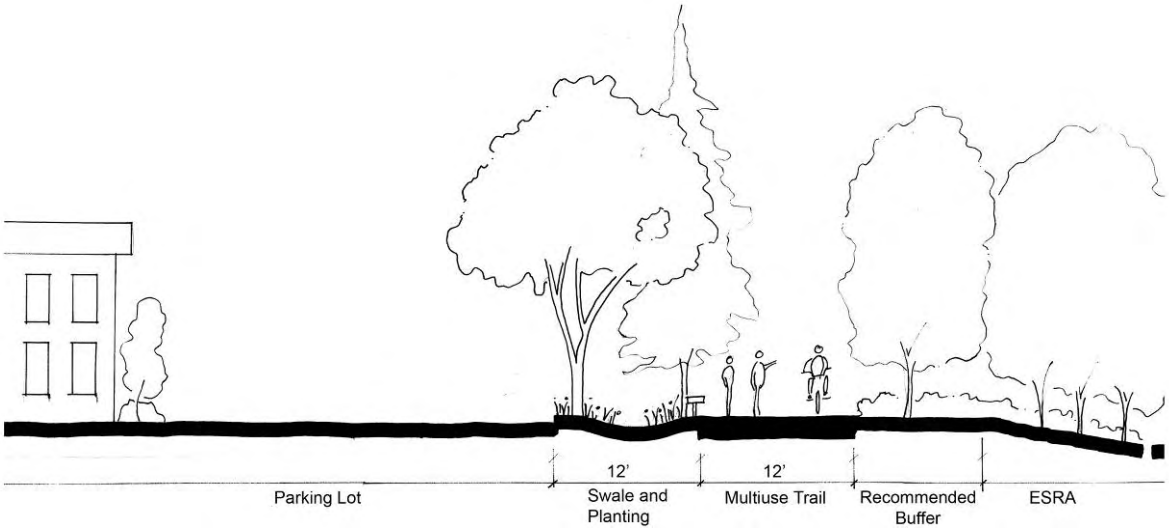
**Employee Loop Trail**

Two options are under consideration for the trail system east of US. 26. For one the trail system would exclusively follow the road network, the other would abut the ESRA areas parallel to the stream corridors along the north folk and main stem of Johnson Creek and along the road network as necessary for connectivity. The first graphic below illustrates the conceptual implementation of the trail in relationship to the road and swale in the road network option. The swale corridor will be increased by 4 feet to allow for a more informal planting palette of native species, distinguishing the street edge as a special corridor. The trail itself will be a 12-foot wide multi-use corridor adjacent to the swale and property line. Property owners along the corridor should be encouraged to enhance the trail with native plantings in the setback area adjacent to the trail. In areas with few driveways, the on-street bicycle network can be consolidated into the multi-use trail to reduce the amount of R.O.W. needed.

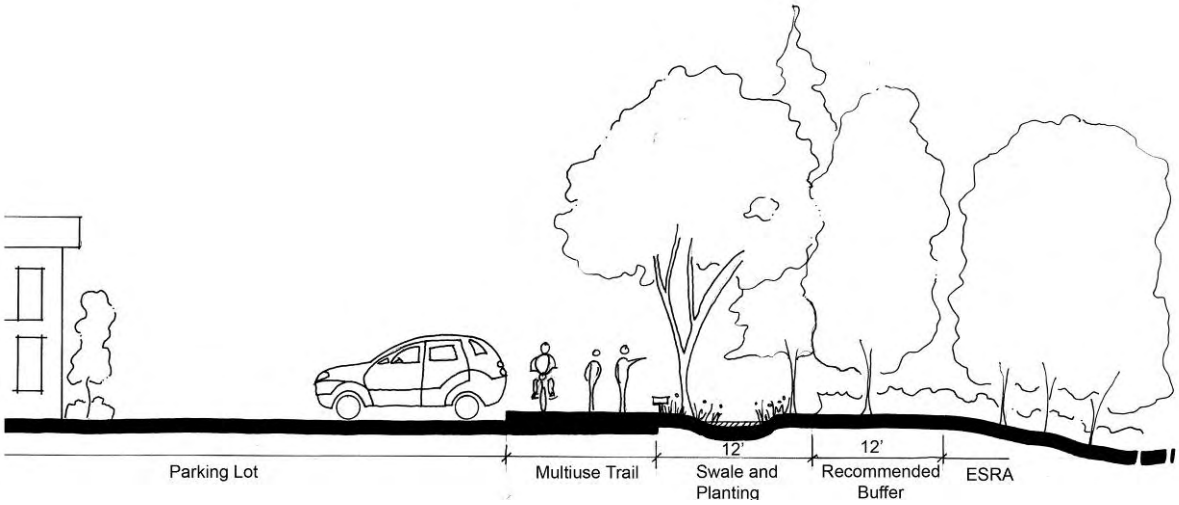



Conceptual Section of Employee Loop Trail Adjacent to Road

The following two graphics both illustrate the trail cross section in the second optional alignment adjacent to Johnson Creek or the North Fork of Johnson Creek. The first section illustrates a stormwater swale and landscaped area between private development and the proposed trail location. The second section shows the trail immediately adjacent to private development with the stormwater swale adjacent to the stream and potential stream buffers. The first section allows for easier stormwater conveyance to the swales, while the second option could allow the swale to function as a buffer between the trail and the adjacent ESRA. It is possible that the stormwater conveyance/treatment channel could be constructed under the trail in a form of subgrade filtration facility, however for planning purposes the swale and trail remain separate in both options shown below.




Conceptual Section of Employee Loop Trail Adjacent to ESRA – Option 1




Conceptual Section of Employee Loop Trail Adjacent to ESRA – Option 2

The Employee Loop Trail alignment options( Roadside and Streamside) are under continuing investigation. The following considerations will be weighed in selection of the final location of the Employee Loop Trail:

- **Maintenance:** The selection of the roadside vs. streamside alignment option has potential implications for on-going maintenance responsibilities and practices. The roadside option could result in shared maintenance responsibilities between parks and transportation divisions within the City, while the streamside option and its more complex natural area maintenance requirements requires specialized expertise that could be developed in the Parks and Recreation Division. The approach to maintenance practices in the roadside option are pathway litter patrol and conventional landscape maintenance. The streamside option would require litter patrol and a carefully-considered vegetation management plan for habitat preservation and enhancement goals.

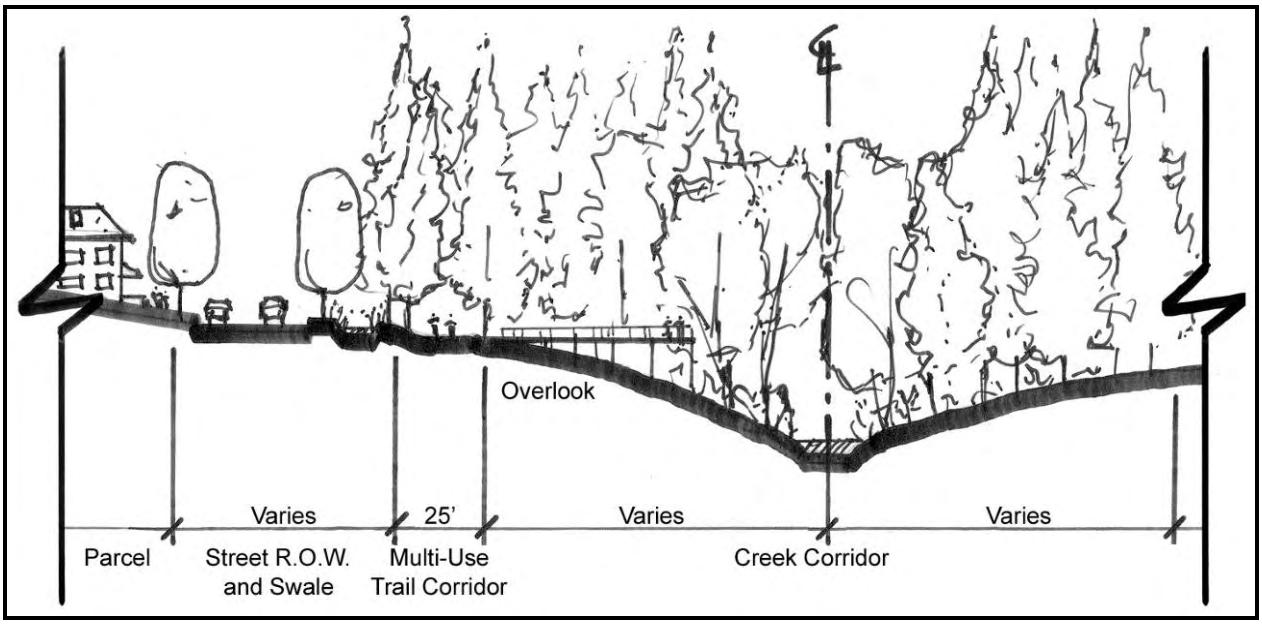
- **Trail R.O.W. Acquisition:** The evaluation of the acquisition costs for trail ROW alignment options is on-going. The roadside trail has the advantage of being incorporated in the Street ROW acquisition effort, while the streamside option would require a separate negotiation.
- **Implementation Cost:** Trails along creeks are potentially more costly to implement because of environmental restrictions and access limitations.
- **Connectivity:** Both the roadside and streamside trail alignment options offer similar connections to surrounding neighborhoods and the broader Gresham community. The primary difference in this evaluation is that the streamside option greatly enhances trail users connections to the natural environment over the roadside alignment.

### Village Center Loop Trail

To the west of US. 26 the trail system will follow creek corridors to create a roughly 1 mile trail loop. The following graphic illustrates the trail between a protected creek corridor and the street ROW.

As conceived, the Village Center Loop Trail and the vehicular road network will be an integrated plan with a single-loaded road fronting most of the loop trail as shown in the Conceptual Trail Section Adjacent to ROW below. The trail corridor in both sections is a linear 25-foot corridor in which a 12-foot wide multi-use trail will meander though. The width of the corridor may have to be increased in special conditions to maintain a 5% longitudinal slope along the trail. At special points along the trail an overlook can be provided to allow better views into the protected corridor. Creation of the overlook should create the least impact possible.

Integrating trails with environmentally sensitive resource areas requires striking a balance between public recreational access and preserving the integrity of the resource. When implementing the trails, designers should reference the Springwater Natural Resources Plan and the Metro Green Trails Handbook for characteristics of protected areas to be considered during trail design.




Conceptual Trail Section Adjacent to ROW

**Implementation**
**Parks and Open Space Acquisition, Development, and Maintenance Costs**

The following cost estimate provides recommended capital improvement plan-level budget estimates for the recommended park, trail, and open space facilities. These are based on current planning level acquisition costs used by the City of Gresham, and on ultimate development of Springwater to accommodate 17,000 employees and 3,500 households. The funding source for all projects will be SDC's.

Table 9. Capital Improvement Costs of Park, Open Space, and Trail Facilities

| Facility | Quantity | Acquisition Cost | Development Cost | Total Cost | Responsible Jurisdiction | Timing (Years) |
|---|---|---|---|---|---|---|
| Village Center Park and Park Blocks (12.3 Ac.) | | | | | | |
| Village Center Park and Plaza | 4.4 Ac. | $880,000 | $1,188,000 | $2,068,000 | Gresham | 0-5 |
| North-South Park Blocks | 3.75 Ac. | $750,000 | $1,012,500 | $1,762,500 | Gresham | 0-5 |
| East-West Park Blocks | 4.15 Ac. | $830,000 | $1,120,500 | $1,950,500 | Gresham | 0-5 |
| Community Parks (29.8 Ac.) | | | | | | |
| Springwater Community Park | 20.0 Ac. | $4,000,000 | $11,200,000 | $15,200,000 | Gresham | 6-20 |
| East Springwater Park | 9.8 Ac. | $1,960,000 | $5,488,000 | $7,448,000 | Gresham | 6-20 |
| Open Space (148.9 Ac.) | | | | | | |
| Johnson Creek | 66.0 Ac. | $2,640,000 | $660,000 | $3,300,000 | Gresham | 6-20 |
| Brigman Creek | 11.0 Ac. | $440,000 | $110,000 | $550,000 | Gresham | 6-20 |
| McNutt Creek | 12.9 Ac. | $516,000 | $129,000 | $645,000 | Gresham | 6-20 |
| Hogan Creek | 6.5 Ac. | $260,000 | $65,000 | $325,000 | Gresham | 6-20 |
| Botefuhr Creek | 5.0 Ac. | $200,000 | $50,000 | $250,000 | Gresham | 6-20 |
| Sunshine Creek | 7.0 Ac. | $280,000 | $70,000 | $350,000 | Gresham | 6-20 |
| North Fork Johnson Creek | 10.5 Ac. | $420,000 | $105,000 | $525,000 | Gresham | 6-20 |
| Bodger/McDonald Creek | 12.0 Ac. | $480,000 | $120,000 | $600,000 | Gresham | 6-20 |
| Hogan Butte | 18.0 Ac. | $720,000 | $180,000 | $900,000 | Gresham | 6-20 |
| Multi-Use Trails (6.2 Mi.) | | | | | | |
| Village Center Loop Trail | 1.65 Mi. | $495,000 | $742,500 | $1,237,500 | Gresham | 6-20 |
| Employee Loop Trail | 2.2 Mi. | $660,000 | $990,000 | $1,650,000 | Gresham | 6-20 |
| Butler Trail | 0.75 Mi. | $225,000 | $337,500 | $562,500 | Gresham | 6-20 |
| Palmblad North | 0.5 Mi. | $150,000 | $225,000 | $375,000 | Gresham | 6-20 |
| Village Loop to E. Springwater Pk. | 0.65 Mi. | $195,000 | $292,500 | $487,500 | Gresham | 6-20 |
| Barnes Road North | 0.25 Mi. | $75,000 | $112,500 | $187,500 | Gresham | 6-20 |
| 267th North | 0.1 Mi. | $30,000 | $45,000 | $75,000 | Gresham | 6-20 |
| 282nd North | 0.1 Mi. | $30,000 | $45,000 | $75,000 | Gresham | 6-20 |
| Pedestrian/Bicycle Bridges (3) | | | | | | |
| Butler Trail (Brigman Creek) | 1 | N/A | $250,000 | $250,000 | Gresham | 6-20 |
| Palmblad North (Brigman Creek) | 1 | N/A | $250,000 | $250,000 | Gresham | 6-20 |
| Palmblad North (Johnson Creek) | 1 | N/A | $250,000 | $250,000 | Gresham | 6-20 |
| Total | | $16,236,000 | $25,038,000 | $41,274,000 | | |

These costs are based on the unit acquisition costs listed below. Annual maintenance costs are also given.

**Unit Acquisition Costs**

| Facility | Acquisition | Development |
|---|---|---|
| Neighborhood Park: | $200,000/Ac. | $270,000/Ac. |
| Community Park: | $200,000/Ac. | $560,000/Ac. |
| Open Space: | $40,000/Ac. | $10,000/Ac. |
| Multi-Use Trail: | $300,000/Mi. | $450,000/Mi. |
| Ped/Bicycle Bridge: | N/A (Located in Open Space) | $250,000 Average |

**Annual Maintenance Costs**

| | |
|---|---|
| Neighborhood Park | $5,360/Ac. |
| Community Parks | $7,146/Ac. |
| Open Space | $715/Ac. |
| Multi-Use Trails | $8,933/Mi. |
| Pedestrian/Bicycle Bridges | $600/Br. |

| | |
|---|---|
| Neighborhood Park | $65,928 |
| Community Parks | $212,951 |
| Open Space | $106,464 |
| Multi-Use Trails | $55,385 |
| Pedestrian/Bicycle Bridges | $1,800 |
| **Total Maintenance Cost** | **$442,528** |

**Summary of Future Needs**

Parks, trails and open space will be an integral park of the Springwater community design; serving to enhance economic growth, strengthen community bonds and protect natural resources. Three new parks will be created to serve residents and employees in Springwater. A neighborhood park, located adjacent to the highest residential populations, will be integrated into the Village Center and will consist of a plaza, park blocks, and central park. Two new community parks located adjacent to natural resources and/or in areas with good vehicular accessibility are also included in the plan. The first community park, located along the Johnson Creek Corridor and adjacent to the residential developments, will provide two youth sports fields and a regionally significant natural park area, providing interpretive educational opportunities. The second, east of US 26, will provide two to three adult sports fields for employee recreation. Trails have also been identified to provide pedestrian recreational opportunities and access to features inside and outside of the study area including existing neighborhoods and regional trails to the north and west. Acquisition of 121.90 – 148.90 acres of open space will be based on recreation need and environmental resource criteria, and will be used to preserve natural resources and create pedestrian and wildlife connectivity throughout the district.

**Funding Strategies**

There will be several options for the funding of the Springwater parks, open space and trails system. Traditional methods such as system development charges, grants and land dedication should be considered in concert with a variety of alternative funding strategies to purchase as well as maintain the system. All capital improvement projects should consider future maintenance strategies before they are implemented to ensure a high level of quality and safety for park users.

The following approaches have been summarized as possible funding strategies for implementing the parks, open space and trails recommendations outlined in this document:

- Continue to use System Development Charges (SDCs) for land acquisition and construction, and adjust them as necessary to fully fund park development. Residential and employment districts should be explored because the park LOS for Springwater has been adjusted to provide land for both user groups.
- Grants and donations should continue to be used whenever possible. Numerous programs exist at the state and federal level to assist with natural resource related planning efforts, especially if those planning efforts are related to natural hazard mitigation strategies. In addition to opportunities to obtain funding for the protection and restoration of habitats, opportunities to obtain public open space as part of a hazard mitigation/prevention strategy are available.
- In lieu of charging SDCs, require Turn Key Development of park facilities by developers to eliminate the city's financial burden of constructing the facility. Developers would construct facilities to City specifications, and then turn over to the City as a completed neighborhood park; trail segment or urban plaza after the development is completed.
- In the event that property tax revenues anticipated from annexation are not sufficient to cover the increased cost of parks maintenance associated with the parks, trails, and open space proposed for Springwater, the option of a park maintenance fee or operating levy could be considered as a condition of annexation.
- Consider establishing a Landscape Assessment District (LAD) overlay zone to provide maintenance and construction budgets for the proposed parks in the districts. This district or districts will provide parks funds for Springwater without taxing the rest of the city to implement the new district.
- On a smaller scale, a homeowner's association model could be implemented around neighborhood parks for the maintenance of the park as well as the neighborhood landscape including medians and parkways.
- On all trails, parks and open space projects look **for synergies** with other government agencies to share in funding facilities. Possible partnerships could be made on stormwater management, transportation, and school projects.
- User fees could help support more specialized recreational facilities such as interpretive trails or centers located within the Springwater Community Park.
- As a maintenance alternative, businesses should be encouraged to participate in an adopt-a-trail or similar sponsorship programs for parks and trails in the district.
- A non-profit trust is a specialized model which would work as a public/private partnership to raise funds for parks maintenance and development in the district.
- The acquisition of park and open space in the district could be tied to a city-wide General Obligation Bond Measure. This would be most appropriate for open space and natural resources which are regionally significant, such as the Johnson Creek Corridor.

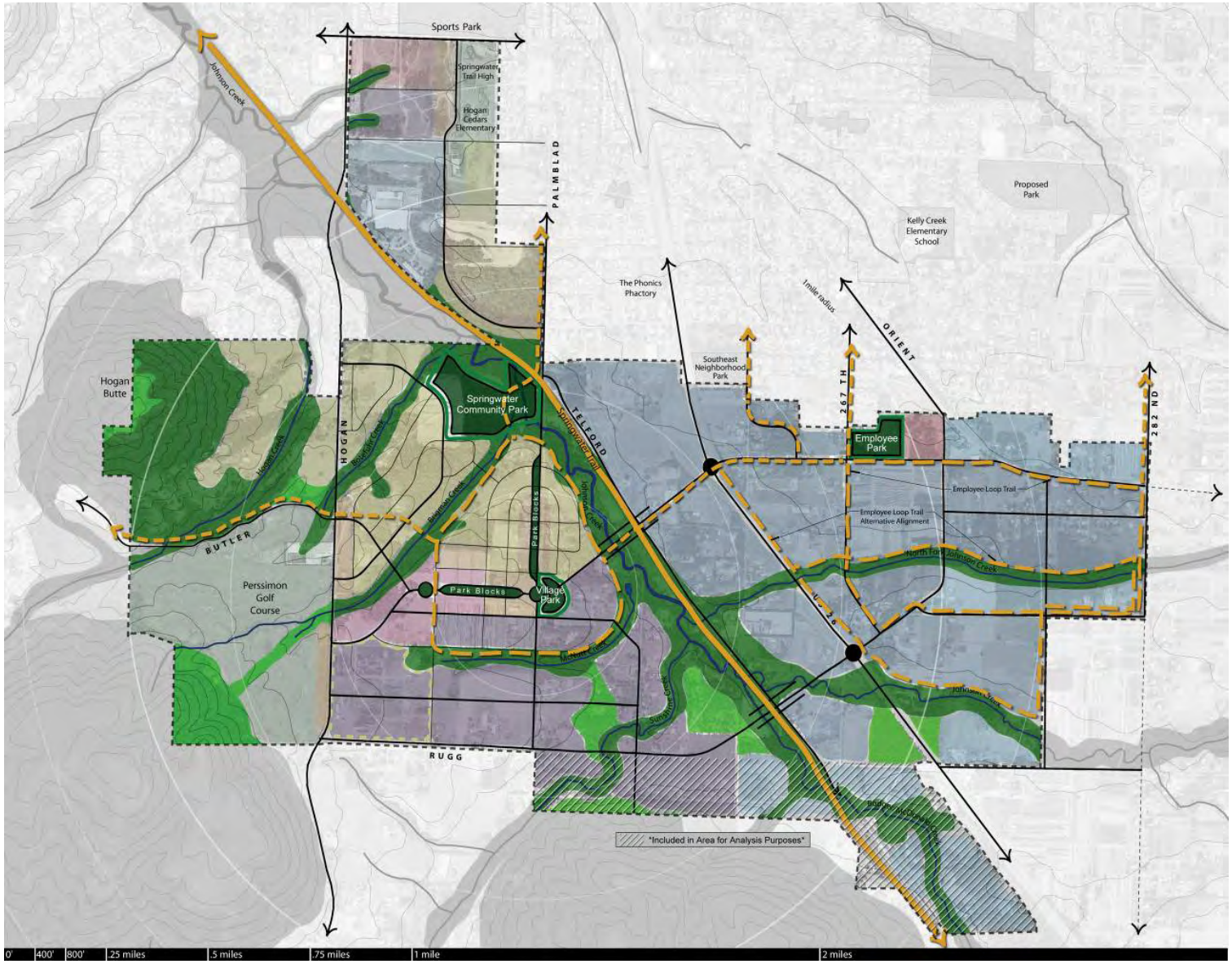


Figure 15. Parks, Open Space and Trails Plan

## GOAL

An interconnected system of parks, trails, and open space shall be an integral part of the community design, serving to enhance economic growth, strengthen community bonds and protect natural resources.

## POLICIES

The following policies are made part of this plan:

1. Parks, open space and trails shall be implemented to help promote a sense of place with respect to the community's cultural and natural history by building upon Springwater's unique characteristics and location, such as the Johnson Creek corridor and views to Mt. Hood.

2. Parks, open space and trails implementation shall recognize the importance of the upper Johnson Creek system for Gresham, the Portland Metro region and the Willamette Valley.

3. The parks, open space and trails system shall work with other civic improvements such as schools, transportation and stormwater management to consolidate budgets, maintenance and implementation of facilities.

4. The parks, trails and open spaces system shall create interpretive educational opportunities that allow residents to experience and understand the diverse ecosystem that they are a part of.

5. The maintenance and implementation of parks, open space and trails shall encourage the planting and preservation of native plant and tree species.

6. Parks and trails shall be implemented to enhance and protect natural resources.

7. Trails and corridors shall create connections to the Springwater and other regional trail systems as well as links between residential, employment and civic destinations inside and outside of the district.

8. Parks and trails shall be located within a ½ mile of their users, and shall help to create an identity for the neighborhood, which they serve, including dense neighborhoods.

9. Open space shall preserve, restore and enhance natural resources as well as support the other parks and recreation objectives of the community.

## ACTION MEASURES

The following actions should be taken to implement this plan:

1. When implementing any recommendation, reference all other master plans created as part of the Springwater planning study and look for opportunities for synergies between other city agencies, such as shared park/school sites, regional stormwater management facilities, and trail corridors along transportation routes.

2. Expand on recommended park facilities programs to meet the needs of the future residents by holding community workshops and planning days to involve the community in the design process.

3. Look for state and federal funding strategies to help preserve natural resources beyond that open space which will be purchased through Parks fees.

4. Implement park facility recommendations concurrent with residential and industrial development to meet the needs of the users as they arrive.

5. Review and select from the two alignment options for the employee loop trail east of Highway 26, and modify Transportation System Plan to reflect recommended trail alignment.

## APPENDICES



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# APPENDIX A

## FUTURE LAND USE IMPLICATIONS

SPECIAL PURPOSE DISTRICTS

These are overlay district designations shown on the Special Purpose District Map. Uses permitted in areas with these designations are generally as permitted in the districts, which are shown on the Community Development Plan Map, subject to special development standards. All of the special purpose districts are related directly to development constraints or to the presence of significant natural resource or open space values. Development proposals within these special purpose districts must include data for determining the actual portions of a development site which are within one of the districts and therefore subject to special development standards.

a. Flood Plain Physical Constraint District - Development within the 100-year flood plain, as determined by the Federal Emergency Management Agency (FEMA) is restricted where documented natural resource or open space values are also present. In other flood plain areas, development may be permitted subject to design standards intended to minimize potential flood damage, and based on findings that the capacity of the flood plain would not be adversely affected. In low density residential districts, a density transfer credit of two dwelling units for each acre within the flood plain is available.

b. Hillside Physical Constraint District: 15%-35% Slope - This special purpose district is found entirely within low density residential land use districts. Special development standards are applied, and detailed reports concerning soils and engineering techniques are required. Minimum lot sizes range from 14,000 sq. ft. to 29,000 sq. ft., depending on the degree of slope. Clear-cutting of timber within this district is prohibited.

c. Hillside Physical Constraint District: 35%+ Slopes - This district occurs entirely within low density residential land use districts. Property which is entirely within this district may be improved to the extent of one dwelling unit for each existing lot of record. A density transfer credit of one dwelling unit per acre within this special purpose district is established. Clear-cutting of timber within this district is prohibited.

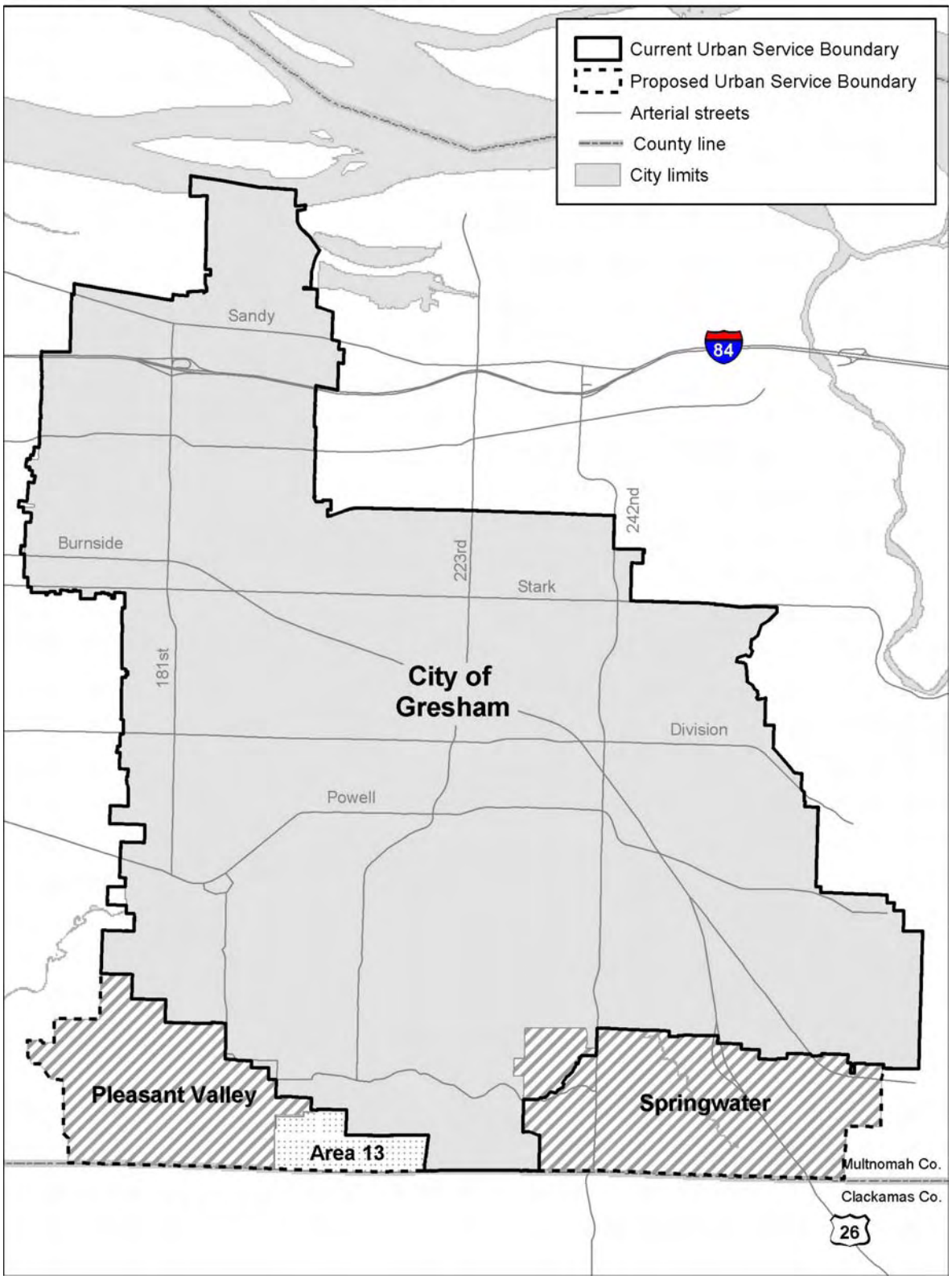
d. Natural Resource District - This district encompasses sites of high natural resource value as identified in the Inventory of Significant Natural Resources and Open Spaces. Development within this district is generally limited to uses for which there is a documented public need and where alternative sites are not available. A density transfer credit is available for low density and moderate density residential sites lying partially within this district.

e. Open Space District - This district encompasses sites identified as having significance for open space characteristics, as identified in the Inventory of Natural Resources and Open Spaces. Public and private open space areas with this special purpose designation include parks, schools, golf courses, and greenways. Development within this district is limited to community service developments serving a public need and various recreational uses. A density transfer credit is available for low density and moderate density residential sites lying partially within this district.

f. Historic Landmark District - This special purpose district designation is applied to historic landmark sites which have been identified in the inventory of Historic and Cultural Landmarks. It also applies to property lying north of Interstate 84, where discovery of archaeological resources during the course of development is likely. Some landmarks with this designation require prior review and approval of proposed exterior alterations, and all landmark structures are subject to standards which could delay issuance of demolition permits.

## APPENDIX B

### Gresham - Urban Services Boundary




(Amended by Ordinance 1605 passed 5/3/05; effective 6/2/05)

**Table 1, Appendix B – Gresham Land Use District Designation Upon Annexation**

| *Tax Lot* | *Acres* | *Location* | *Existing Use* | *Year Added to Urban Services Boundary* | *County Zoning* | **Gresham Land Use District** |
|---|---|---|---|---|---|---|
| 1N2E36AA 1000 | 0.64 | 162nd | Single-Family Residence | 1983 | LR-10[1] | LDR |
| 1N2E36AA 1200 | 0.41 | 162nd | Single-Family Residence | 1983 | LR-10[1] | LDR |
| 1N2E36AA 1300 | 0.64 | 162nd | Single-Family Residence | 1983 | LR-10[1] | LDR |
| 1N2E36AA 90000 | 0.6 | 162nd | Condominium | 1983 | MR-4[2] | MDR-12 |
| 1N2E36AD 1800 | 2.29 | 162nd | Multi-family Residential | 1983 | MR-4[2] | MDR-12 |
| 1N2E36DA 2200 | 1.01 | Burnside | Multi-family Residential | 1983 | THR[3] | SC |
| 1S3E18A 1500 | 10.58 | 174th | Vacant | 1998 (Approved Minor Boundary Adjustment) | LM[4] | LI |
| 1S3E22A 300[6] | 20 | SE Hogan | Single-Family Residence | 1983 | UF-20[5] | LDR, HPCD |
| 1S3E22A 400[6] | 17.22 | Near SE Hogan | Vacant | 1983 | UF-20[5] | LDR, HPCD |
| 1S3E22A 500[6] | 20 | SE Hogan | Single-Family Residence | 1983 | UF-20[5] | LDR, HPCD |
| 1S3E22A 600[6] | 19.99 | SE Hogan | Single-Family Residence | 1983 | UF-20[5] | LDR, HPCD |
| 1S3E22A 700[6], [7] | 33.39 | SE Hogan | Single-Family Residence | 1983 | UF-20[5] | LDR, HPCD |
| 1S3E22B 101[6] | 5.6 | Near SE Hogan | Vacant | 1983 | UF-20[5] | LDR, HPCD, WQRA |

Table Note: The Gresham land use district applied to a parcel added to the Urban Services Boundary by the Minor Adjustemtns to the Gresham Urban Services Area Map Boundaries (12.002) process shall be determined as follows:

- A parcel with an urban Multnomah County zoning designation will use the Gresham designation that: 1) generally allows the same primary uses and 2) at similar densities. Creating non-conforming situations for use and density shall be avoided.
- For a parcel with a Multnomah County rural or future urban designation, the Gresham Low Density Residential (LDR) designation shall be applied.
- The Hillside Physical Constraint District (HPCD) provisions of the Gresham Development Code shall be applied to any portions of an annexed parcel with Multnomah County slope designations.
- The Gresham Water Quality Resource Area (WQRA) provisions shall be applied to any portions of the parcel with Title 3 and/or West of Sandy River Plan designations.

Notes:
[1] allows single-family 10,000 square foot minimum lot, duplex 12,000 square foot minimum lot
[2] allows multi-family 7.9 to 10.2 dwelling units per acre
[3] allows transit multi-family 20-55 dwelling units per acre
[4] allows light industrial, warehouse in close proximity to residential
[5] allows single family minimum 20 acre lot, future urbanization
[6] slopes over 25%
[7] Title 3 Water Resource, West of Sandy River Plan

# APPENDIX C

The Community Development Plan Map is reproduced as a separate document. The Plan Map identifies the land use designations (or zoning) assigned to all property within the City of Gresham.

# APPENDIX D

The Community Development Special Purpose District Maps are reproduced as separate documents. Special Purpose District Maps identify:

Land which lies within the

- - Flood Plain Physical Constraint District;
- - Hillside Physical Constraint District;
- - Natural Resource and Open Space Districts;
- - Historical and Cultural Landmark sites; and
- - Water Quality Resource Area (WQRA).

Specific regulations apply to land or sites that have a Special Purpose District Map designation.

(Amended by Ordinance 1570 passed 5/20/03; effective 6/19/03)

## APPENDIX 1
## COMMUNITY OVERVIEW AND
## CURRENT LAND USE CHARACTERISTICS

## APPENDIX 2
## DEMOGRAPHIC PROFILE

## APPENDIX 3
## SURFACE WATER QUALITY DATA

## APPENDIX 4
## ECONOMIC OPPORTUNITIES ANALYSIS FOR INDUSTRIAL LANDS

## APPENDIX 5
## ECONOMIC OPPORTUNITIES ANALYSIS FOR COMMERCIAL LANDS

## APPENDIX 6
## RESIDENTIAL LANDS INVENTORY

The above-referenced Appendices are maintained as reference and support documents to the Gresham Community Development Plan in the Community & Economic Development Department Planning Offices.

(Added by Ord. 1584 passed 12/16/03; effective 1/15/04)

## APPENDIX E

## PLEASANT VALLEY PLAN DISTRICT PLAN MAP

The Pleasant Valley Plan District Plan Map is attached as Appendix E.

## APPENDIX F

## PLEASANT VALLEY PLAN DISTRICT FUTURE GOVERNANCE MAP

The Pleasant Valley Plan District Future Governance Map is attached as Appendix F.

## APPENDIX G

## SPRINGWATER PLAN DISTRICT PLAN MAP

The Springwater Plan District Plan Map is attached as Appendix G.

## APPENDIX H

## SPRINGWATER – 100 YEAR FLOODPLAIN

The Springwater – 100 Year Floodplain Map is attached as Appendix H.

## APPENDIX I

## SPRINGWATER – SLOPES OVER 15%

The Springwater – Slopes Over 15% Map is attached as Appendix I.