10.700 Pleasant Valley Plan District

TABLE OF CONTENTS

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 resulted in the Pleasant Valley Plan District, which became part of the Comprehensive Plan in January 2005. In September 2009, the Pleasant Valley Plan District Map was amended to add an 18-acre property from the Kelley Creek Headwaters (KCH) area that also extended into Pleasant Valley. This was done because the property owner requested Pleasant Valley zoning (LDR-PV, ESRA-PV) for the KCH portion, so the entire property could have the same zoning.

The Pleasant Valley Plan District fulfills 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 implements 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.

(Added by Ordinance 1597 effective 1605)
(Amended by Ordinance 1679 effective 9/17/09)

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 251 acres of the valley as Natural Resource Overlay.
- 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 northsouth 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.

Health and the Built Environment

In 2011, the City Council Work Plan included a project to examine how city goals and policies related to the built environment affect health, especially related to obesity. The built environment includes sidewalks, bike lanes, parks, land uses and schools, and plays a role in people's health by providing access to food options and opportunities for physical activity as part of normal routine. Opportunities to walk, bike and use transit promote active living and a healthier lifestyle. A well-designed and planned variety of uses – such as grocery stores, schools, parks, and employment centers – in close proximity to where people live increases the opportunity for active living. Providing these opportunities, ensuring they are part of a complete network, and ensuring they are designed to promote pleasant and safe experiences increases the likelihood that people will use these modes of travel and increase their physical activity.

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.
- 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%

Housing Type	Percentage
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, be aligned with stream corridors, Natural Resource and Hillside and Geologic Resource Overlays 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 Natural Resource and Hillside and Geologic Risk Overlays.

- **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 dwellings (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 Natural Resource Overlay, 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.

GOALS

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 runoff 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 (later updated to Natural Resource Overlay). 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 (now NRO) areas. One of the unique aspects of the Concept Plan was the identification of the green infrastructure (ESRA/NRO) 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 (now NRO) 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 was 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 allow for restoration and enhancement of sensitive wetlands and stream corridors to more natural vegetation conditions, recognizing that existing homes and other uses will continue in the ESRA (now NRO).

Selected characteristics of the NRO 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 (NRO).

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 Natural Resource Overlay (NRO) 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.

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.

15. Landslide prone slopes shall be protected.

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.

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.

7. Extend the Hillside and Geologic Risk Overlay map to the Pleasant Valley Community Plan area.

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 reduced 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 across 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, which require greater planter strip widths than outside of the Pleasant Valley and Springwater plan areas. The plan will integrate green infrastructure with land use design and natural resource protection.*

As part of the evaluation and concept plan update process a hydrodynamic model (XP-SWMM) 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 Resource Overlay (NRO); green development practices such as raingardens in green streets; impervious pavement reductions; and creating localized stormwater treatment ponds.

Building on the May 14 2002 Steering Committee, endorsed Pleasant Valley Concept Plan Map and Implementing Strategies, the updated concept plan provides for a "green" stormwater management system intended to capture and filter stormwater close to the source through NRO protection throughout the valley, "green" street designs, 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 and located adequately to mitigate runoff from larger storms. Facility sizing is addressed in the Stormwater Management Manual (SWMM) adopted in 2019.
- The use of green development practices decreases the size of stormwater management facilities needed to be built to prevent flooding downstream. However, green development practices will not completely manage larger storms and therefore they will be conveyed from green facilities into local stormwater facilities, such as ponds designed and bulit for the purpose of managing stormwater runoff.
- The Natural Resource Overlay help to reduce flood peaks for storm events. Modeling shows that the vast majority of the 100-year event footprint stays well within the NRO with the implication that the NRO is a flood management tool so that local stormwater 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 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 Natural Resource Overlay 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, infrastructure, and natural resource protection plans will incorporate guidelines for resource management consistently across all watersheds, 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 onsite 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 Stormwater Management Manual. 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.

(Amended by Ordinance 1789 passed 11/20/18; effective 1/1/19)

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 Natural Resource Overlay. 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 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 NRO 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 NRO. 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 NRO 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 Tri-Met 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 162nd 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

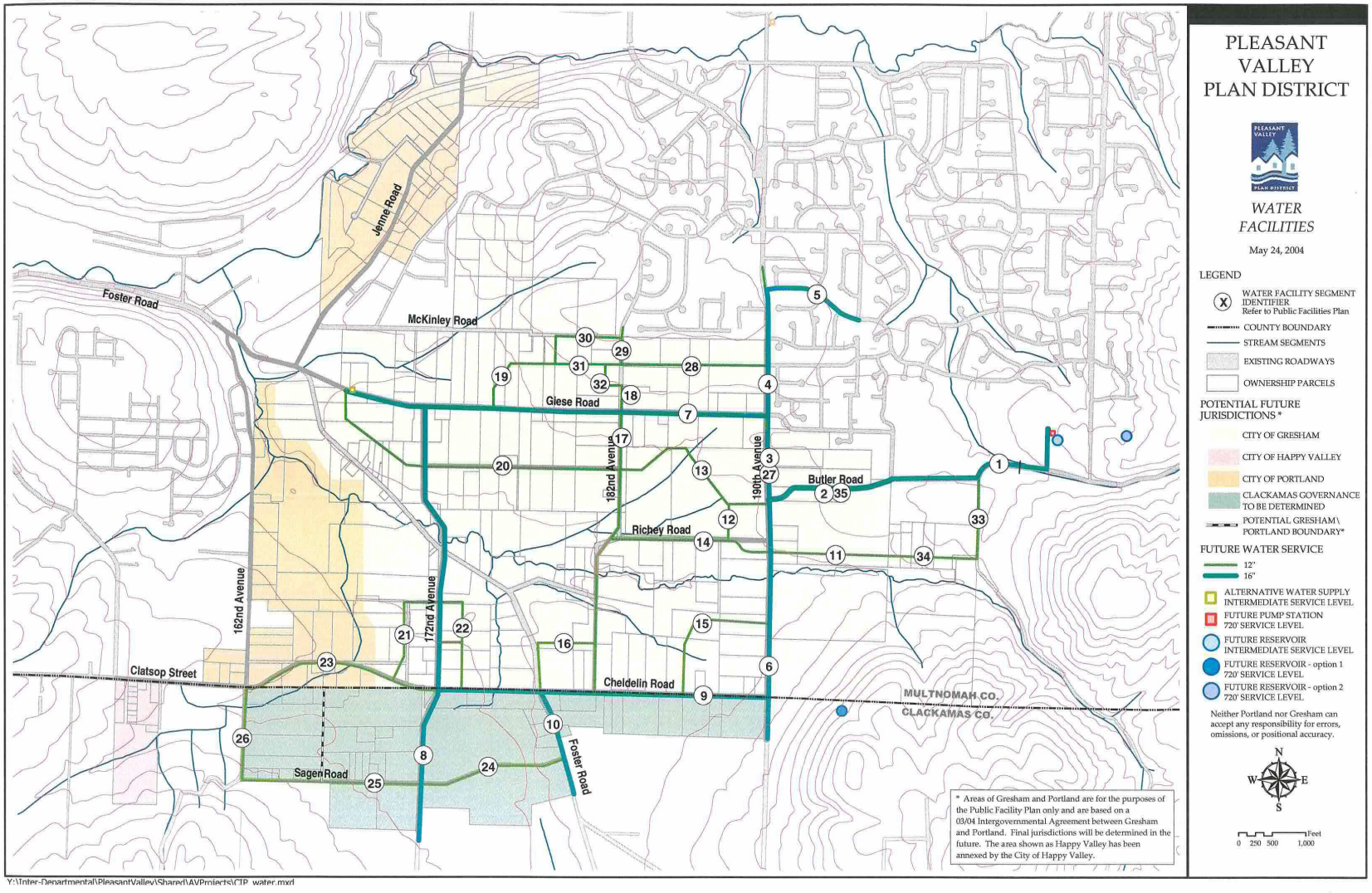
1. Applicable goals and policies that relate to the provision of public facilities in the existing comprehensive plans for the cities of Portland and Gresham also apply to the Pleasant Valley PFP. In addition to those goals and policies, the following policies are made part of this plan.
2. The Cities 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.

Section 10.721 – Appendix A



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 – 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 the PV Boundary –	6,526	$783,101	6 to 20	Gresham	SDC/Local	Timing depends on private	$-	$783,101

[1] Costs are based on 2003 data

Project	Description	Units	Cost[1]	Timing	Responsible Jurisdiction	Funding Source	Comments	Short Term	Long Term
	Intermediate Service Level – 16"						investment		
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
10	Foster from Cheldelin south to PV Boundary – Intermediate Service Level -	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 investments	$-	$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	398	$39,027	6 to 20	Gresham	SDC/Local	Timing depends on private	$-	$39,027

Project	Description	Units	Cost[1]	Timing	Responsible Jurisdiction	Funding Source	Comments	Short Term	Long Term
	Level – 12"						investment		
19	31st looping back to Giese – Intermediate Service Level – 12"	1404	$137,602	6 to 20	Gresham	SDC/Local	Timing depends on private investment	$-	$137,602
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	3,432	$336,287	6 to	Gresham	SDC/Local	Timing	$-	$336,287

Project	Description	Units	Cost[1]	Timing	Responsible Jurisdiction	Funding Source	Comments	Short Term	Long Term
	Butler extension – 720-foot Service Level – 12"			20			depends on private investment		
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
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	1,696	1,696	$1,696,000	6 to	Gresham	SDC/Utility			$1,696,000

Project	Description	Units	Cost[1]	Timing	Responsible Jurisdiction	Funding Source	Comments	Short Term	Long Term
Service Level	Gallons/minute at the Intermediate Service Level			20					
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
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

**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 11th 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

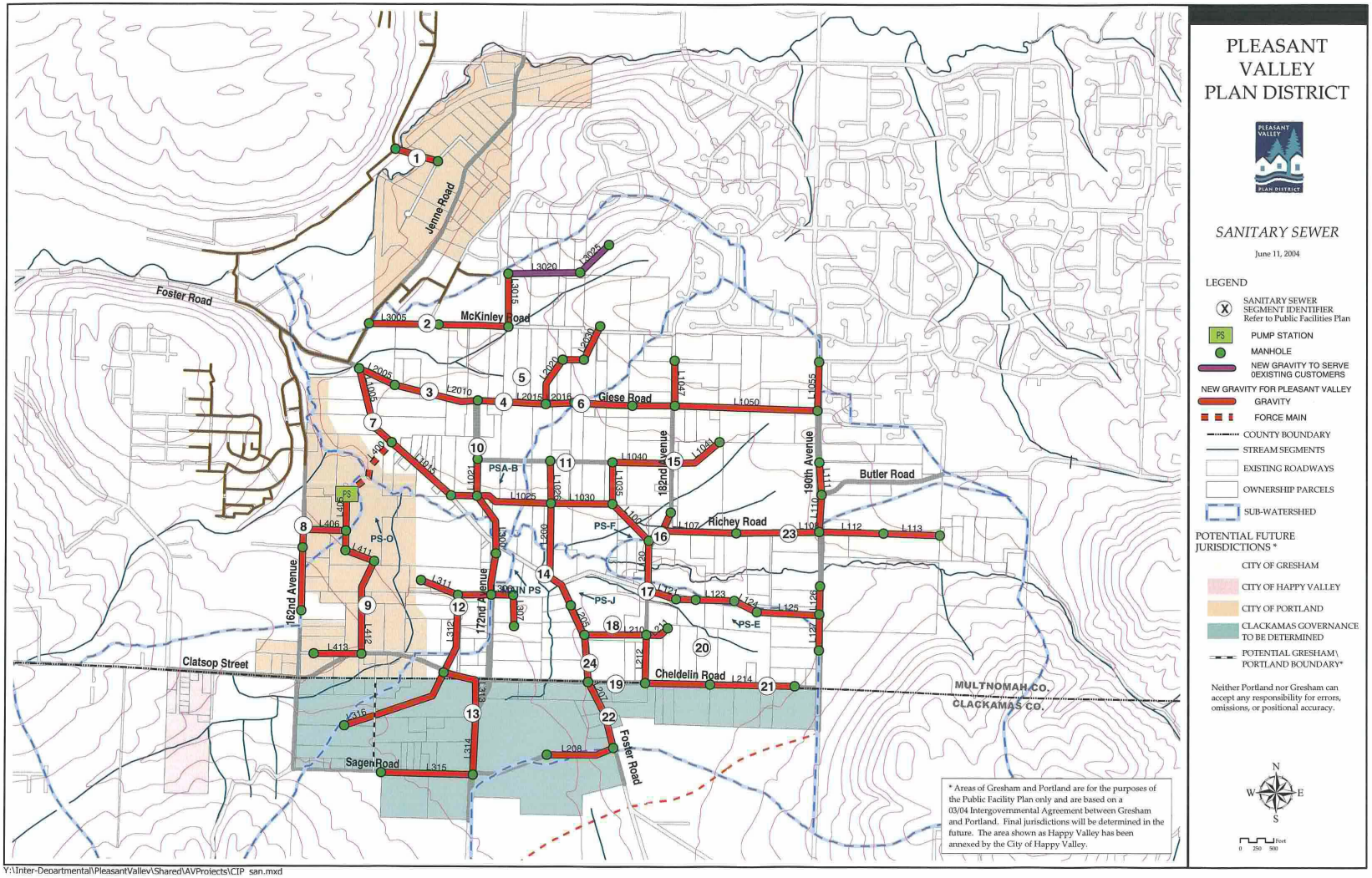
Applicable goals and policies that relate to the provision of public facilities in the existing comprehensive plans for the cities of Portland and Gresham also apply to the Pleasant Valley PFP. In addition to those goals and policies, the following policies are made part of this plan.

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.

Section 10.722 – Appendix A



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	$121,000	$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**

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 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 SB 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
	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**

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 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
	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**
TOTAL PLEASANT VALLEY SERVICE ARAEA				**$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. In the public right-of-way, adjacent to the area roads, raingardens are proposed to treat and detain stormwater. These systems cost more to build than conventional systems but are critical to maintain water quality and to diminish peak flows.

The raingarden system will discharge to local stormwater management facilities that serve two functions. First, the raingardens 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 local stormwater management facilities, they will regulate the rate and volume of stormwater discharge to the natural stream channels in Natural Resource Overlay areas to a level that is no greater than the discharge rate and duration of predevelopment conditions to the maximum extent practicable.

Because siting and acquiring sites for stormwater management facilities is impractical, and because it is beneficial to treat stormwater closer to where it falls by using local stormwater facilities, those facilities can be developed, in accordance with these principals, as development occurs.

Finally, within the NRO, 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 NRO.

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 is currently being refined for Pleasant Valley in a master plan update anticipated to be adopted in 2021. The master plan will more precisely identify the system design, facility locations, and cost and schedule. The master plan will carefully integrate the "green street" transportation system improvements. In addition to facility needs and design goals, the plan will also establish a financing framework for stormwater management in Pleasant Valley. 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 NRO, and other issues related to stormwater management should be spelled out in an intergovernmental agreements if possible.

Ideally Gresham and Portland should 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), 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. Gresham may wish to consider combining stormwater management fees with a street maintenance fee, if available.

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.

GOAL, 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 onsite 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 manage stormwater quality and quantity. Presently, Gresham requires facilities that cannot fully infiltrate stormwater on-site 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 Gresham Stormwater Management Manual.

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 the City of Gresham's Stormwater Management Manual and Public Works Standards.

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.

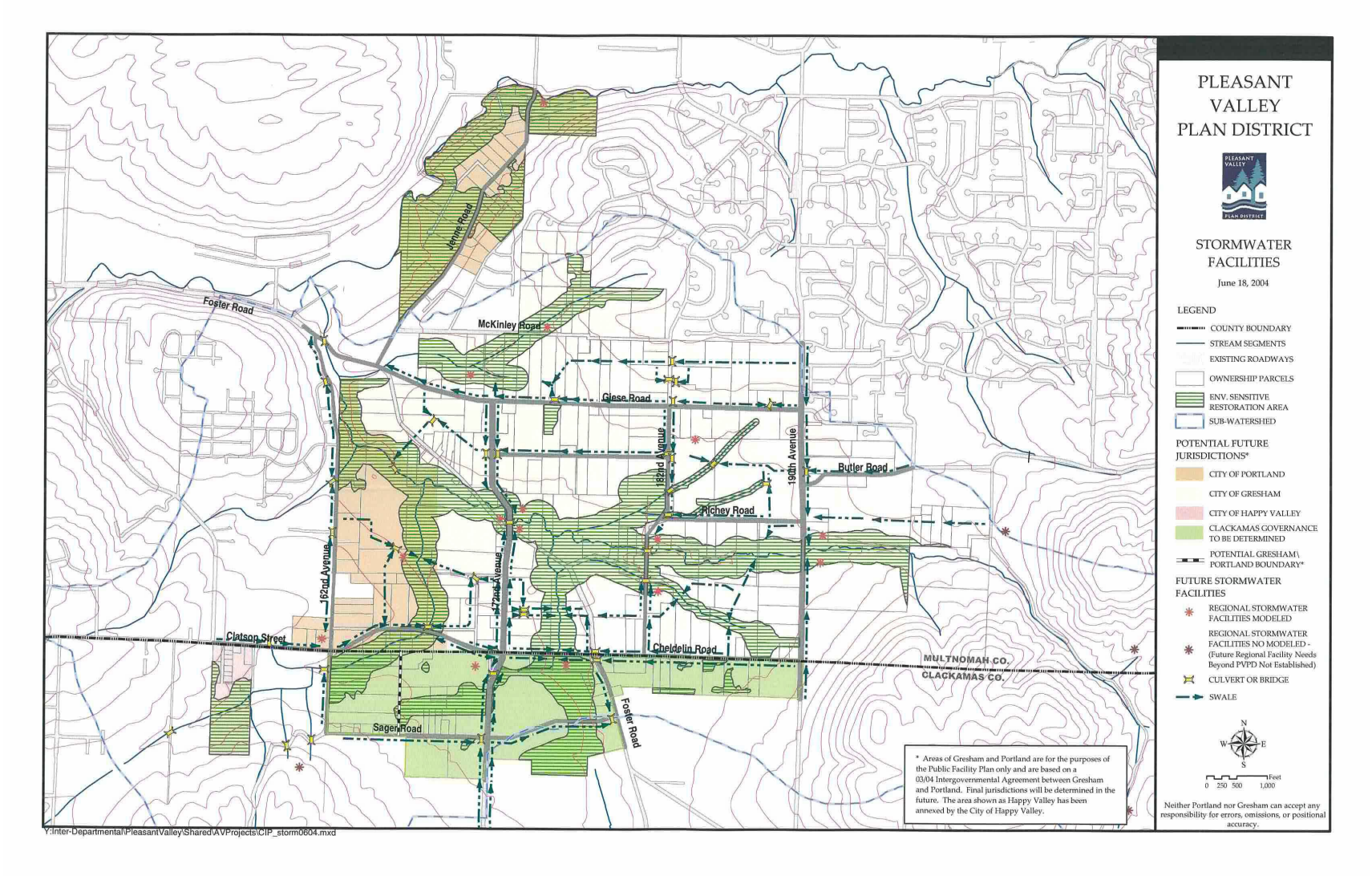
3. Review and, if necessary, update the City of Gresham and Portland system development charges for stormwater. Update the SDC improvement project list to include the relevant Year 1-5 stormwater projects listed in the CIP section of this plan.

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.

(Amended by Ordinance 1789 passed 11/20/18; effective 1/1/19)

Section 10.723 – Appendix A



Section 10.723 – Appendix B – Pleasant Valley Facility Plan – Stormwater Capital Improvements Project List*

Project #	Project	Description	Linear Feet of Swales	Cost[1]	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 – improvement to existing – 1,537.5 LF	2,935	$255,345	6 to 20	Gresham	SDC/Local	Timing w/ road imp.
11	Segment 11	Unknown to Cheldelin – improvement	1,945	$169,215	6 to 20	Gresham	SDC/Local	Timing w/ road imp.

[1] Includes construction, engineering, inspection and contract administration

Project #	Project	Description	Linear Feet of Swales	Cost[1]	Timing	Responsible Jurisdiction	Funding Source	Comments
		to existing – 1,275 LF						
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 subarea context	9,723	$845,901	6 to 20	Portland/ Gresham	SDC/Local	Timing w/ road imp.
Culverts[2]								
	23	Various culvert locations @ 100' each		$462,300	6 to 20	Portland	SDC/Local	Timing w/ road imp.

[2] Culvert location will be included in the master plan

Project #	Project	Description	Linear Feet of Swales	Cost[1]	Timing	Responsible Jurisdiction	Funding Source	Comments
	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 Locations		$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				

*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.

[3] Sites for regional detention facilities have not yet been determined

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 identity 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.

Natural Resource Overlay (NRO). 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 Resource areas (RAs) do not necessarily provide recreation functions. In some cases, human access should be very limited or prohibited in order to protect natural resource values. RAs 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 RAs 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 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.

Capital Improvements

The generalized location of parks and trails are shown on Figure 1 of the Pleasant Valley Plan District Plan. The portion is Gresham's urban service boundary includes:

- 1 Community Park (25.5 acres)
- 3.4 miles of off-road trails
- Bridges and protected street crossings
- 251 acres of Resource Areas are planned for Gresham's Pleasant Valley

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. The parks master plan, capital improvement plan, and parks system development charge project list should be reviewed annually and

updated as needed to ensure that these parks and trail project locations and costs are kept current as properties develop.

The costs for all land acquisition, conservation easements, restoration and maintenance of wetlands, streams, and stream corridors will be substantial. There is no one method that can or should be used for everything. Discussion is ongoing as to which City Department would have jurisdiction, or would take the lead on this significant issue.

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 RAs. There are, however, fairly significant public benefits that come from the restoration of RAs. 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, AND 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 (RA) 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 RA 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 Creek. 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:

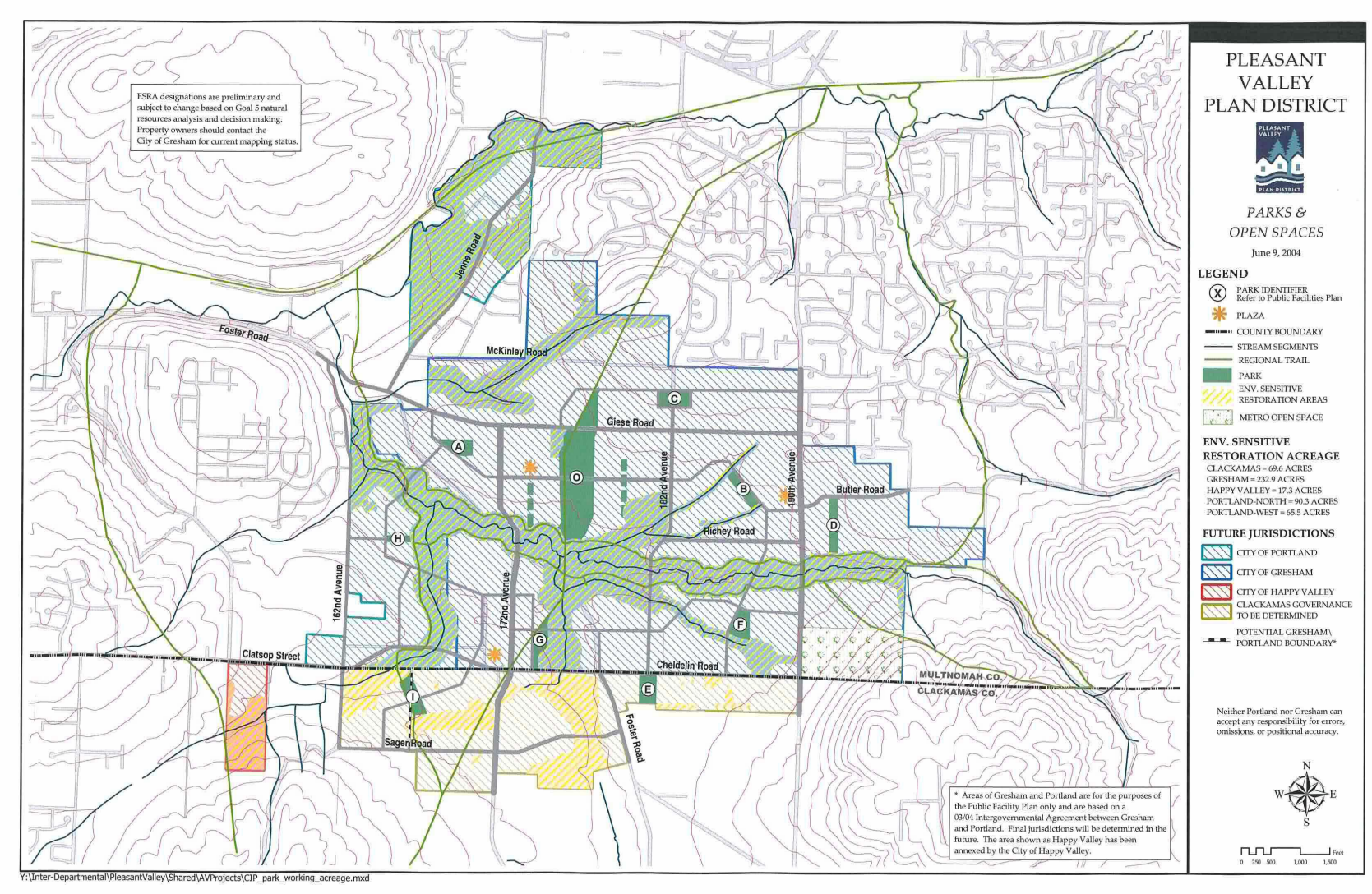
6. The parks master plan, capital improvement plan, and parks system development charge project list should be reviewed annually and updated as needed to ensure that these parks and trial project locations and costs are kept current as properties develop.

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	2.78	$2,085,000	6 to 20	Portland/Gresham	SDC/STP/ Metro

[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.

Project	Description	Acres/Length	Cost[1]	Timing	Responsible Jurisdiction	Funding Source
	BPA (14,658 LF)					
	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 trial (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