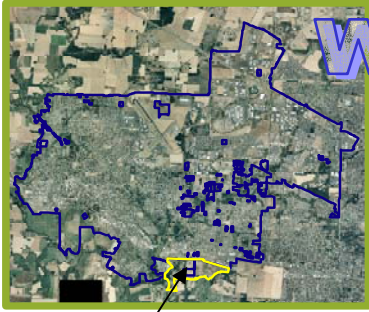


Witch Hazel Village Community Plan



Witch Hazel Village



City of Hillsboro, Oregon

February 2004

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SECTION I: OVERVIEW

A. The Vision

Welcome to Witch Hazel Village – a new community coming to south Hillsboro, Oregon. Witch Hazel Village was born out of a vision to create the quintessential Metro 2040 new urbanist community. The Portland metropolitan area has long been recognized for its award winning commitment to quality urban development, exemplified by the leadership of Hillsboro with such projects as Orenco Station and Jones Farm. Witch Hazel Village seeks to employ the key element that made these two other projects successful: simultaneously embracing the rich history, character and identity that embody Hillsboro; and the natural setting and gentle pace of the Hillsboro environs.

The design for Witch Hazel Village reflects refinements and advancements to previous planning efforts that date back to 1997 when Metro, the regional government, identified the area for future Urban Growth Boundary (UGB) expansion. By implementing the core principles of smart growth from Metro’s Region 2040 Growth Concept Witch Hazel Village realizes the best qualities of a healthy, safe and pleasant living environment. The end result will be a unique community that reinforces Hillsboro’s place in the region as leader in defining and achieving quality development.

Previous Planning for Witch Hazel Village

The Witch Hazel Village site has been at the center of the regional planning debate for over five years. In 1997, Metro designated 1,450 acres of land south of Hillsboro (a.k.a., South Hillsboro Concept Planning Area) as urban reserves for future inclusion in the region’s urban growth boundary (UGB). Included in this designation was the Witch Hazel Village area. In 1998, Hillsboro signed a memorandum of understanding with Washington County to plan and serve the area and began an extensive public planning process to create a conceptual land use plan for the area.

Concurrent with the 1998 planning process, the notion of urban reserves was being challenged at the State Land Use Board of Appeals (LUBA) and the Court of Appeals. In 1999, LUBA remanded the urban reserve decision back to Metro. On appeal, the Court of Appeals upheld the LUBA decision and declared that Metro included significant resource and farm (EFU) land that should have been added only after all other available non-resource (“exception”) land was annexed to the UGB. The Metro Council chose to accept the ruling, which, in effect, made any designation of urban reserves null and void.

In 1999, the Metro Council expanded the UGB by approximately 350 acres, including both exception and resource lands. In response to appeals of the decision, the Metro Council amended the decision to include only exception land, which represented 308 acres known as Site 55 (West). The City then amended the 1998 South Hillsboro Concept Plan to address only Site 55 (West). The completed concept plan, however, assumed that farmland adjacent to Site 55 (West) would eventually be urbanized. When presented to the Hillsboro Planning Commission in 2000, the Commission chose not to forward the plan to the City Council, citing unresolved concerns over transportation impacts and concurrency of infrastructure improvements. This planning process used the previous plan as a resource, but not as the basis of the plan due to changing conditions in the plan area, the uncertainty of the adjacent land being urbanized in the future, and the previous concerns regarding transportation impacts.

This document serves as the Witch Hazel Village Community Plan. It is intended to articulate the composition of components necessary to achieve this desired outcome - supporting the needs of approximately 5,000 new residents (1,423 to 1,779 new dwelling units) within a rich tapestry of civic, social and economic features (an elementary and middle school, parks, civic and open spaces, and a main street), where people can experience traditional neighborhood living, such as: walking to a park; stopping in at a deli, or video store; visiting the doctor, picking up kids from daycare; or grabbing a gallon of milk. The Witch Hazel Village Community Plan is a vision fulfilled: a place inviting people to come and stay awhile; to be part of a pleasant, safe and walkable environment; and to feel part of a larger social network.

B. The Witch Hazel Village Plan Area

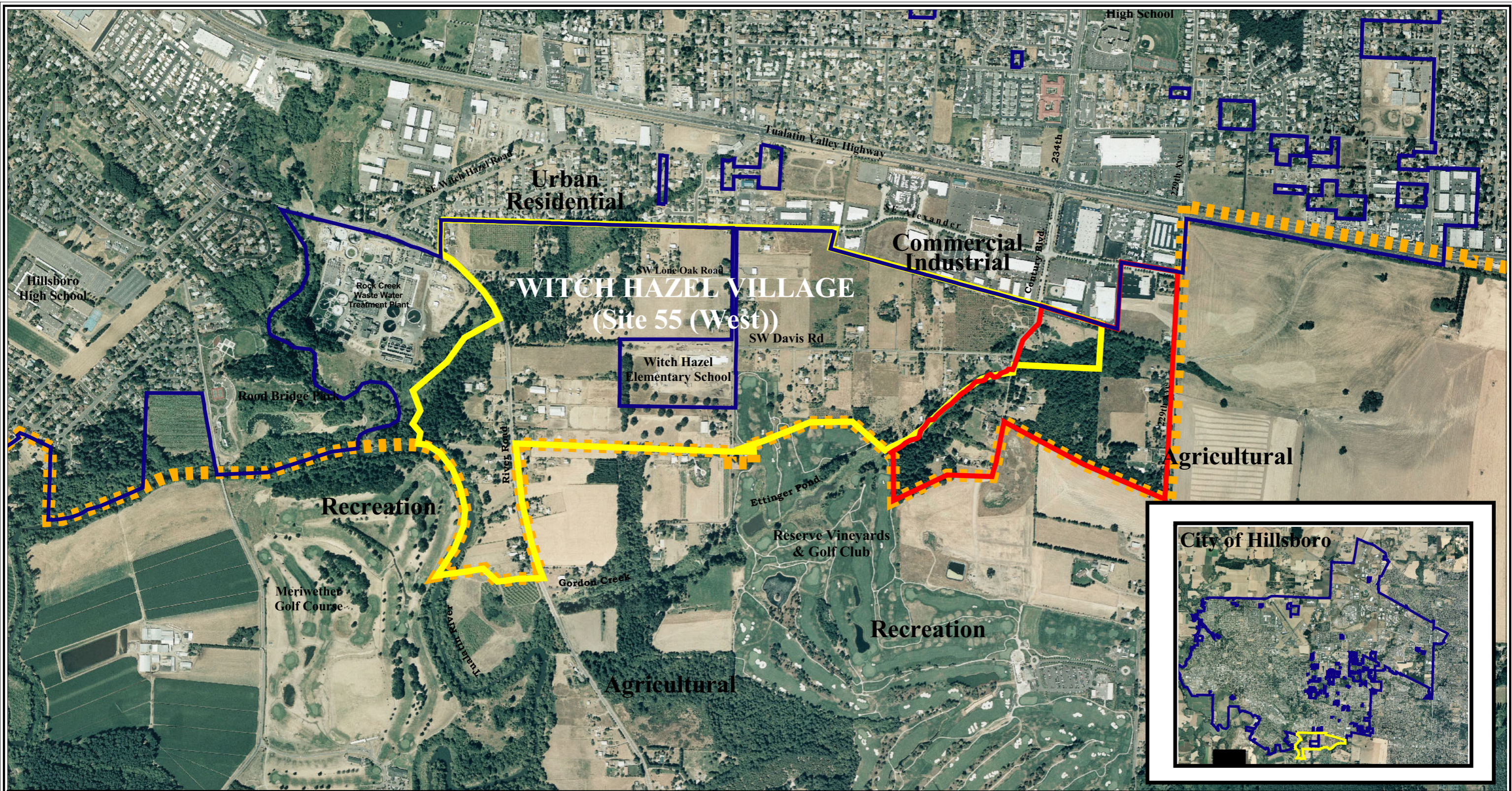
The Witch Hazel Village plan area is 318-acres, 308 acres of which are within an area known as Site 55 (West) and 10 acres of which are part of a site called “area 71” directly to its east. Site 55 (West) was included within the Metro UGB in 1999. Area 71 was added to the UGB in December 2002. Both areas of land were annexed to address a burgeoning 20-year housing need in the Metro region.

The Witch Hazel Village plan area is located south of the current Hillsboro city limits within unincorporated Washington County and not far from the Tualatin Valley (TV) State Highway 8, a regional arterial. SW 247th Avenue, an extension of Brookwood Avenue, bisects the area¹. The majority of the Reserve Vineyards and Golf Club is located south of the plan area. The meandering Tualatin River runs along its western edge, and SW 229th Avenue lies to the east. The general vicinity of the plan area is displayed in Figure 1.

Development of the Witch Hazel Village plan area into a new community is of particular importance to Hillsboro because of its size, location and functional value. Urbanization of this area will provide additional residential land in a part of the region that has sustained rapid population growth in recent years. Longstanding capacity has now been absorbed and sufficient land no longer exists within the current UGB to provide the 20-year supply of housing required to accommodate the needs of the city’s major employment sector.

The addition of high quality affordable housing within a thoughtfully planned community will significantly improve the present jobs/housing imbalance occurring within this part of the region. Regional transportation benefits will also occur by reducing the distance and time people must spend driving between work, home, school, recreation and shopping destinations and by creating safe and convenient opportunities to walk and bike.

¹ Throughout the plan document, SW 247th Avenue and Brookwood Avenue, south of TV Highway, will be identified as SW 247th/Brookwood Avenue.



Urban Residential

Commercial Industrial

Agricultural

Recreation

Recreation

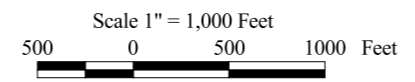
WITCH HAZEL VILLAGE
(Site 55 (West))

Witch Hazel Elementary School

Agricultural

Witch Hazel Village
Figure 1: Vicinity Map

Plot Date: July 28, 2003



Legend

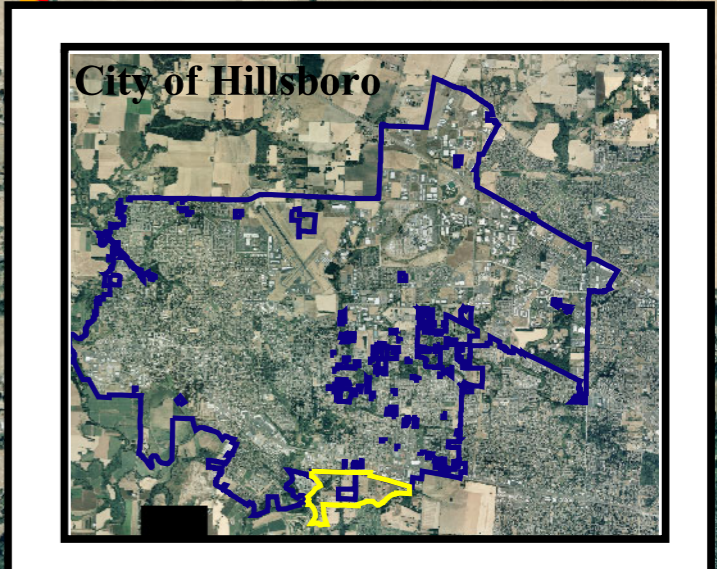
- Witch Hazel Village Planning Area
- City Limits
- Area 71
- Urban Growth Boundary

SOURCE:

City of Hillsboro Planning
City of Hillsboro GIS - Current as of June 1, 2003
Aerial Photography - Current as of July 2002
METRO's Regional Land Information System (RLIS) - Current as of June 2003

DISCLAIMER:

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C. Regional Planning Framework

Metro's Urban Growth Management (UGM) Functional Plan requires that all land annexed into the UGB "shall be subject to adopted comprehensive plan provisions consistent with the requirements of all applicable titles of the Metro Urban Growth Management Functional Plan and in particular Title 11"². The Title 11 provisions include:

- A. Provision for annexation to the district and to a city or any necessary service districts prior to urbanization of the territory or incorporation of a city or necessary service districts to provide all required urban services.
- B. Provision for average residential densities of at least 10 dwelling units per net developable residential acre or lower densities, which conform to the 2040 Growth Concept Plan design type designation for the area.
- C. Demonstrable measures that will provide a diversity of housing stock that will fulfill needed housing requirements as defined by ORS 197.303. Measures may include, but are not limited to, implementation of recommendations in Title 7 of the Urban Growth Management Functional Plan.
- D. 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 percent of area median incomes for rental as defined by U.S. Department of Housing and Urban Development for the adjacent urban jurisdiction. Public subsidies shall not be interpreted to mean the following: density bonuses, streamlined permitting processes, extensions to the time at which systems development charges (SDCs) and other fees are collected, and other exercises of the regulatory and zoning powers.
- E. Provision for sufficient commercial and industrial development for the needs of the area to be developed consistent with 2040 Growth Concept design types. Commercial and industrial designations in nearby areas inside the Urban Growth Boundary shall be considered in comprehensive plans to maintain design type consistency.
- F. A conceptual transportation plan consistent with the applicable provision of the Regional Transportation Plan, Title 6 of the Urban Growth Management Functional Plan, and that is also consistent with the protection of natural resources either identified in acknowledged comprehensive plan inventories or as required by Title 3 of the Urban Growth Management Functional Plan. The plan shall, consistent with OAR Chapter 660, Division 11, include preliminary cost estimates and funding strategies, including likely financing approaches.
- G. 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

² Metro Code, UGM Functional Plan, Section 3.07.1120

Boundary prior to urban development. The plan shall include a preliminary cost estimate 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.

- H. A conceptual public facilities and services plan for the provision of sanitary sewer, water, storm drainage, transportation, parks and police and fire protection. The plan shall, consistent with OAR Chapter 660, Division 11, include preliminary cost estimates and funding strategies, including likely financing approaches.
- I. 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.
- J. An urban growth diagram for the designated planning area showing, at least, the following, when applicable:
 - 1. General locations of arterial, collector and essential local streets and connections and necessary public facilities such as sanitary sewer, storm sewer and water to demonstrate that the area can be served;
 - 2. Location of steep slopes and unbuildable lands including but not limited to wetlands, floodplains and riparian areas;
 - 3. General locations for mixed use areas, commercial and industrial lands;
 - 4. General locations for single and multi-family housing;
 - 5. General locations for public open space, plazas and neighborhood centers; and
 - 6. General locations or alternative locations for any needed school, park or fire hall sites.
- K. The plan amendments shall be coordinated among the city, county, school district and other service districts.

In addition to requiring compliance with the UGM Functional Plan, the Metro Council added conditions of approval to Ordinance 99-809 adding the plan area to the UGB. In 2002, the Metro Council revised the original conditions of approval to delete conditions that: have already been met; are addressed by other applicable Metro regulations; or are no longer appropriate due to changing conditions and circumstances. In the new ordinance (#02-968A) amending Ordinance 99-809, new conditions were placed on the amendment to the UGB. In addition to the conditions covered by the UGM Functional Plan, the Metro Council required that the City of Hillsboro and Washington County coordinate planning of transportation facilities to provide appropriate farm vehicle access to farm land outside, but adjacent to, Witch Hazel Village.

Although the Witch Hazel Village plan area is currently under the jurisdiction of Washington County, the City of Hillsboro signed a memorandum of understanding with the County to plan for the area, which will eventually be annexed into, and served by, the City. The City addressed the UGM Functional Plan Title 11 requirements through the creation of this document, the

“Witch Hazel Village Community Plan”, which will be incorporated into the City’s comprehensive plan.

The City’s approach to creating the Community Plan addressed not only Title 11 requirements, but also the statewide Transportation Planning Rule and land use planning goals and provisions of the Hillsboro Comprehensive Plan. This Community Plan:

- Establishes future land use patterns and residential densities with appropriate supportive Comprehensive Plan designations;
- Provides clear direction on infrastructure service and improvements, particularly related to transportation (covering all modes of travel);
- Establishes strategies for a public/private partnership to address development phasing and infrastructure cost distribution;
- Creates development certainty in terms of the land use patterns and physical development identity, character and quality; and
- Adopts specific measures to direct the implementation of the plan over time.

This Community Plan document is organized to: provide an understanding of the existing conditions that define the plan area; to explain the public planning process that was used to assemble the plan; and to present the component features that make up the Community Plan. The document is divided into the following four sections:

- I. *The Vision*: A contextual overview and vision of the plan.
- II. *Existing Conditions*: The identification of existing land uses, transportation systems, natural resources, and water, sewer, and stormwater infrastructure that serve the plan area.
- III. *Plan Development*: A description of the planning process, including the public involvement component, technical analysis methodology and alternative development scenarios creation.
- IV. *The Community Plan*: A description of the final plan elements, including land uses and transportation systems, and water, sewer, storm water drainage and utility improvements, plus an implementation strategy.

SECTION II: EXISTING CONDITIONS

A. Existing Land Uses

The predominant existing land use of the Witch Hazel Village plan area is rural residential as illustrated in the aerial photo, Figure 1. All residences are single-family homes on large tax lot parcels. Although some owners conduct rural activities, such as farming, on their land, most utilize their property for traditional residential uses. The majority of the tax lot parcels are held in individual private ownership. However, some parcels have recently been consolidated by land developers who have secured purchase agreements from property owners in anticipation of annexation to the City. Other parcels are in public ownership by Clean Water Services and the Hillsboro School District. The Clean Water Services property is currently vacant, reserved for future use by Clean Water Services. A new elementary school is under construction and scheduled to open fall 2003. This new school replaces the existing Witch Hazel Elementary School located north of the plan area along TV Highway. The plan area also takes in the fifth hole of the Reserve Vineyards and Golf Club. There are currently 74 tax lot parcels within the plan area, ranging in size from 0.36 to 66.8 acres.

The tax lot parcels within the Witch Hazel Village plan area are currently zoned by Washington County for agriculture and forestry or rural residential uses. These zones are intended to retain the existing rural character and conserve significant and sensitive natural resource areas; while providing for appropriately scaled agricultural and rural residential uses. The rural zoning districts require either a 5-acre or 10-acre minimum tax lot size for the creation of new parcels, but also allow the parcelization and diverse ownership that existed prior to the time the County comprehensive plan was adopted. As a result, many of the existing tax lots are smaller than the five-acre minimum. Approximately 42 of the parcels are between 2 and 10 acres, with the average parcel being 4.76 acres.

B. Surrounding Land Uses

Land uses along the northern edge of the plan area are roughly divided by SW 247th/Brookwood Avenue and just inside the city limits.

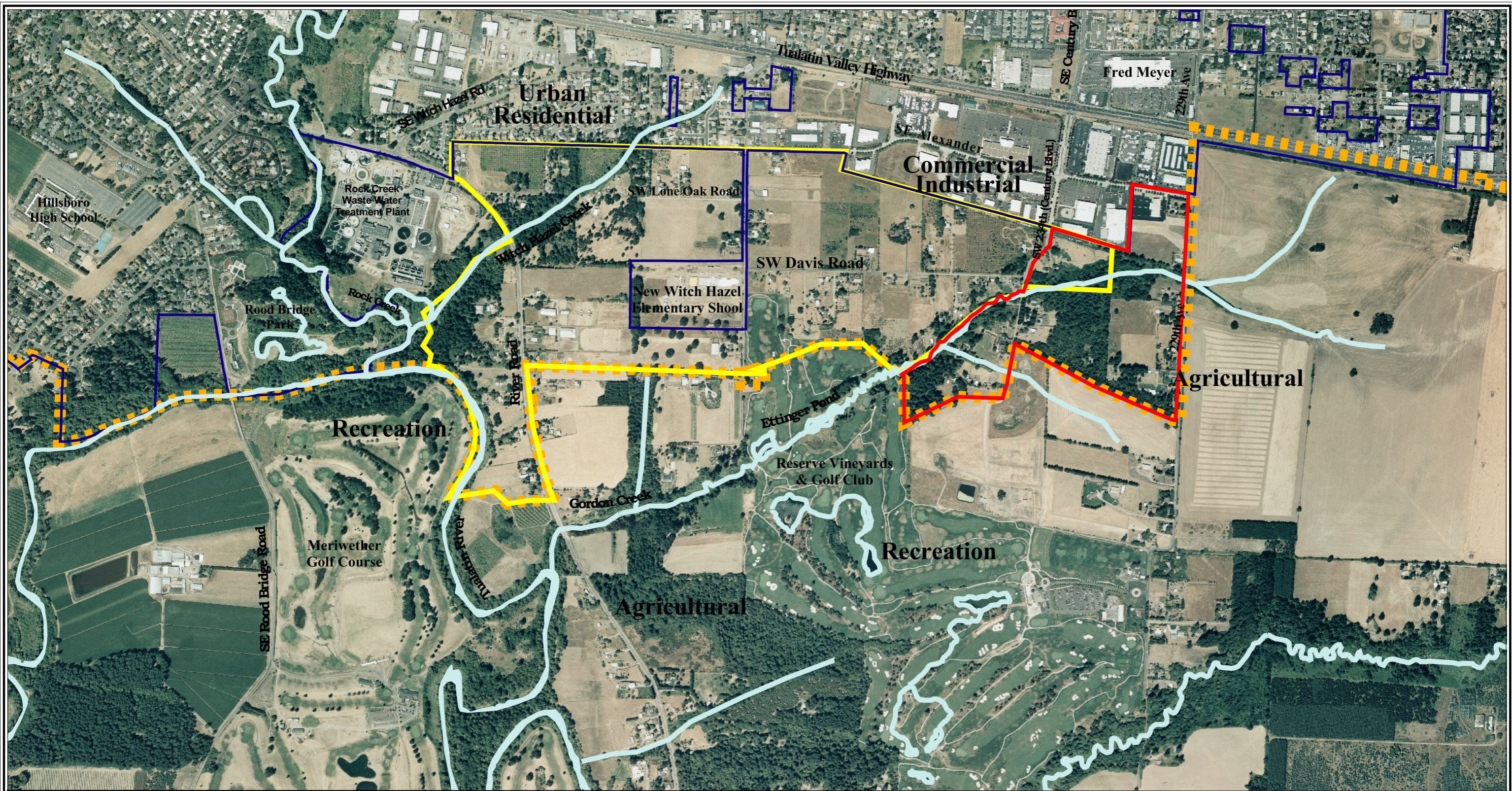
- A single-family residential neighborhood is located along the northwest side and south of Witch Hazel Road. Industrial uses and the existing Witch Hazel Elementary School lie to the north between Witch Hazel Road and TV Highway.
- Industrial and commercial uses occupy the area to the northeast (known as Roseway Industrial Park), with a few older single-family residences located along SW 247th/Brookwood Avenue.

Planning for Area 71






In December 2002, the Metro Council annexed 88 acres east of the plan area to the UGB. This area, known as “area 71”, is bounded by Witch Hazel Village on the west and SW 229th Avenue on the east. The land will eventually be annexed to the City of Hillsboro and urbanized. The City of Hillsboro will likely begin the concept planning for the majority of area 71 in 2003. However, ten acres in area 71 north of Gordon Creek have been incorporated into the Witch Hazel Village plan area. The potential future urbanization of area 71 was considered during the process of developing land use alternatives for Witch Hazel Village.

Many of the existing streets to the north of the site were developed as cul-de-sacs, with limited opportunities for connectivity to the plan area from the north. Currently, only SE 49th Avenue has the option to provide any connection to the plan area.

Unincorporated areas of Washington County lie south and east of the plan area. This land is primarily used for rural residential and predominantly agriculture purposes. A map of the surrounding area is shown in Figure 2.



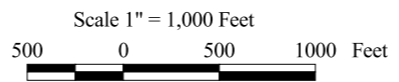
Legend

-  Witch Hazel Village Planning Area
-  City Limits
-  Urban Growth Boundary
-  Rivers and Streams
-  Area 71

Witch Hazel Village

Figure 2: Surrounding Land Uses

Plot Date: August 13, 2003



SOURCE:
 City of Hillsboro Planning
 City of Hillsboro GIS - Current as of June 1, 2003
 Aerial Photography - Current as of July 2002
 METRO's Regional Land Information System (RLIS) - Current as of June 2003

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C. Transportation

Network

The existing public roadways providing access to and within the Witch Hazel Village plan area are maintained by three agencies: the Oregon Department of Transportation (ODOT), Washington County, and the City of Hillsboro. These roadway facilities are listed in Table 1 and illustrated in Figure 3.

Direct north-south access to the Witch Hazel Village plan area is provided by three county roadways: SW River Road (along the western edge), SW 247th/Brookwood Avenue (at the center), and SW 234th/Century Boulevard (along the eastern edge); and east-west access is provided by one city roadway, SE Alexander Street (along the northern edge).

- **SW 247th/Brookwood Avenue** serves as the central north/south access to and from the plan area. It is an arterial north of TV Highway and a collector south of TV Highway. The street runs from Shute Road approximately five miles north of the plan area, and currently terminates just south of the plan area. It provides access to major east-west city and regional routes, including Cornell, Baseline and TV Highway. North of TV Highway to Baseline Road, Brookwood Avenue is not improved. Within the Witch Hazel Village plan area, it is a two-lane, rural road with no sidewalks, curbs or bike lanes. The intersection that connects SW 247th/Brookwood Avenue to TV Highway from the plan area is an 'off-set' intersection, with access to TV Highway provided via Witch Hazel Road. Plans to convert the alignment of this intersection to a traditional four-way intersection have been discussed, but no specific plans or designs have been determined. Consideration of improvements to this intersection has been hindered in large part by the location of the existing Witch Hazel Elementary School which is due to close June 2003. The new Witch Hazel Elementary School currently under construction is scheduled to open fall of 2003 at the new location in Witch Hazel Village at Davis Road and SW 247th/Brookwood Avenue. It is anticipated that the former school site will be cleared and made available for a new intersection configuration.

Table 1: Existing Transportation Facilities Impacted by Development of Witch Hazel Village

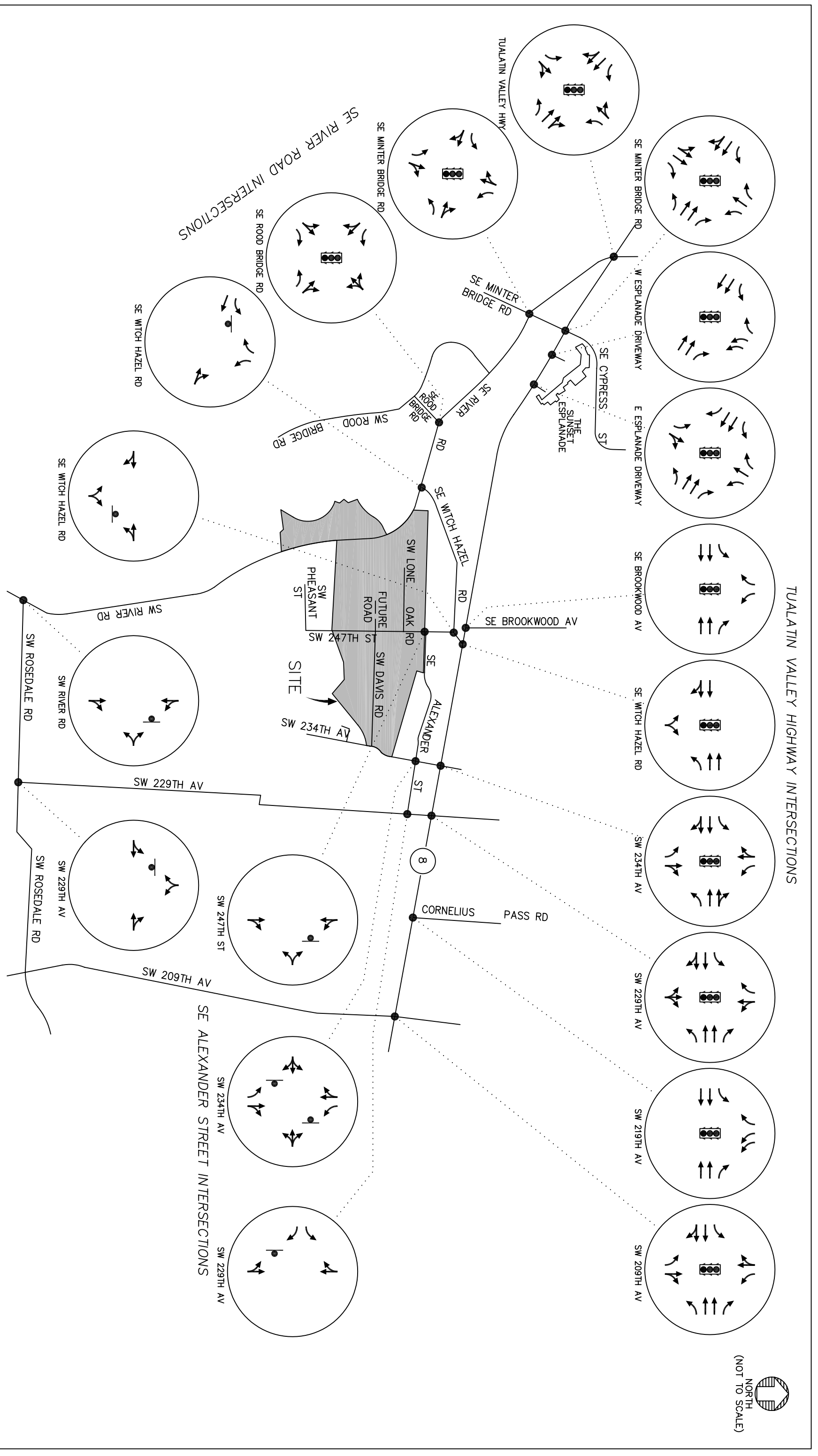
Roadway	Classification
Tualatin Valley (TV) Highway	Statewide Highway, Principal Arterial
SW River Road	Arterial
SW 219 th Avenue	Arterial
SE Minter Bridge Road	Arterial
SW 209 th Avenue	Arterial
SE Witch Hazel Road	Collector
SW 247 th /Brookwood Avenue	Arterial/Collector
SW 234 th /Century Boulevard	Collector
SW 229 th Avenue	Collector
SE Rood Bridge Road	Collector
SW Davis Road	Collector
SE Alexander Street	Neighborhood Route
SW Rosedale Road	Collector

This intersection is also hampered by the proximity to the Willamette and Pacific railroad line (located parallel to and just south of TV Highway). Witch Hazel Road crosses the Willamette and Pacific railroad to access TV Highway and a new realignment that connects SW 247th/Brookwood Avenue to TV Highway will also have to cross the railroad at a newly aligned intersection.

- **SW River Road** runs along and through the western portion of the plan area. It provides northwesterly connection to downtown Hillsboro via TV Highway; southerly connection to rural residential, farm and forestlands; and southeasterly connection to Beaverton via Farmington Road. This arterial is a three lane urban street with sidewalks and curbs northwest of the plan area from TV Highway to Rood Bridge Road, where it then transitions to a two-lane rural road with drainage ditches and one bike lane, but with no sidewalks or curbs.
- **SW 234th/Century Boulevard** along the eastern edge of the plan area, is a north-south collector that has recently been extended north to Lois Street. The street will eventually extend north of Lois Street, creating a continuous collector street that extends approximately five miles to West Union Road (North of the Sunset Highway 26, without interchange access). This collector provides direct access to TV Highway through Roseway Industrial Park, where it is fully improved with sidewalks, planter strips and turn lanes near TV Highway. Within the planning area, it is a two-lane rural road without sidewalks, curbs or bike lanes.
- **SE Alexander Street** is an east-west neighborhood route providing a connection between SW 247th/Brookwood Avenue and SW 234th/Century Boulevard and continuing east to SW 229th Avenue. The street serves primarily industrial and large-scale commercial businesses in the Roseway Industrial Park north of the plan area. Alexander Street is a fully improved two-lane urban street with on-street parking, curbs, planter strips, and sidewalks throughout Roseway Industrial Park, but functions as a two-lane rural road with no sidewalks or curbs within the plan area.

In addition to the existing streets that provide direct external access to the plan area, there are two east-west running streets that provide internal access through the plan area:

- **SW Lone Oak Street** is a rural, gravel road with drainage ditches providing access to 11 residential homes within the plan area. It runs westerly from SW 247th/Brookwood Avenue to a dead end, not far from Witch Hazel Creek.
- **SW Davis Road** is a two-lane country road providing access to a rural subdivision located between SW 247th/Brookwood Avenue and SW 234th/Century Boulevard. Currently, Davis is being extended westward along the frontage of the new Witch Hazel Elementary School. There are plans to eventually extend SW Davis Road west to connect to SW River Road.



EXISTING TRANSPORTATION SYSTEM

Witch Hazel Village Community Plan
 HILLSBORO, OREGON
 NOVEMBER 2002

Operations

There are several streets located off-site that are expected to be impacted by urbanization of the Witch Hazel Village plan area, including:

- **TV Highway.** Located north of the plan area, this ODOT facility provides regional accessibility to the plan area from Beaverton, Hillsboro and Forest Grove. North of TV Highway, SW 219th Avenue/Cornelius Pass Road and SE 247th/Brookwood Avenue provide direct connections to the statewide transportation system via Sunset Highway 26. TV Highway is a five-lane urban road with four travel lanes and a center turn lane and occasional curbs and sidewalk sections.
- **SE Witch Hazel Road.** This road, located north of the plan area, runs from southwest to northeast and connects River Road and TV Highway. Despite providing a connection between two major roadways and passing through an urban residential area, it is a rural road consisting of a two lane paved roadway with an occasional center turn lane, but without curbs, gutters, sidewalks, or bike lanes.
- **SW 209th Avenue.** East of the plan area, this two-lane rural road provides a direct connection from TV Highway to Farmington Road.
- **SE Rood Bridge Road.** Located west of the plan area, this road connects River Road to Farmington Road. The road is a two-lane rural road, with a bike lane between the intersection of Rood Bridge Road/River Road and Hillsboro High School.
- **SE Minter Bridge Road.** Located approximately one mile west of the plan area, this road provides a north-south connection between TV Highway and Burkhalter Road. At the intersection of Minter Bridge Road and River Road, the road is a three-lane urban street, with gutters, curbs and sidewalks. As the road heads south, it transitions to a two-lane road with gravel right of way and a drainage ditch and then a two-lane road with curbs and occasional turn lanes.
- **SE 24th Avenue.** West of the plan area, this new urban street connects River Road and TV Highway. It has two travel lanes, with a center turn lane, two bike lanes, gutters, curbs, sidewalks and planter strips.
- **SW Rosa Road.** South of the plan area, this two-lane rural road provides access to the area south of the plan area via SW River Road and SW 229th Avenue. Rosa Road is partly improved and does not provide a through connection between SW River Road and SW 229th Avenue.
- **SW 229th Avenue.** East of the plan area, this two-lane rural road provides a north-south connection between SW Rosedale Road and TV Highway.

Given the limited scale of existing development in the plan area, all but three intersections, providing access to the plan area, currently operate at acceptable levels-of-service during the weekday p.m. peak hour. The three exceptions are:

- **SE Witch Hazel Road and TV Highway** intersection serves a large traffic “catchment” area and is operating over capacity;
- **SW 209th Avenue and TV Highway** intersection is approaching capacity during the weekday p.m. peak hour; and
- **SE Witch Hazel Road and SW River Road** intersection operates over capacity and at a level of service “F” (failing) during the p.m. peak hour due to the unsignalized left-turn from Witch Hazel Road onto River Road.

The intersections of TV Highway with both SW 247th/Brookwood Avenue and Witch Hazel Road are on Washington County and ODOT’s Safety Priority Index System lists, indicating they have known safety issues. SW 247th/Brookwood Avenue, north of TV Highway was not evaluated for needed improvements as a part of the planning process for Witch Hazel Village, but is being evaluated as a part of the City’s Transportation System Plan update currently underway.

Transit

Transit within the vicinity of the plan area is limited to *Tri-Met Bus Route 57: TV Highway/Forest Grove*, providing service to Forest Grove and the Beaverton Transit Center along TV Highway. Service is provided at 15-minute intervals from 4 a.m. to 6 p.m. reducing to 30-minute intervals in the evening from 6 p.m. to 2 a.m. Tri-Met’s Transit Investment Plan calls for providing more frequent service on this route, but funding for this service is not currently available.

Pedestrian and Bicycles

Currently, there are very low levels of pedestrian and bicycle activity within and adjacent to the plan area and no dedicated bike lanes or sidewalks (or pathways) to support increased activity at a safe and convenient level.

More information on the existing transportation conditions is found in Appendix A, *Witch Hazel Village Community Plan Existing Conditions Analysis*.³

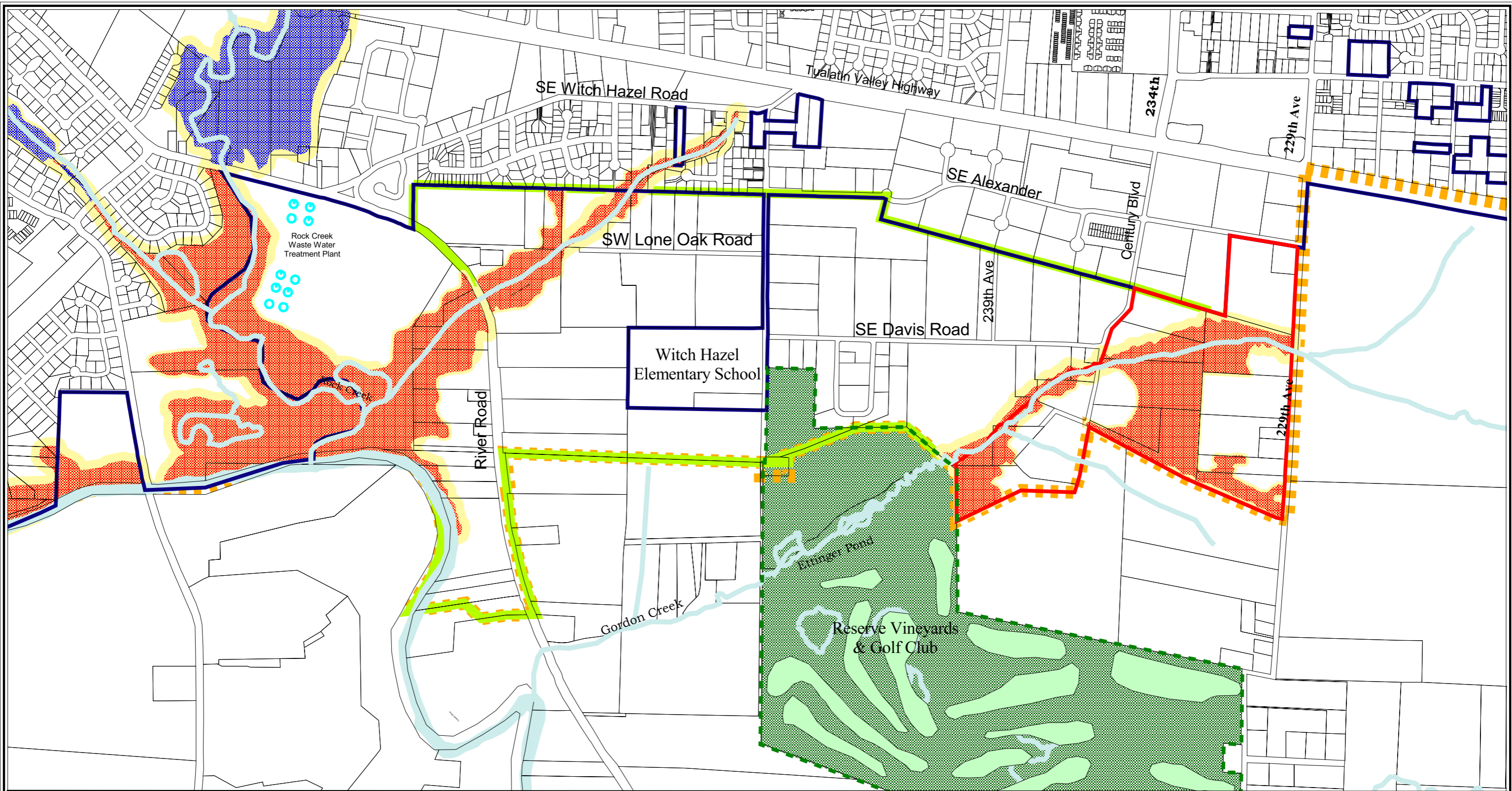
D. Natural Resources

The vast majority of the Witch Hazel Village plan area does not contain sensitive natural resource concerns with the exception of three waterways and several stands of mature native Oregon White Oak. While many of the natural resources within the plan area may not be characterized as sensitive or threatened, they offer significant scenic and wildlife qualities to the plan area. This builds a strong case for preserving them to the maximum extent possible to serve as defining elements of urbanization. An overview of the significant natural resource components is provided below and illustrated on Figure 4.

³ The *Witch Hazel Village Community Plan Existing Conditions Analysis* reflects existing transportation conditions as of fall 2002. Since that time, conditions in the plan area may have changed.

Significant Natural Resources Overlay District

Areas included in the City's Significant Natural Resources Overlay (SNRO) District are displayed on Figure 4. Within the SNRO there are four types of protected areas. Levels of protection for resources within the SNRO were determined through the City's Goal 5 Economic, Social, Environmental, Energy (ESEE) process. Resource Level 1, "Moderately Limit", offers greater flexibility for development and is appropriate for those resource sites where the economic or energy benefits of utilizing significantly outweigh the environmental or social benefits of fully limiting development activities. Resource Level 2, "Limit", is the baseline standard of protection that balances flexibility for development with resource protection. Resource Level 3, "Strictly Limit", offers a greater level of protection for the resources by requiring that activities and development be avoided altogether to the extent practicable. Impact Areas are those areas adjacent to the resource sites on which development activities could potentially have adverse impacts on the natural resource. To the extent practicable, activities and development in Impact Areas should be located and designed to minimize adverse impacts to the adjoining resource areas. As shown in Figure 4, within the Plan area, significant natural resources within the SNRO are categorized as Level 3, and are bordered by an Impact Area. Properties or portions of properties within the SNRO are subject to the requirements of the City's Goal 5 natural resource protection ordinance.



Witch Hazel Village

Figure 4: Significant Natural Resources

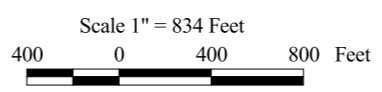
Plot Date: July 28, 2003

Legend

- Witch Hazel Village Planning Area
- City Limits
- Urban Growth Boundary
- Area 71
- Rivers and Streams
- Rock Creek Treatment Plant

City of Hillsboro Significant Natural Resource Protection Designation:

- Natural Resource Protection 1
- Natural Resource Protection 2
- Natural Resource Protection 3
- Impact Area



Note: The boundaries of these resources are not accurate relative to tax lot lines and other features.

SOURCE:
 City of Hillsboro Planning
 City of Hillsboro GIS - Current as of June 1, 2003
 Aerial Photography - Current as of July 2002
 METRO's Regional Land Information System (RLIS) - Current as of June 2003

DISCLAIMER:
 This map is derived from various digital database sources. While care has been taken to insure the accuracy of the information shown on this page, the City of Hillsboro assumes no responsibility or liability for any errors or omissions in this information. All data presented on this map is continually updated and is current as of the dates listed above. This map is provided "as is".



Waterways

Three significant year-round waterways run along and through the Witch Hazel Village plan area. They include:

- Tualatin River, located along the western edge of the plan area;
- Gordon Creek, located along the southern boundary of the plan area; and
- Witch Hazel Creek, located in the northwestern corner of the plan area.

Gordon and Witch Hazel Creeks are both tributaries of the Tualatin River, and together these waterways form the natural drainage for the entire plan area.

Densely vegetated riparian conditions are present along Gordon Creek and Witch Hazel Creek, and along the Tualatin River.

The Tualatin River contains a number of sensitive fish species, including fall chinook, winter steelhead, and coho. These species are generally migrating up or downstream on their way to spawning grounds or the ocean. There is no spawning habitat for anadromous fish in the Tualatin River near the plan area and rearing habitat is marginal.

No fish sampling surveys have been conducted on Gordon Creek or Witch Hazel Creek. However, surveys conducted in the area found 22 species of fish in other nearby small streams, including lamprey, cutthroat trout and a variety of introduced warm water species. Suitable fish habitat is present in Gordon Creek and Witch Hazel Creek and it is possible that some of the species identified in nearby streams are present in these creeks.

Gordon Creek's fish habitat is compromised by the presence of culverts crossing River Road and an irrigation dam approximately 0.5 miles upstream of the creek's confluence with the Tualatin River. This dam may block fish passage on Gordon Creek during low flows and may prevent anadromous fish from reaching the upper reaches of Gordon Creek within the plan area boundaries. In its upper reaches, Gordon Creek is tiled, and collects runoff from agricultural areas. In its middle and lower reaches, it contains good riparian habitat and channel structure.

Wetlands

Wetland areas are located along the Tualatin River, Gordon Creek, and Witch Hazel Creek. Wetlands along the Tualatin River are limited to forested wetlands dominated by Oregon ash, situated at the extreme northwestern edge of the plan area. The upper reaches of Gordon Creek, west of SW 229th Avenue, are mostly characterized by scrub-shrub and emergent wetlands dominated by reed canarygrass and blackberry. Witch Hazel Creek is mostly characterized by forested and scrub-shrub wetlands and limited emergent wetlands. These wetlands are primarily dominated by Oregon ash, red alder, willows and red-osier dogwood. Wetlands provide high quality fish and wildlife habitat, help improve water quality and provide year-round flood control.

Wildlife Habitat

Riparian areas and adjacent upland forests along the Tualatin River, Gordon Creek and Witch Hazel Creek are important refuges for wildlife species. These areas provide corridors for wildlife to move between habitats within the plan area and to other habitat nearby through a relatively open landscape of cropped fields and homes. The riparian forests along Witch Hazel Creek and Gordon Creek are composed of Oregon ash, red alder, western red cedar, red osier dogwood, and Pacific willow. The upland forests are dominated by Douglas fir, western red cedar and Oregon white oak. This mixture of species forms a complex, multi-story canopy that provides excellent wildlife habitat.

A series of discontinuous strips of upland vegetation form an important north-south wildlife movement corridor between Witch Hazel Creek and Gordon Creek on the western half of the plan area. A narrow remnant strip of native Oregon white oak lies to the southeast of Witch Hazel Creek (west of the new elementary school). This is the only remaining forest within the plan area forming a partial north-south wildlife corridor. Another strip of upland forest just south of the plan area between River Road and The Reserve Vineyards and Golf Club also facilitates north-south wildlife movement between Gordon Creek and Witch Hazel Creek.

Much of the planning area is covered with loam and silt loam soils that are appropriate, but not ideal for agricultural uses. This soil is not considered prime farmland because the soil matrix produces perched water conditions, thus requiring subsurface tiling to ensure adequate drainage.

More information on the natural resources existing conditions is found in Appendix B, *Witch Hazel Village Environmental Conditions Technical Memorandum*.⁴

E. Infrastructure

The Witch Hazel Village plan area is a rural residential and agricultural area with limited onsite infrastructure to support urbanization. Several major regional utility facilities pass near or through the area to serve areas located within the city limits to the north and east. These utilities were constructed and sized to provide capacity for the plan area, with the assumption that urbanization would eventually occur. Utilities constructed as part of the new Witch Hazel Elementary School have been designed to serve the urban densities in the plan area. Otherwise, all other utilities are located on private property to serve residential sites, including well water and septic sanitary sewer systems. Below is an overview of the existing infrastructure systems and capacities.

Water

Currently, residents who live within the Witch Hazel Village plan area are on private well systems. Hillsboro is responsible for water storage, transmission and individual service connections within its boundaries. When the plan area is annexed to the City and urbanized, the drinking water will be supplied by the City of Hillsboro. Private wells may have to be

⁴ The *Witch Hazel Village Environmental Conditions Technical Memorandum* reflects existing environmental conditions as of fall 2002. Since that time, conditions in the plan area may have changed.

decommissioned and capped upon property development in accordance with the State Water Master and Plumbing Code requirements.

A 42-inch water transmission line provides drinking water to Hillsboro's distribution system north of the plan area along TV Highway. This line will be extended south to serve the plan area. Two existing pressure-reducing valves (PRV) and meters are located at Roseway Industrial Park and SW 239th Avenue. The City has identified a third potential PRV location along the 42-inch line at Cornelius Pass Road. When installed, this PRV has the ability to distribute an additional 9 million gallons per day should the domestic or fire demands increase.

As part of the new Witch Hazel Elementary School construction, the Hillsboro School District has constructed three new waterlines:

- A 10-inch waterline from SW Davis Road to Witch Hazel Road that replaces the existing 6-inch line in SW 247th/Brookwood Avenue extending from Witch Hazel Road to Alexander Street;
- An 8-inch line in SW 247th/Brookwood Avenue from Davis Road to the southern boundary of the new elementary school property; and
- A 10-inch line in SW Davis Road from the midpoint of the new elementary school site, running east to the intersection with SW 247th/Brookwood Avenue.

The new water lines were designed with the assumption that the plan area would be urbanized. Therefore, these lines provide adequate capacity to serve as the beginning backbone of the plan area water system.

Sanitary Sewer

With the exception of the new Witch Hazel Elementary School, all developed properties within the plan area are currently served by private septic systems. The new Witch Hazel Elementary School will be connected to the public sanitary trunk system in SW River Road when the school opens in fall 2003. District ordinance does require that, once public sewer is directly available to a parcel of land, structures on that parcel must connect within three years. For properly operating on-site systems, extensions up to a total of ten years may be granted.

Clean Water Services (CWS) and the City of Hillsboro currently provide public wastewater treatment and trunk sewer system collection services. CWS responsibilities include master system planning, operation and maintenance of the conveyance system, pump stations, treatment and sewer discharge. The City of Hillsboro owns the local sanitary sewer collection system and is responsible for operation, maintenance and collection of pipe less than 24 inches as well as individual service connections.

Sanitary sewage is treated at the District's Rock Creek Wastewater Facility, located south of SW River Road, immediately adjacent to and generally west of the plan area. Currently, the treatment facility serves a portion of the plan area by an 8-inch sewer line along the future westward extension of SW Davis Road, extending from the intersection of Davis Road and SW 247th/Brookwood Avenue to SW River Road. At SW River Road, this 8-inch line will be connected to the River Road Trunk Line, currently under design by CWS and planned for completion by early spring of 2004. The River Road Trunk Line will transport wastewater from

the plan area by gravity to a pump station located at the eastern edge of the Rock Creek Wastewater Facility adjacent to River Road.

Additionally, two existing parallel 20-inch force mains are located in a 20-foot wide easement south of the Roseway Industrial Park. These two lines go past the 229th Avenue right-of-way until intersecting SW 234th/Century Boulevard and then west in Lone Oak Road to the treatment facility. Although not available to serve future growth in the plan area, future development will be required to plan around this existing 20-foot easement. Roadways may be constructed on the easement as long as they are designed to meet CWS minimum pipe cover requirements.

Stormwater

CWS, Washington County and the City of Hillsboro currently share the responsibility of public stormwater management. CWS responsibilities include master planning, operation and maintenance of: regional water quality treatment and detention facilities; and discharge to natural drainage ways. Washington County oversees open drainage improvements in public right-of-ways associated with County roads in unincorporated areas outside city jurisdiction. The City of Hillsboro is responsible for operation and maintenance of: all public conveyance systems; some service connections; minor tributaries; ditches; and intermittent streams.

The existing storm water system within the plan area includes pipes/culverts, subsurface tiling, overland flow, natural swales, irrigation and roadway drainage ditches, all of which flow to Witch Hazel Creek or Gordon Creek, eventually draining to the Tualatin River.

A ditch on the north side of the future western extension of SW Davis Road drains into a 24-inch storm drain system that expands to a 30-inch line as it moves west to SW River Road. At SW River Road, a ditch inlet collects existing flow from the south and transports it north along SW River Road through a piped system to an outfall near the Witch Hazel Creek riparian area.

Regional water quality and detention facilities are recommended to serve the plan area for the newly constructed storm system.

Private Utilities

NW Natural Gas currently provides, and will continue to provide, natural gas line services in the plan area. Existing lines are located in SE Witch Hazel Road, SW Lone Oak Road, SW Davis Road, SW Davis Court, SW Pheasant Street (south of the plan area), SW 234th/Century Boulevard and SW River Road. A new line in SW 247th/Brookwood Avenue will serve the new Witch Hazel Elementary School.

Comcast currently provides, and will continue to provide, digital phone, cable and broadband services as requested by individual property owners. Existing lines are located in SE Witch Hazel Road, SW Lone Oak Road, SW Davis Road, SW Davis Court, SW Pheasant Street, SW 234th/Century Boulevard and SW River Road. Comcast will run new lines in SW 247th/Brookwood Avenue to serve the new Witch Hazel Elementary School.

Verizon currently provides, and will continue to provide, telephone services in the plan area. Existing lines are located in SE Witch Hazel Road, SW Lone Oak, SW Davis Road, SW Davis Court, SW Pheasant Street, SW 234th Avenue /Century Boulevard and River Road, with a new

line located along SW 247th/Brookwood Avenue to serve the new Witch Hazel Elementary School.

More information on the existing infrastructure conditions is found in Appendix C, *Witch Hazel Village – Infrastructure Existing Conditions Report*.⁵

F. Public Facilities

Schools

The Hillsboro School District owns 19.83 acres on the southwest corner of SW 247th/Brookwood Avenue and SW Davis Road. An elementary school is currently being completed on this parcel. The elementary school will replace the existing Witch Hazel Elementary School located along TV Highway and will open in fall 2003. Capacity of the new elementary school will be 660 students (almost double the existing school capacity). The School District intends to co-locate a middle school on the western half of the same site in the future, although no design or schedule for construction of that facility has been established.

Fire/Police/Library

The City of Hillsboro Fire Department currently serves the plan area through an intergovernmental agreement with Washington County.

Current police service is provided in the area by Washington County and the City of Hillsboro.

Library services are provided by Hillsboro's public libraries. Service provision is anticipated to remain at current City service levels. No additional police, fire or library facility expansions are anticipated to serve future population growth of the plan area.

Parks

There are no existing public parks or greenspaces within the Witch Hazel Village plan area. However, the Tualatin River, considered a regionally significant greenspace, is located on the western edge of the plan area. Rood Bridge Park, located along SW Rood Bridge Road, is a 75.10 acre community park located west of the Tualatin River. From the Witch Hazel Village plan area, there is currently no access available to connect the two. The CWS Rock Creek Wastewater Treatment Facility is located between the plan area and Rood Bridge Park. A connecting trail is possible around the southern edge of the wastewater treatment facility site. Rood Bridge Park includes a community meeting house, walking trails, tennis courts, picnic area, and play structure.

The City of Hillsboro service standard for parks requires 10 acres of parkland per 1,000 residents, excluding open space for the protection of natural resources. This city-wide standard includes eight categories of parklands, each serving a different purpose as described in Table 2.

⁵ The *Witch Hazel Village – Infrastructure Existing Conditions Report* reflects existing infrastructure conditions as of fall 2002. Since that time, conditions in the plan area may have changed.

Table 2: City of Hillsboro Park Standards and Definitions

<i>Park Type</i>	<i>Desirable Size</i>	<i>Service Area</i>	<i>Definition</i>
Community Park	12 – 30 acres	2 mile radius	Area of diverse uses, both active and passive including swimming, tennis, walking, picnicking, boating, and enjoying nature.
Linear Park	Varies	Provide equitable access to residents throughout the community	A linear system of open spaces and pathways for pedestrians and bicyclists that use public dedications and easements, creek and river floodplains and rights of way.
Nature Park	10 –100+ acres	Provide equitable access to residents throughout the community	Large, quiet area with trails, wetlands, streams, interpretive, and picnic facilities.
Neighborhood Park	3 – 10 acres	1/2 mile radius	Area to meet the day-to-day recreation needs of a neighborhood including field games, court games, individual sports, play for small children, and picnicking.
Regional Park	200+ acres	10 mile radius or 45 minutes driving time	Area of natural or ornamental quality for active and passive outdoor recreation, including activities that require large spaces not provided in community parks. The activities might include hiking, swimming, boating, camping, picnicking, disc golf, and others.
Sports Complex	20 - 100+ acres	Provide equitable access to residents throughout the community	A sports complex consolidates heavily programmed athletic fields and associated facilities to larger and fewer sites located throughout the community.
Urban Park/ Mini-Park	0 – 1.5 acres	As needed	Small park that serves a specific function for the surrounding population, such as a tot lot or urban plaza
Undeveloped Parkland			Land that has been acquired for future development consistent with the master plan.

SECTION III: COMMUNITY PLAN DEVELOPMENT

A. Public Involvement Outreach

The planning process to create the Witch Hazel Village Community Plan included a significant public involvement effort to ensure that meaningful public input was sought, honest and open opinions were gathered, and a solid sense of community understanding was achieved. A citizens' advisory committee (Task Force) was established to oversee the public involvement process and the development of the community plan. The 15-member Task Force was composed of local interests, providing a broad mix of insight and knowledge of the plan area, and capturing the desires and concerns of current property owners, neighbors and potential developers. The Task Force also provided valuable feedback on the location of proposed land uses, and most importantly, the prescriptive elements needed to achieve their desired outcomes.

A 21-member Technical Advisory Committee (TAC) assisted the Task Force by providing input regarding the service needs to accommodate given development assumptions and conducting periodic review of the technical analysis being performed by the project team (composed of city staff and consultants). The role of the TAC was to test the feasibility of providing necessary and adequate public facilities and services for the proposed land use alternatives. The TAC was assembled with existing and future service providers, along with local, regional and state agency representatives.

The names of the Task Force and Technical Advisory Committee members are listed inside the front cover of this document.

In addition to the input gathered through the Task Force and TAC, information was given to, and input sought from, the general public through one-on-one interviews with several key stakeholders, a series of open houses, and newsletters distributed prior to each open house. Input was also sought from the Hillsboro Planning Commission at key decision-making points throughout the process.

Stakeholder Interviews

Before any alternative development scenarios were created, one-on-one stakeholder interviews were conducted with nine individuals who had expressed a key interest in the project. Those interviewed included developers who had secured options or purchased parcels within the plan area, existing property owners, neighboring property owners, and a commercial realtor who works in the area. Each interviewee was asked a series of questions related to how he/she envisions the plan area developing, what specific land uses he/she would like to see in the plan, what existing aspects of the plan area he/she would like to see retained, and whether he/she had any concerns about future development of the plan area. The issues raised during these interviews varied, but reflected general interests surrounding the location of certain land uses, transportation patterns, and the degree of flexibility versus specificity required to implement the final Community Plan.

Open Houses and Newsletters

Three open houses were held during the planning process. In preparation for each open house, a newsletter was sent to all property owners within the Witch Hazel Village plan area and to residents living within one-quarter mile of the plan area. The newsletters described the planning process, alternative development scenarios, and a summary of comments received from participants.

The **first open house** introduced the public to the project and asked for their input regarding future urbanization of the plan area. Approximately 80 citizens attended the first open house. Participants identified general features they would like to see incorporated into the Community Plan, including:

- Parks;
- Housing for an aging population;
- Bikeways;
- Pedestrian-friendly elements;
- Transit service; and
- Trees.

The **second open house** was held after two “conceptual land use and circulation” alternative development scenarios were created. Approximately 60 citizens attended the second open house, most of whom had attended the first open house. The purpose of the second open house was to seek input from people on what they liked and disliked about each of the two alternative development scenarios and the various components within them.

Comments provided at the second open house were largely related to the ease or difficulty of implementing each alternative given the proposed pattern of land uses and the configuration of alternative transportation circulation systems.

The **third (and final) open house** offered a forum to review the “draft preferred plan” (which resulted from a melding of the two alternative development scenarios) and to begin a discussion of phasing and implementation. Approximately 50 citizens attended this event. The most vocal feedback was primarily centered on transportation system impacts.

Naming Witch Hazel Village

At the second open house, and through newsletters, names for the site were sought. Approximately 15 names were proposed. Through discussion and an informal voting process held at the second open house, the name Witch Hazel Village was selected as the name for the future community. The name is intended to retain the historical identity of the area and to reflect the relationship to the existing and future elementary school as a focal point for the community.

Planning Commission

Throughout the planning process, the project team provided updates to the Hillsboro Planning Commission at work sessions and received feedback regarding the two alternative development scenarios and key development issues. The Planning Commission identified transportation and infrastructure concurrency as key issues of concern, as they had with the previous concept planning effort conducted for Site 55 (West).

A summary of the stakeholder interviews, open house comments and Task Force and TAC meeting notes and newsletters are included as Appendix D.

B. Existing Site Conditions Analysis

The process of creating a successful Community Plan for the Witch Hazel Village plan area began with a thorough understanding of the existing conditions in the plan area, documented in technical background memorandums covering existing transportation, water, sewer and stormwater infrastructure, and the locations of existing public facilities, including schools and parks. This information, summarized in Section II of this Community Plan document, was analyzed by the project team, TAC and Task Force to serve as the foundation upon which the location and type of land use patterns and transportation systems was determined.

Some basic recommendations resulting from this Existing Conditions Analysis included:

Transportation

- Monitor the SW River Road/SE Witch Hazel Road intersection to determine if signalization is necessary. In recognition that the extension of SW Davis Road to SE River Road may reduce volumes at the SW River Road/SE Witch Hazel Road intersection, this project should not be installed in the short term.
- Pursue accelerated funding for a TV Highway corridor study. This study should evaluate alternative capacity measures and provide system improvements to address long-term capacity deficiencies.

Natural Resources

- Preserve wildlife connections between the riparian and upland areas in and outside the plan area to maintain the integrity of wildlife habitat throughout the greater area. In particular, the thin strip of Oregon white oak forest west of the new Witch Hazel Elementary School should be preserved, if possible.
- Preserve riparian corridors and associated upland forest zones of Witch Hazel Creek, Gordon Creek and the Tualatin River to maintain the core habitat areas within the plan area. These areas have already been identified and evaluated by the City's Goal 5 natural resources inventory and Goal 5 protection has now been implemented by the City.

Infrastructure

- Utilize land adjacent to Witch Hazel Creek to provide a community-wide storm water detention facility for a large portion of Witch Hazel Village.
- Transfer and/or install all future utilities provided by private service providers, including gas, electricity, cable and telephone, underground.

Public Facilities

- Continue use of existing public facilities, including library, fire and police protection to serve the area. No new public facilities, beyond the new Witch Hazel Elementary School and the proposed middle school on the same site, are needed to serve the area.
- Seek a pedestrian and bike connection to Rood Bridge Park from this area.
- Follow the Parks Master Plan recommendations for type and size of public parks.

C. Real Estate Market Definition

A sub-regional real estate market analysis was conducted as part of the planning process to assess housing demand and the types of commercial (retail and office) services that could potentially be supported by the Witch Hazel Village plan area and immediately surrounding area, looking at both the short and long term demand. The real estate market analysis established a framework for achieving an economically viable development program by evaluating:

- The primary market area serving the Witch Hazel Village plan area and surroundings;
- Regional, local, and market specific economic trends, affecting the viability of developing Witch Hazel Village;
- Rental housing market trends within the region and designated market area affecting the demand for rental housing within the Witch Hazel Village plan area; and
- Retail, service and office opportunities located near the plan area, combined with an estimation of supportable retail and office space for the plan area.

Housing

Housing is a top priority for the Witch Hazel Village community, as it frames the local demand for commercial development. Given the limited housing development that exists in the plan area today, the viability of commercial activity will likely rely on the new housing that is built in the Witch Hazel Village community. Therefore, it is necessary to determine the housing demand, and then set the commercial goals.

The City of Hillsboro experienced rapid housing growth over the last decade, resulting in a population increase of 63 percent since the 1990 census. The propensity to rent has also

increased during this period as rental apartment construction boomed. The 2000 census reported 48 percent of households in Hillsboro were renter rather than owner occupied, up from 41 percent a decade earlier. For the projected time period of 2001-2006, the housing demand is anticipated to be 33 percent renter-occupied and 67% owner-occupied.

The apartment market in Hillsboro has recently experienced a sharp decline in occupancy rates due to the current regional economic downturn and some over-saturation of the local market. However, a commensurate reduction in new construction starts in the area during the same period is improving vacancy rates. Current achievable rents are generally too low to stimulate new market-rate apartment construction, and rental price escalation will be required before significant new construction starts occur. This will likely take two to four years to occur. A recovery in the apartment market is expected to follow gradually after a rebound in the local economy. Through 2006, the limited demand that does exist for rental units will be concentrated in the 35 to 59 year age range, with household incomes from \$15,000 to \$75,000.

The for-sale owner-occupied housing market has remained fairly strong in Hillsboro despite the economic slowdown, and average sales prices have continued to climb. The overall sales volume has been comparable to previous years, and prices are escalating as homebuilders run out of developable land and interest rates remain at a 40-year low.

Approximately 90 percent of the for-sale market in Hillsboro is comprised of detached single-family homes. In 2001, the 335 condominiums and townhomes that sold accounted for just over ten percent of all housing sales in the City. Sales volumes have remained strong through the current recession, with sales volume concentrated in the \$125,000 to \$225,000 price range. New home construction sales have been concentrated in the \$150,000 to \$275,000 range.

Through 2006, for-sale owner-occupied housing demand is expected to be concentrated in households earning \$35,000 to \$149,000 per year, with the dominant household owner age group being between the ages of 35 and 64.

Despite recent overbuilding of the apartment market and a sluggish economy, the owner-occupied housing market continues at a robust pace, offering a mix of options for the development of the Witch Hazel Village plan area. The propensity to rent and the lack of new apartment complexes in the vicinity of the plan area suggests that a carefully executed multi-family project in the plan area could be successful, if it is well timed, thoughtfully integrated and well designed to satisfy the large unit market. The majority of existing, large unit apartments are located in the Tanasbourne and Quatama areas of north Hillsboro, meaning that a similarly scaled multi-family housing development situated in this part of south Hillsboro would face little direct competition.

During the past two years, there have been 876 detached and 363 attached homes built in Hillsboro. The projected increase in Hillsboro area households overall during the next five years is anticipated to stimulate demand for owner-occupied housing in and near the Witch Hazel Village plan area by approximately 354 units per year. New condominiums or townhomes will be able to achieve prices higher than the re-sale of existing housing stock selling nearby.

Appropriate product types for the Witch Hazel Village plan area including information with respect to pricing, size, and density are shown in Table 3, Housing and Commercial Product Program Guidance chart.

Table 3: Housing and Commercial Product Program Guidance

Housing Type	Lot Size/ Densities	Price Range	House Size (S.F)	Price/S.F.	Monthly Absorption
SINGLE FAMILY DETACHED					
Patio Lot	12-14/ acre	\$135,000 - \$160,000	1,200 - 1,450	\$110.34 - \$112.50	5-6/ month
Small Lot	8-10/ acre	\$145,000 - \$190,000	1,400 - 2,000	\$95.00 - \$103.57	4-5/ month
Move-Up	4-6/ acre	\$180,000 - \$220,000	1,800 - 2,600	\$84.62 - \$100.00	3-4/ month
ATTACHED FOR-SALE					
Townhome	12-15/ acre	\$135,000 - \$150,000	1,200 - 1,500	\$100.00 - \$112.50	2-3/ month
Luxury Townhomes	10-13/ acre	\$160,000 - \$210,000	1,300 - 1,800	\$116.67 - \$123.08	1-2/ month
Condo Flat	22/ acre	\$120,000 - \$145,000	980 - 1,300	\$111.54 - \$122.45	4-5/ month
RENTAL APARTMENTS					
Garden Apartments	25/ acre	\$650 - \$1,100	650 - 1,200	\$0.92 - \$1.00	22-24/ month
COMMERCIAL					
Convenience Retail	25-30% coverage	\$16 - \$18 NNN	n/a	n/a	n/a

Commercial Retail/Office

The Portland-Vancouver metropolitan area’s commercial market has not been as severely affected by the region’s economic weakness, as retail sales are a function of buying power as opposed to employment. Current retail rent levels in the Hillsboro area range from \$6.00 to \$16.00 per square foot, depending upon the strength of the commercial center and location within the center.

Commercial development within Witch Hazel Village plan area will draw from a much smaller geographic and population base than the residential component. The primary trade area that will attract customer sales is largely defined by the accessibility of the plan area to the larger region. A significant amount of commercial services already exists along and north of TV Highway, making it unlikely that most consumers will cross the highway and travel into the Witch Hazel Village plan area to shop. Therefore, retail establishments will need to be primarily supported by the population south of TV Highway and in the rural residential areas surrounding Witch Hazel Village. However, the potential customer base south of the plan area is limited because it is at the edge of the UGB and, therefore, has fewer people, than inside the UGB, who can be drawn in as potential customers.

The commercial trade area, within which the Witch Hazel Village plan area lies is roughly defined by TV Highway and Baseline Road to the north, Dairy Creek and the Tualatin River to

the west and northwest, the Washington County line to the southwest, the Tualatin River to the southeast, and Grabhorn Road and SW 209th Avenue to the east.

Analysis indicates that this commercial trade area could support approximately 337,000 square feet of retail space today. By 2006 the supportable space grows to approximately 342,000 square feet. Focusing solely on retail grocery, the most likely retail type for the plan area, the trade area could support approximately 144,000 square feet of grocery. The demand for a large-scale retail component is more than being met by existing retail development north of TV Highway. Consequently, there is no need for a large-scale retail component or a large grocery store within the Witch Hazel Village plan area. Potential may exist, however, for a smaller more specialized grocery anchor or a small neighborhood convenience store to serve residents of the plan area. Retail businesses within the plan area will have to be supported almost entirely by the surrounding development, meaning a small retail center with several small tenants (i.e., Papa Johns, Blockbuster Video, 7-11, etc.) would be suitable. Examples of representative commercial development are shown in table 4.

Table 4: Potential retail tenants for Witch Hazel Village

Retail Type	Examples
Convenience grocer	7-11, Plaid Pantry
Take home food	Papa Murphy's, Bellagio Pizza, Deli
Drug	Walgreen's, Rite Aid
Food Related	Bakery, coffee store
Home	Card shop
Service Office	Residential broker, travel agent, copy shop, mailing center
Medical Office	Dentist, chiropractor, optician

This list is not a comprehensive list of potential tenants, but is intended to represent the prospective scale of achievable development within the plan area.

Analysis indicates that the scale of supportable tenants is certainly “neighborhood serving” and modest at best. As grocery stores are typically considered necessary anchors for a neighborhood-scale shopping center, the most likely configuration would be a mixture of convenience retail and “neighborhood serving” service tenants. While the commercial trade area can support an estimated 337,000 square feet of space, most prospective tenants would prefer a site with proximity and exposure to/from TV Highway. As a result, a retail concentration in the Witch Hazel Village plan area is expected to be small, in the 15,000 to 35,000 square foot range. Additional commercial development beyond the retail component described above could include accessory service and medical office, increasing the commercial concentration. The potential for combined live-work spaces is considered limited, but some of this type of development may be supportable.

More information on the market analysis can be found in Appendix E, *Technical Memorandum - Residential and Retail Analysis for Witch Hazel Village in Hillsboro, Oregon*

D. Guiding Principles Identification

Hillsboro 2020 Vision

To launch the creation of alternative development scenarios for the Community Plan, the TAC and Task Force were asked to identify principles and strategies they thought important to incorporate in any design. Members of the Task Force emphasized that applicable sections of the Hillsboro 2020 Vision should be first to guide the creation of the community. The applicable vision statements include the following elements:

Enhancing Neighborhoods and Districts

- a. Sidewalks and Bike Path System
 - Complete an integrated system of sidewalks and bike paths to serve the entire city, improving neighborhood connections, recreation options and safety.
- b. Alternative Transportation
 - Establish a coordinated system of public and private buses, shuttles and trams connecting large neighborhoods and major retail and employment areas.
- c. Third Places
 - Provide and encourage attractive and accessible “third places” where citizens can meet and talk informally.
- d. Diverse Housing
 - Promote a diversity of housing by type and cost.
- e. Future Parks and Open Space
 - Acquire additional property for future parks and open spaces.
- f. Neighborhood Parks System
 - Identify and develop a system of neighborhood parks, located within walking or biking distance of every community resident.
- g. Landscaped Areas
 - Promote development of landscaped areas throughout the community.

Preserving the Environment

- a. Greenways, Creeks and Wetlands
 - Inventory, designate and, as appropriate, acquire major greenways, creeks and wetlands in the Hillsboro area for future protection and preservation.
- b. Stream Restoration
 - Establish a community-wide stream restoration program.
- c. Wildlife Habitat
 - Identify and promote the restoration of wildlife habitats in the community.
- d. Clean Air and Water
 - Maintain clean air and water resources, and control noise and visual pollution.
- e. Environmentally Friendly Construction

- Educate, encourage, and demonstrate the use of environmentally friendly construction techniques and products for use in Hillsboro.

Neighborhood Identity Characteristics

The Task Force identified neighborhood identity characteristics that were important to consider when creating the Community Plan. Individual members contributed concepts, ideas, and examples (images and photos of real places) to the list of neighborhood characteristics. Task Force members identified several developments in the Hillsboro area that they thought exhibited positive attributes appropriate for Witch Hazel Village, including: Singing Woods, the Meadows, Jackson School, Jones Farm, and Orenco Station. Although there was general agreement regarding the desired neighborhood identity characteristics, the Task Force as a whole was not asked to and did not endorse them. The desired neighborhood identity characteristics identified by the Task Force fell into six categories, including:

Transportation

- Curbs and sidewalks
- Parking strips with trees
- Some curves in streets – avoid straight line grid look
- Traffic calming devices (stop signs, speed bumps) to prevent main streets from becoming high speed, dangerous roads.
- Limit use of speed bumps
- Pedestrian tunnels under roads (e.g., under River Road)
- Network of pedestrian and bicycle pathways integrated with neighborhood centers and parks

Parks and Green Spaces

- Can be small, unusable corners between lots
- Play equipment, picnic tables, and benches throughout, such as along pedestrian paths
- Have a few parking spaces for park users
- Connections to natural open spaces from the residential, retail/employment and civic uses

Housing

- Avoid cookie cutter look – vary housing design, plans
- Multiple types of single family detached housing with multiple elevations
- Mix of housing types
- Vary colors
- Mix multi-family among single-family tastefully
- Design affordable housing in small pockets, next to transit, but limit the amount
- Housing appropriate for first time homebuyers
- Housing appropriate for seniors

Urban Design/Character

- Country feel, not urban
- Provide opportunities for social interaction to occur both indoors and outdoors
- Cohesive design throughout
- Develop little communities within the plan area
- Provide a sense of community, stay in the community throughout the years
- Mix youth with seniors
- Encourage a safe environment for residents to travel and interact through visually accessible public spaces [Crime Prevention Through Environmental Design (CPTED)]

Trees, natural vegetation

- Preserve and utilize existing trees as part of the development – does more to distinguish higher end developments from cheaper, less desirable subdivisions than any other single factor
- Maintain wetlands or other attractive vegetation as green areas, parks or along walkways – adds considerable class to the area and helps insure upkeep

Miscellaneous

- Design of multiple mailbox/newspaper boxes - can be attractive, or eyesores
- Entry areas/signage - can add class or look neglected
- Neighborhood association
- Encourage attractive landscaping within highly visible areas to create greenways

Design Principles

The TAC reviewed the design principles that were used in the previous (1998) planning process for the larger South Hillsboro plan area and modified those principles to be appropriate for the smaller Witch Hazel Village plan area. The design principles are as follows:

Transportation

- An integrated hierarchy of arterials, collectors, & local streets.
- Connections to the existing street system.
- Bike and pedestrian connections within the plan area and to the existing street system.
- Design 234th/Century Blvd, 247th/Brookwood Avenue and any new east-west collector to accommodate all modes, including buses, to expand options for future transit service. Design a street system that connects all modes to transit on TV Highway and to the regional light rail system.
- Potential transit connection to Hillsboro's Employment and Town Centers at Orenco and Tanasbourne.

Land Use

- Create a neighborhood center with a mix of residential, retail/employment and civic uses.
- Community oriented housing mix to serve every stage of life.
- Creation of appropriately sited housing as transition to rural lands and natural areas.

- Co-location of civic/institutional facilities (parks/schools, etc.) in residential neighborhood centers.
- Preservation and expansion of natural areas and open space with the inclusion of neighborhood park(s) to serve as an organizing element of the neighborhood.

Natural Systems

- Integrate natural drainage ways and significant vegetation into the development pattern to serve as transitional buffers, including pedestrian linkages.
- Locate neighborhood park(s) adjacent to natural drainage ways to enhance surface water quality and manage storm water.
- Land use patterns conducive to water conservation and effective surface water management.

E. Alternatives Creation

The creation of the Witch Hazel Village Community Plan involved a three-step approach:

- Step 1: Conceptualization of preliminary alternatives.
- Step 2: Assembly into draft alternatives.
- Step 3: Refinement into a draft final preferred alternative.

The first step involved the project team conducting a two-day design workshop to create two distinctly different alternative development scenarios for the plan area.

The design workshop commenced with an overview of the existing conditions analysis, design principles, Hillsboro 2020 Vision, and requirements of the Metro UGM Functional Plan. The next step was to assess the market potential for commercial needs to determine how large a retail component should be included in the alternative scenario creation.

Transportation opportunities in the plan area were also studied, with an early determination that SW 229th Avenue (east), SW 247th/Brookwood Avenue (central), and SW River Road (west) should serve as the primary north-south routes, and SW Davis Road, SE Witch Hazel Road and SE Alexander Street would best serve as the primary east-west routes. The realignment of the SW 247th/Brookwood/TV Highway and SE Witch Hazel Road/TV Highway intersections into a traditional four-way intersection was determined to be a necessity. The concept of extending Alexander Street, west for the purposes of relieving existing and future congestion on Davis Road and Witch Hazel Road was also identified as a desirable option.⁶

⁶ The future westward extension of Alexander Street is shown in the City's adopted TSP (1999).

The project team then started illustrating and testing several different land use and transportation configurations and assessing the feasibility of various components and alternative relationships within each of them, until they reached consensus on two final configurations, each of which produced similar housing unit and commercial square footage yields, as illustrated on the accompanying Table 5.

Table 5: Land Use Comparison - Alternatives A and B

	Alternative A	Alternative B
<i>Residential Land Uses (acres)</i>		
Low Density	67	59
Medium Density	39	41
High Density	16	11
Total Residential Acres	122	112
Total Dwelling Units	1123	1018
Total Population	3099	2809
<i>Other Land Uses (acres)</i>		
Mixed Use	5	9
Community Service/Schools	18	16
Civic	2	3
Active Park	8	17

Preliminary Alternatives

Alternative A: Mainstreet Theme

Alternative A, envisioned a traditional grid pattern with a mixed-use mainstreet theme located along SW 247th/Brookwood Avenue, with housing, civic, office and commercial uses. The housing types would be more compact and densities higher adjacent to the main street, and become less compact with lower densities moving west and east away from the center (to SW River Road and SW 234th/Century Boulevard). A community scaled civic attraction was envisioned on the southeast corner of SW Davis Road and SW 247th/Brookwood Avenue, to complement the new Witch Hazel Elementary School located on the southwest corner of that same intersection, and provide a “third place” where neighbors can gather. Potential uses considered for the civic site included a church or community garden. The residential blocks throughout the plan area were scaled to achieve optimum platting and housing flexibility (approximately 200-400 feet by 230 feet), anchored by neighborhood scaled parks in the west and east portions of the plan area, creating two distinct pocket neighborhood sectors north of SW Davis Road and south of SE Alexander Street.

In Alternative A, SE Alexander would be extended westward, crossing Witch Hazel Creek and connecting to SW River Road. Roundabouts located on SW Davis Road, at SW River Road and SW 234th/Century Boulevard were included to calm traffic and create key entry statements. A traffic circle was also located at the intersection of SW 247th/Brookwood Avenue and SW Davis Road, in front of the new Witch Hazel Elementary School. The portion of SW 247th/Brookwood

Avenue from TV Highway leading into the plan area was designed to be a greenstreet boulevard, emphasizing a pedestrian orientation with a divided roadway and limited access off SE Witch Hazel Road. A limited access (right turn only) off SE Witch Hazel Road was envisioned to reduce the conflict with the traffic stacking northbound on SW 247th/Brookwood Avenue, south of the railroad tracks. Alternative A is shown in Figure 5.



Figure 5: Alternative A Mainstreet Theme

Alternative B: Village Theme

Alternative B, shown in Figure 6, incorporated a radial street design emphasizing a market village theme north of SW Davis Road. The center of the neighborhood would be at SW Davis Road and at SW 247th/Brookwood Avenue and include a strong civic plaza in a crescent shape. North of the intersection and the civic plaza, there would be a ring of mixed-use development, then a ring of high-density housing radiating away from the center and into medium-density residential development. The scale, compactness, and densities would be lowered as each concentric ring extends out to the farthest edges of the plan area. South of SW Davis Road, the land uses would transition from medium to low-density residential. The Hillsboro School District school site would be reconfigured so that the future middle school could be located south of the new Witch Hazel Elementary School, rather than west of the elementary school where it is currently envisioned, with active park land and ball fields located west of the elementary school to support more convenient and expanded local neighborhood access and use. As with Alternative A, a civic component would also be located on the southeast corner of SW Davis Road and SW 247th/Brookwood Avenue.

The crescent civic plaza was envisioned to serve as a “third place” as described in the Hillsboro 2020 Vision, with accommodation of a variety of programmed neighborhood activities. The area would be designed to permit closure of streets and diversion of traffic during special events. From this central area, tree lined pedestrian allee’s (a narrow passage or walk bordered by rows of trees or bushes) would lead diagonally to diamond shaped traffic diversions (garden parks) in the west and east portions of the plan area. At the garden parks, the greenways would extend east and west as wide pedestrian oriented parkway lanes, terminating in neighborhood parks that would all be visible in sequence from the civic plaza.

SE Alexander Street would extend to the west, and curve south, eventually connecting to SW Davis Road at a roundabout, short of reaching SW River Road without crossing Witch Hazel Creek. As SE Alexander Street runs along Witch Hazel Creek, it would be designed to permit all people in the neighborhood to have access and enjoy the open space of the natural areas, ensuring maximum visibility and safety. A similar street would run along Gordon Creek in the southeastern portion of the plan area.



Figure 6: Alternative B Village Theme

Reviewing the Preliminary Alternatives

The two preliminary alternatives were presented to the Task Force, TAC and public-at-large during the second open house. In general, discussions of Alternatives A and B were primarily focused on comparing the ease of implementation, with concerns expressed that Alternative B with its radial configuration would be more difficult to implement in uncontrolled phases. Open house attendees felt development of the entire plan area all at once would not be feasible, as not all property owners want to see their property developed immediately, or in the foreseeable future.

The transportation system proposed for each alternative also stimulated considerable discussion. Although some open house attendees agreed that the radial street pattern in Alternative B would reduce traffic speeds, others worried that it might require dedication of more developable land for street rights-of-way. The “potential commuter route” created by connecting SW 247th/Brookwood Avenue to SW Davis Road to SW River Road in Alternative A raised concerns about the amount of traffic that would pass directly in front of the new Witch Hazel Elementary School.

The amount of parks/open space illustrated in both alternatives also raised some concerns. Those concerns included:

- The location of parks, including the specific locations on people’s property;
- The separation of passive and active park lands;
- The feasibility of acquiring the amount of park land identified; and
- The need for all park land identified.

Refining the Draft Final Preferred Alternative

After receiving feedback from the Task Force, TAC and public-at-large during the second open house, the project team met twice to assemble a draft preferred alternative from the two preliminary alternatives. At the first refinement meeting, the project team reviewed the Task Force, TAC, and public comments with particular attention focused on the desire to pursue a blended composite incorporating the best elements of both alternatives. After identifying the specific number of dwelling units and acreages for each type of housing type, the project team met again to review the ‘blended’ plan and make further refinements. As part of this second refinement meeting, the project team met with key developer representatives (who had already assembled land within the plan area) to solicit further feedback regarding the feasibility of the evolving plan and to discuss the nature and degree of flexibility that would be permitted in the implementation of the final preferred plan.

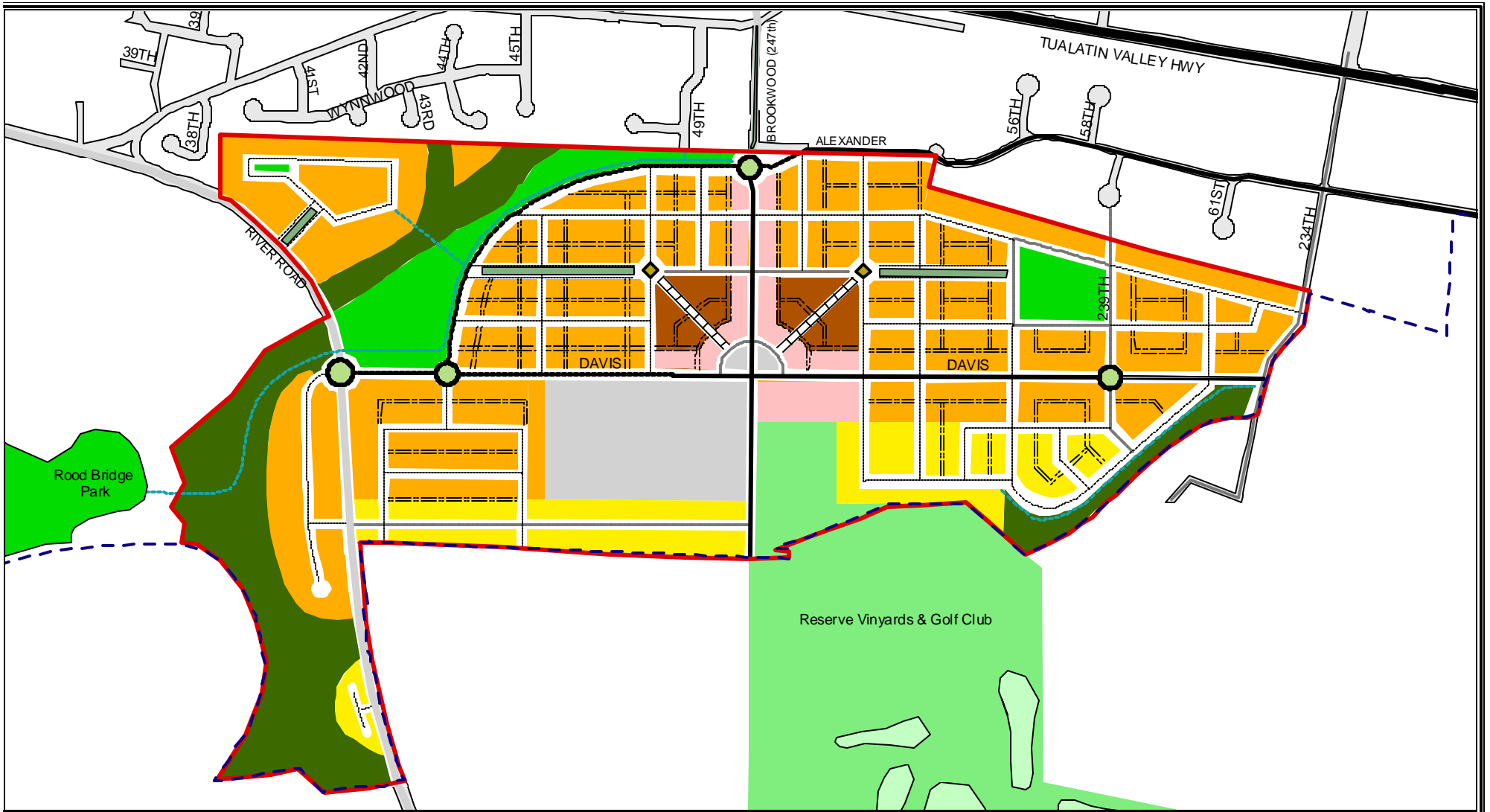
The draft final preferred alternative included the crescent plaza at the core of the community and sought to bring together the highest-density compact housing, mixed-use commercial, and civic activities at this core. From the plaza intersection at SW Davis Road and SW 247th/Brookwood Avenue, moving northwest and northeast, tree lined pedestrian allee’s would bisect high-density housing blocks and move outward to diamond-shaped traffic controlled intersections. Heading east and west from the diamonds would be 40-foot wide parkways dividing one-way travel lanes in each direction. These parkways lead to a more active

neighborhood park in the east portion of the plan area, and a more passive natural neighborhood park on the west edge along Witch Hazel Creek.

The final draft preferred alternative retained a “mainstreet” emphasis, with a north-south commercial and mixed-use alignment along SW 247th/Brookwood Avenue as well as east and west of the civic plaza along SW Davis Road. A mixed-use zone was proposed to provide a mix of residential, retail and office uses in the core of the neighborhood. The mix of uses could occur vertically, with the ground floor being a retail business and the top floor being an apartment, or horizontally with housing located next door to an office building. Since the immediate development of the intersection at SW 247th/Brookwood and SW Davis Road is key to the success of creating a 2040 neighborhood, it is important to promote development in this area immediately. However, since neighborhood retail and services typically follow residential development, any employment would likely not occur until the residential land uses are built out. The mixed-use zone would allow commercial uses to evolve as the market dictates rather than force development prematurely.

SE Alexander Street would extend southwest, turning south before crossing Witch Hazel Creek, to connect with SW Davis Road at a roundabout. A larger roundabout at SW Davis Road and SW River Road is envisioned to manage and slow traffic along SW River Road. The majority of land uses within the plan area would be designated medium-density, including the area west of SW River Road, to permit the widest range of housing types and income levels to be accommodated in the community. Smaller quantities of high-density housing would be located at the core and low-density housing located on the edge of the UGB to ensure that the overall average density of 10 dwelling units per net acre would be achieved.

A uniquely designed pedestrian-oriented diverse street hierarchy in the draft preferred alternative included local streets, neighborhood streets, collectors, and arterials – all carefully designed to emphasize pedestrian safety, comfort and convenience. No automobile traffic was proposed to cross over Witch Hazel Creek or Gordon Creek. Both creeks, however, would have bike and pedestrian paths. North of the plan area, SE 49th Avenue was proposed to connect through to the plan area as a bike and pedestrian path and emergency access only. The draft final preferred alternative is shown in Figure 7.



Witch Hazel Village
Figure 7: Draft Preferred Alternative
 Plot Date: December 2, 2002



Legend

Land Uses

- Low Density Residential (3-7 Units Per Acre)
- Medium Density Residential (8-16 Units Per Acre)
- High Density Residential (17-23 Units Per Acre)
- Mixed-use Overlay
- Public Facility
- Private Golf Course
- Open Space
- Parks

Existing Streets

- Local Street
- Neighborhood Route
- Collector
- Arterial
- Principal Arterial
- Street Right of Way

Proposed Streets

- Local Street
- Neighborhood Route
- Collector
- Alley
- Alley

Proposed Features

- Bike/Pedestrian Trail
- Greenway
- Landscaped Median
- Traffic Diamond
- Roundabout

Base Map Information

- Witch Hazel Village Planning Area
- UGB

SOURCE:

City of Hillsboro Planning
 City of Hillsboro GIS - Current as of December, 2002
 Aerial Photography - Current as of July 2002
 METRO's Regional Land Information System (RLIS) - Current as of December 2002

DISCLAIMER:

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After creating the draft final preferred alternative, it was presented to the Task Force, TAC, and to the public for review in a final open house. In addition, the project team communicated with the developers regarding the plan elements.

Public feedback on the draft final preferred alternative stimulated strong concern from several property owners in the existing subdivision to the north of the plan area and some directly affected property owners about the transportation impacts of the western extension of SE Alexander Street and the realignment of the SW 247th/Brookwood Avenue/TV Highway and SE Witch Hazel Road/SW 247th/Brookwood Avenue intersections into one traditional 4-way intersection.

Key transportation concerns focused on:

- The amount of traffic and noise from both cars and trucks on both SE Alexander Street and SW 247th/Brookwood Avenue. Residents in the existing neighborhood north of the proposed SE Alexander Street alignment indicated that, with appropriate sound and visual buffers (i.e., not just a brick wall), they would be less apprehensive about the extension.
- The impacts of the proposed SW 247th/Brookwood Avenue/TV Highway and SE Witch Hazel Road/SW 247th/Brookwood Avenue intersections realignment, specifically the inability to turn left onto SW 247th/Brookwood Avenue from SE Witch Hazel Road. Comments were made that creating a “right out” only onto SW 247th/Brookwood Avenue from SE Witch Hazel Road would, in essence, close off SE Witch Hazel Road and force extra traffic to use SE Alexander Street. Residents who live off SE Witch Hazel Road also felt that accessing SW 247th/Brookwood Avenue from a proposed roundabout (located at SE Alexander Street) would produce added inconvenience. For those residents already living on SW 247th/Brookwood Avenue, concerns were expressed about additional traffic in front of their homes as a result of the intersection realignment.

Other concerns regarding the draft final preferred alternative related to the open spaces, particularly the open space between Witch Hazel Creek and the new western extension of SE Alexander Street. The open space concerns focused on:

- The ability to purchase open space land at market prices;
- The use of the wetland and riparian area as public space rather than creating private lots that overlook the wetland and riparian area along the westerly extension of SE Alexander Street;
- The safety of children accessing the proposed park area to the northwest of SE Alexander Street; and
- The width of the new SW 247th/Brookwood Avenue.

After the third and final round of public comment, the draft final preferred alternative was revised. In addition, further study of the realignment of the SW 247th/Brookwood Avenue/TV Highway and SE Witch Hazel Road/SW 247th/Brookwood Avenue intersections occurred. The project team concurred that the re-alignment of the SW 247th/Brookwood Avenue/TV Highway and SE Witch Hazel Road/SW 247th/Brookwood Avenue intersections will impact the traffic on the western extension of SE Alexander Street. The project team also determined that the

amount of traffic and noise impacts on SE Alexander Street could be mitigated through design and traffic controls, combined with sound and visual buffers.

A progress review by the Task Force and TAC of the draft final preferred alternative occurred in January 2003. Although refinements to the draft final preferred alternative did not resolve all concerns of the Task Force, TAC and public, the Task Force and TAC agreed that some issues would resolve themselves with time. With this philosophy, the Task Force made recommendations about specific elements in the plan to reduce, but not eliminate, the impacts of some elements of the plan. Those recommendations are included in the description of the final Community Plan in Section IV.

Realignment of SW 247th/Brookwood Avenue/TV Highway and SE Witch Hazel Road/SW 247th/Brookwood Avenue intersections

The realignment of the SW 247th/Brookwood Avenue/TV Highway and SE Witch Hazel Road/SW 247th/Brookwood Avenue intersections and SW 247th/Brookwood Avenue southward to the northern entrance of the plan area at SE Alexander Street pose several problems. The Task Force and TAC reviewed seven options and recommended three alternatives for further study rather than recommend one specific course of action.

a. Defining the Problem

As identified in the Hillsboro and Washington County Transportation System Plan's (TSP's), SW 247th/Brookwood Avenue is to be extended southward and realigned as a standard four-legged intersection with TV Highway, thereby eliminating the off-set SE Witch Hazel Road/TV Highway intersection. The 2025 transportation analysis indicates that SW 247th/Brookwood Avenue will carry about 13,000 vehicles per day in the section immediately south of TV Highway. In order to provide the capacity for these trips, SW 247th/Brookwood Avenue will need to be a five-lane section with two lanes northbound, two lanes southbound and a left turn lane in the section from TV Highway to SE Witch Hazel Road. SW 247th/Brookwood Avenue can be reduced to three lanes south of SE Witch Hazel Road.

With the current roadway configuration, improvements to make this realignment function properly are problematic. If the SW 247th/Brookwood Avenue/TV Highway is made a traditional four-way intersection, the SW 247th/Brookwood Avenue/TV Highway and SE Witch Hazel Road/SW 247th/Brookwood Avenue intersections would be spaced approximately 200 feet apart. The close proximity between the two intersections has the potential for operational and safety deficiencies. The traffic exiting SE Witch Hazel Road eastbound would have difficulty turning left or crossing SW 247th/Brookwood Avenue due to the relatively high volume traffic stream on SW 247th/Brookwood Avenue. In addition, this major intersection is hindered by the Willamette and Pacific railroad tracks located parallel and south of TV Highway, crossing Witch Hazel Road. The intersection realignment will require careful coordination with the ODOT Rail Division to ensure rail standards and requirements are met.

b. Alternatives for addressing the problem

Several alternative configurations were considered for realigning the SW 247th/Brookwood Avenue/TV Highway and SE Witch Hazel Road/SW 247th/Brookwood Avenue intersections in an effort to reduce the impacts on the adjacent neighborhood, create an efficient traffic circulation pattern. The alternatives included:

1. **Allowing full traffic movements at its currently planned location at SW 247th/Brookwood Avenue/TV Highway and SE Witch Hazel/SW 247th/Brookwood Avenue intersections.** As discussed above, this alternative results in unacceptable levels of service and safety.
2. **Realign SW 247th/Brookwood Avenue and SE Witch Hazel Road so that the SE Witch Hazel/SW 247th/Brookwood Avenue intersection is located far enough south of TV Highway, to enable left turns and through movements to be performed in two discrete movements (a.k.a., "two-stage left turns").** Motorists performing these movements would first cross southbound SW 247th/Brookwood Avenue traffic flows, and then in a second movement cross northbound traffic flows. The minimum distance that SE Witch Hazel Road could be located from TV Highway to facilitate this type of traffic control would be 500 feet. This alternative was considered and then discarded due to the heavy impact upon land uses.
3. **Close SE Witch Hazel Road from its intersection with SW 247th/Brookwood Avenue.** This alternative would severely impact local accessibility by allowing no movements to access the existing SE Witch Hazel Road community from SW 247th/Brookwood Avenue. This alternative may require opening other local street connections within the Witch Hazel community to allow an alternative route to SW 247th/Brookwood Avenue. Consideration was given to extending 49th Avenue southward to connect to SE Alexander Street. However, this would severely impact the existing neighborhood due to cut-through traffic.
4. **Provide a traffic signal at the SE Witch Hazel Road/SW 247th/Brookwood Avenue intersection.** This would require that the two signals on SW 247th/Brookwood Avenue at TV Highway and SE Witch Hazel Road be interconnected and synchronized to ensure that traffic queues between the two intersections do not interrupt flow on TV Highway. The additional "yellow" and "all red" clearance time required to accomplish this would increase the "lost time" on TV Highway at the SW 247th/Brookwood Avenue/TV Highway intersection. The presence of a rail track adjacent to TV Highway further exacerbates this situation. In recognition that SW 247th/Brookwood Avenue is one of the higher volume cross streets on TV Highway, this street is a key factor in the overall traffic capacity of TV Highway. The increased lost time involved in synchronizing the SW 247th/Brookwood Avenue/TV Highway intersection with the 247th/Brookwood Avenue/Witch Hazel Road intersection would reduce TV Highway capacity by an estimated ten percent, meaning that the red and yellow lights for traffic on TV Highway would be longer than current conditions. Reduced capacity on TV Highway will increase delays and queues to unacceptable levels. A measure that reduces the capacity would not be consistent with the "statewide highway" designation in the Oregon Highway Plan. Moreover, future traffic volumes entering from SE Witch Hazel Road at this intersection are forecasted to be below the level needed to warrant a signal, thereby making it difficult to plan for a signal at this location.
5. **Build a grade-separated structure to accommodate left and through movements at SE Witch Hazel Road and SW 247th/Brookwood Avenue.** This alternative would be very expensive, especially in recognition of the location of the rail tracks and TV Highway. Based on relatively low traffic volumes from SE Witch Hazel Road, it is very unlikely that the relatively high costs associated with this alternative would be justified.

6. ***Restrict SE Witch Hazel Road movements to right-in/right-out only with the provision of u-turns at the proposed roundabout at the SW 247th/Brookwood Avenue/SE Alexander Street intersection.*** This alternative would help those vehicles that want to access TV Highway, although it does require significantly increased out of direction travel. This alternative meets the minimum criteria for acceptable level of service and safety and is the consulting transportation engineers technical recommendation. When presented to the public at an open house in December, concerns were raised about the amount of out-of-direction traffic that will pass by the residences on SW 247th/Brookwood Avenue, south of SE Witch Hazel Road, for people who want to access TV Highway but must turn right off of SE Witch Hazel Road, head south and then go through the roundabout at the SW 247th/Brookwood Avenue/SE Alexander Street intersection before heading north to access TV Highway. Neighbors along SW 247th/Brookwood Avenue were concerned about the noise and accessibility to their property. Neighbors living west of SW 247th/Brookwood Avenue in the existing neighborhood were concerned about the additional time that would be required to access TV Highway. On the other hand, some neighbors thought that the inconvenience of the right turn only off of SE Witch Hazel Road would deter additional traffic that currently uses SE Witch Hazel Road as a cut-through to TV Highway, effectively reducing the amount of traffic on SE Witch Hazel Road. Technical analysis indicates that the time required to access TV Highway via the roundabout may be significantly less than required if left-turns from SE Witch Hazel Road onto SW 247th/Brookwood Avenue were permitted.

7. ***Restrict SE Witch Hazel Road movements to right-in/right-out only with the provision of u-turns at the proposed roundabout at the SE Witch Hazel Road/SW 247th/Brookwood Avenue intersection and a signal at the SW 247th/Brookwood Avenue/ SE Alexander Street intersection.*** Similar to option 6, this alternative would operate within acceptable level of service standards. This alternative would place the roundabout approximately 400 feet closer to the north, between SE Alexander Street and SE Witch Hazel Road, reducing the amount of time required to access TV Highway and lessening the impact on existing SW 247th/Brookwood Avenue residences. This alternative also provides an opportunity for future access to the industrial area east of SW 247th/Brookwood Avenue from the east side of the roundabout. The alternative may require the purchase of land along SW 247th/Brookwood Avenue, potentially displacing residents and businesses along this section of SW 247th/Brookwood Avenue.

c. Task Force Recommendation

The Task Force recommended that the City initiate a process to study three possible solutions including preliminary engineering. The options are:

- Traffic Signal at SE Witch Hazel Road/SW 247th/Brookwood Avenue intersection (Alternative 4).

- Restrict SE Witch Hazel Road movements to right-in/right-out only with a roundabout at the SW 247th/Brookwood Avenue/SE Alexander Street intersection to facilitate u-turns (Alternative 6).

- Restrict SE Witch Hazel Road movements to right-in/right-out only with a roundabout at the SE Witch Hazel Road/SW 247th/Brookwood Avenue intersection and a signal at the SW 247th/Brookwood Avenue/Alexander Street intersection (Alternative 7).

SECTION IV: THE COMMUNITY PLAN

The following describes the contents and elements of Hillsboro's new Witch Hazel Village Community Plan. The Community Plan will be incorporated into the City's Comprehensive Plan.

The Community Plan identifies the composition and integration of the land uses and transportation system for Witch Hazel Village as well as a description of the type of community that the plan seeks to create. In addition, the Plan identifies:

- Infrastructure and transportation improvements necessary to implement the Plan;
- Costs associated with the necessary improvements;
- Financing strategy to pay for the improvement costs;
- Recommended phasing to implement the Plan; and
- Recommended design standards to guarantee that the plan area is developed as envisioned.

A. Plan Overview

The Witch Hazel Village Community Plan enlivens the future of Hillsboro by crafting a plan that sets the tone for "third places", a central theme of Hillsboro's Vision, by;

- Linking a complex array of land uses with civic places, parks and open spaces throughout the entire site;
- Including a rich mix of neighborhood oriented opportunities for people to shop or recreate near where they live;
- Blending the best attributes of quality design, affordability and scale of housing at the Metro required ten dwelling units per net residential acre; and
- Fully integrating a diverse multi-modal transportation network that emphasizes local service and comfort over regional access and speed - preserving the principle land base for resident uses.

In essence, the Witch Hazel Village Community Plan seeks to create a cohesive community that exudes a sense of place and that people are proud to call "home". The Witch Hazel Village Community Plan provides a signature identity and sense of place unique to its setting and to Hillsboro.

The goal of the Witch Hazel Village Community Plan is to maintain the existing close knit, small town atmosphere that defines Hillsboro. This is achieved by carefully integrating land uses and the transportation system to create a sense of place. Neighborhoods are designed with pedestrian scaled streets and service alleys that calm traffic and promote a safe, comfortable

and convenient walking and biking environment close to the civic spaces, commercial core, schools and recreational opportunities.

Public plazas, parks and open spaces will be visible from almost any location in the community. Streets will be lined with wide sidewalks and canopy trees, leading to linear parks, which will lead to active parks and passive natural open spaces. Natural open space areas located along and between the Tualatin River, Gordon Creek and Witch Hazel Creek will be preserved as wildlife habitat and migration connections between the waterside riparian and upland forested zones.

This unique identity occurs through the careful application of the Hillsboro 2020 Vision's "third place" concept. This concept provides attractive and accessible public settings where people can informally meet and talk.

A community plan map is illustrated in Figure 8. The map shows the land uses and primary transportation network.

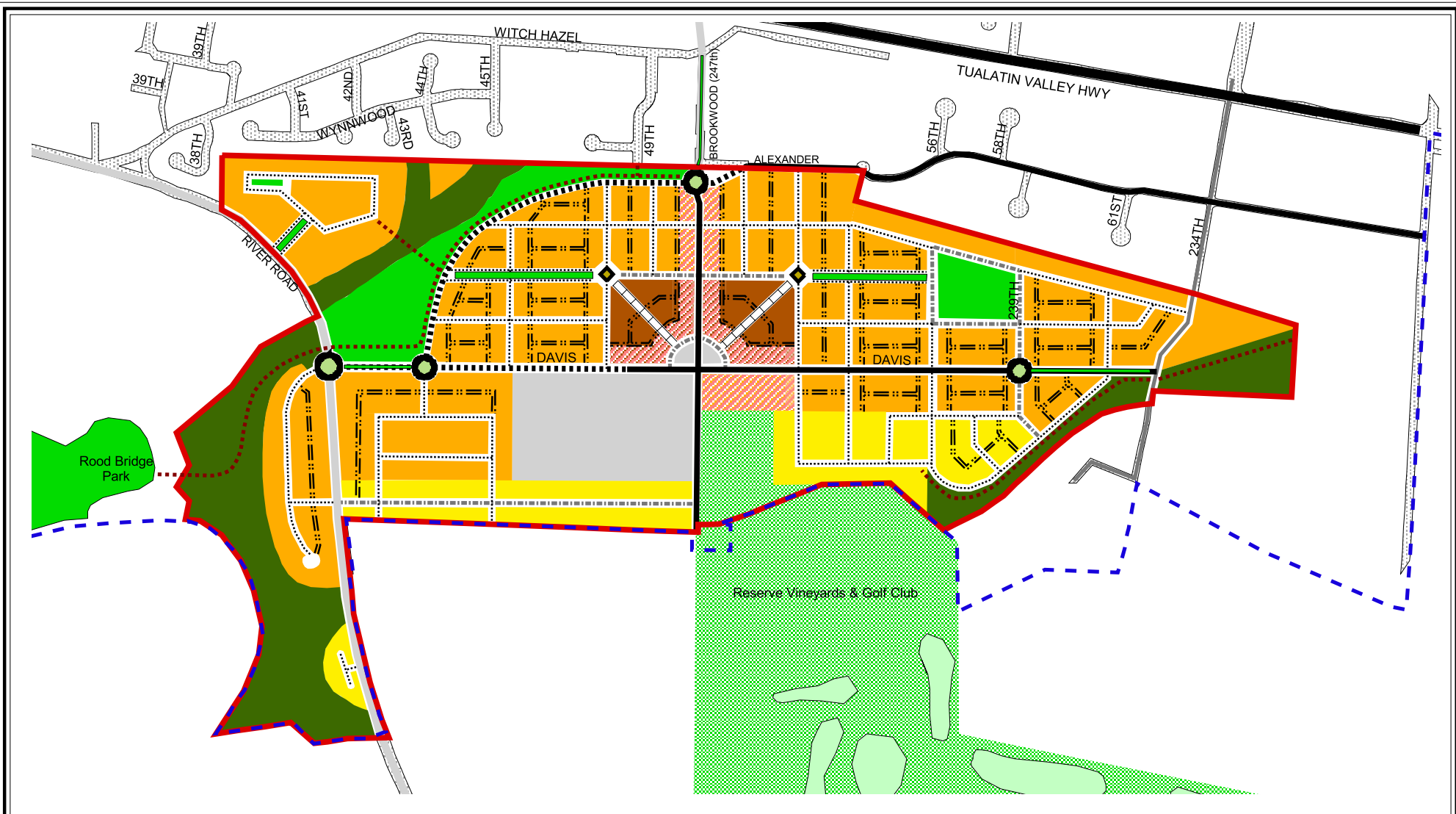


Figure 8: Community Plan Map
 Plot Date: January 15, 2004



Legend

Land Uses

- Low Density Residential (3-7 Units Per Acre)
- Medium Density Residential (8-16 Units Per Acre)
- High Density Residential (17-23 Units Per Acre)
- Mixed-use
- Public Facility
- Private Golf Course
- Open Space
- Parks

Existing Streets

- Local Street
- Neighborhood Route
- Collector
- Arterial
- Principal Arterial

Proposed Streets

- Local Street
- Neighborhood Route
- Collector
- Alley
- Allee

Proposed Features

- Bike/Pedestrian Trail
- Greenway
- Traffic Diamond
- Roundabout

Base Map Information

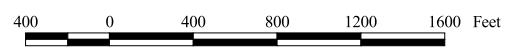
- Witch Hazel Village Planning Area
- Urban Growth Boundary

SOURCE:

City of Hillsboro Planning
 City of Hillsboro GIS - Current as of June 1, 2003
 Aerial Photography - Current as of July 2002
 METRO's Regional Land Information System (RLIS) - Current as of June 2003

DISCLAIMER:

This map is derived from various digital database sources. While care has been taken to insure the accuracy of the information shown on this page, the City of Hillsboro assumes no responsibility or liability for any errors or omissions in this information. All data presented on this map is continually updated and is current as of the dates listed above. This map is provided "as is". Therefore, there are no warranties for this product. The City cannot accept responsibility for any errors. However, notification of errors would be appreciated.



B. Land Uses

Civic Plaza

At the heart of Witch Hazel Village is a half-acre public plaza, the primary “third place” in the community. Located at the intersection of SW 247th/Brookwood Avenue and SW Davis Road, it is proposed as a village style half-circle crescent with one-way travel lanes and tree lined wide sidewalks on its northwest and northeast sides, connecting to curved-face commercial storefront buildings. SW 247th/Brookwood Avenue will bisect the plaza, but will be paved with paving stones to calm traffic and differentiate this part of the main street from the rest of SW 247th/Brookwood Avenue. The plaza is designed to be the central gathering place in the neighborhood. Although not as grand as other regional plazas (i.e., Pioneer Square in downtown Portland), it is designed as a highly adaptable hardscape plaza with street trees, bollards, raised bed plantings, benches and trellises. During the different seasons, this area can be used for events such as concerts, a farmer’s market, and neighborhood event or art festivals. When community events occur in the plaza, bollards can close SW 247th/Brookwood Avenue and traffic can be diverted around the plaza. This will allow the plaza to function as one large space. The Task Force recommended that the City provide public ownership of the civic plaza in order to control the type and quality of development in the plaza.



Commercial (Retail and Office) Uses

Commercial uses in Witch Hazel Village will be provided along two mainstreets. The primary mainstreet setting will be along SW 247th/Brookwood Avenue from SE Alexander Street on the north to SW Davis Road on the south. SW Davis Road, one block either side of SW 247th/Brookwood Avenue, would serve as the secondary crossroad extension of the mainstreet. The intent of the mainstreet concept is to ensure that a sufficient concentration of residents and businesses are assembled in a manner that produces an economically viable and meaningfully scaled gathering place. Ground floor retail or service, such as a retail store, restaurant, coffee shop, pharmacy, grocery store or art gallery, can create street life activity during the day. Office or residential uses on the upper floors can enhance an active street life by providing eyes on the street and encouraging 24-hour activities.

On the Witch Hazel Village Community Plan map, the mainstreet area is shown as high-density residential with mixed-use zoning in three areas:



- Along SW 247th/Brookwood Avenue, north of SW Davis Road;
- Extending east and west from the civic plaza along SW Davis Road; and
- The southeast corner of the SW 247th/Brookwood and SW Davis Road intersection.

Mixed-use zoning would be required for development on the blocks surrounding the intersection of SW 247th/Brookwood Avenue and SW Davis Road, ringing the central civic plaza (both along SW 247th/Brookwood Avenue and SW Davis Road). This mixed-use zoned area would include high-density, minimum two story, housing with a requirement for a minimum number of commercial storefronts to ensure that commercial development occurs around the plaza. The City will finalize the specific provisions of the mixed-use zoning through the creation of mixed-use zones, currently under development. Design standards for the Witch Hazel Village main street include standards that are uniquely suited to Witch Hazel Village. General design standards include:

- Parking behind buildings that front SW 247th/Brookwood Avenue and SW Davis Road;
- Zero front yard setbacks;
- Shared parking that allows a reduction in the required maximum number of parking stalls;
- 50% of street level building frontage facing the plaza shall be commercial uses;
- Provisions for street trees and benches;
- Architectural standards for structures and parking to ensure the proper image as a mainstreet setting; *and*,
- Truck loading operations (i.e., time and service) consistent with that allowed in exclusive commercial developments;

In the northern portion of SW 247th/Brookwood Avenue and the southeast corner of the SW 247th/Brookwood/SW Davis Road intersection, mixed-use zoning or high density residential would be a development option.

Residential

Residential land uses proposed for the Witch Hazel Village Community Plan include three housing categories: low-density, medium-density and high-density mixes. These land use categories are consistent with the City's comprehensive plan designations. The housing mixes suggest that within a density designation, the type of housing will vary so long as the overall density stays within the



designated range. The density of the proposed housing is higher near the mainstreet and civic areas, and decreases in the outer blocks of the plan area.

a. Low-density housing

Consistent with the existing City of Hillsboro Comprehensive Plan, low-density housing is considered three to seven dwelling units per acre, with lot sizes between 6,200 and 14,500 square feet. Twenty-six net acres, 17 percent of the total residential acres, are designated for low-density housing, resulting in approximately 132 dwelling units. The lower density housing is proposed to be located primarily south of SW Davis Road. The low-density housing will likely be all detached single family units.

b. Medium-density housing

Medium-density housing is the predominant residential land use type with 118 designated acres (or 76 percent of the total residential acres), providing approximately 1,419 dwelling units. With densities ranging from 8 to 16 dwelling units per acre (lot sizes between 2,700 and 5,445 square feet), this zoning designation provides the most flexibility for a variety of housing types. Medium density housing includes detached and attached single-family housing and multi-family housing.

c. High-density housing

Eleven acres of high-density housing (seven percent of the total residential acres) are proposed along and adjacent to the main street. With densities between 17 and 23 dwelling units per acre, all high-density housing will be multi-family. High-density housing design types includes garden apartments or condominiums between two and four stories in height. Approximately 227 of the total dwelling units will be of the high-density design type.

Residential land designations are expected to provide approximately 1,779 dwelling units, encompassing 62 percent, or 156 net acres of the total Witch Hazel Village plan area development program. Overall density of the residential acres would be between 11.40 dwelling units per net acre.⁷

Medium Density Housing Examples

Courtyard clusters – housing with 4 to 7 residences clustered together served by a single driveway.

Charleston rowhouse – detached single-family structures that are 2,400 to 2,700 sq. ft. with lots approximately 30 feet wide by 100 feet deep.

Rowhouse – single family dwelling with common walls on the side lot lines.

Subdivided manor – a single structure, appearing as a large single house comprised of 4 to 6 attached units.



High-density housing in Witch Hazel Village is anticipated to be 2-4 stories.

⁷ For the number of residential units provided in the Plan area and overall Plan area density, the number of dwelling units is based on average city density allowable under the comprehensive plan.

Affordable housing

The housing proposed in the Witch Hazel Village Community Plan includes housing affordable to households with incomes at or below area median incomes for home ownership and at or below 80 percent of area median incomes for rental, as required by Metro’s UGM Functional Plan. For households at or below \$51,737, the median annual income in Hillsboro from the 2000 Census, the proposed medium and high-density housing is considered affordable owner-occupied housing.

a. Affordable Housing Calculation

According to HUD guidelines⁸, housing is affordable if annual mortgage payments are no more than 26 percent of the household’s annual income. In Hillsboro’s case, this would equate to \$1,121 per month. David Anderson, Director of Fannie Mae’s Oregon Partnership Office, believes that affordable housing should be dependent on the household’s total debt, not just mortgage debt. He recommends using a total debt range of 35 percent to 41 percent (i.e., \$1,509 to \$1,767) of the monthly gross income to determine the range of affordable housing. Both Fannie Mae and HUD consider the assumptions of a 30-year mortgage at 6.75 percent annual interest rate, and 90 percent financing to be standard lending practices.⁹

Starting with a desired monthly mortgage of \$1,121, or 26% of the gross monthly income, the assumptions were plugged into the Fannie Mae mortgage calculator to identify the range of affordable housing. The mortgage calculator calculated the sales price of a home with a desired monthly mortgage payment of 26 percent of the annual income, as well as identified the monthly payment that they consider to be affordable. Using these assumptions, homes selling for between \$108,560 and \$186,163 are considered to be affordable for those at or below the median annual income. Table 6 specifies the home selling prices using the various assumptions.

Percentage of Mortgage Debt Desired/Actual Dollars of Mortgage Debt Desired	Percentage of Other Debt/Actual Dollars of Other Debt	Affordable Monthly Payment	Home Sales Price
26%/\$1,121	0%/\$0	\$1,552	\$186,163
26%/\$1,121	9%/\$388	\$1,164	\$139,625
26%/\$1,121	N/A	\$1,121	\$134,455
26%/\$1,121	15%/\$647	\$905	\$108,560

⁸ From the Johnson-Gardner, October 2002, *Technical Memorandum – Residential and Retail Analysis for Site 55 (West) in Hillsboro, Oregon*.

⁹ Although current interest rates are much lower than 6.75%, this assumption was used because interest rates are at a 40-year low and expected to increase in the future. Calculating housing affordability using an interest rate below 6.75% results in the high end of the affordable housing range increasing, making more housing affordable to more people.

b. Witch Hazel Village Owner-Occupied Housing Affordability

According to a market analysis completed by Johnson Gardner¹⁰, the types of housing that would represent viable development opportunities, based on the local housing market, are patio, small lot, townhome and condo flat housing. Each of these housing types are within, or below, the high end (\$186,163) of the price range for affordable housing, as shown in table 7. These housing types fall within the medium and high-density comprehensive plan designations proposed in the Plan. Ninety-two percent of the housing proposed in the Witch Hazel Village Community consists of medium and high-density products. Table 8 categorizes the suggested housing type from the Johnson Gardner report by the proposed comprehensive plan designations used in the Plan’s residential allocation.

Table 7: Viable Development Opportunity – Market Analysis

Suggested Housing Type	Density	Price Range
Patio	12-14 units/ gross acre	\$135,000 - \$160,000
Small Lot	8-10 units/ gross acre	\$145,000 - \$190,000
Townhome	12-15 units/ gross acre	\$135,000 - \$150,000
Condo flat	22 units/ gross acre	\$120,000 - \$145,000

The Community Plan does not specifically identify where the affordable housing should be located. Rather, it provides the opportunity for affordable housing by designating the majority of the area medium or high density and, within these designations, allowing a diversity of housing types.

Table 8: Comparison of Housing Types

Comprehensive Plan Designations Proposed in Community Plan	Viable Development Opportunity – Market Analysis
<i>Housing Type (Density)</i>	<i>Housing Type (Density)</i>
Medium Density (8-16 units/ net acre)	<ul style="list-style-type: none"> • Patio (12-14 units/ gross acre) • Small Lot (8-10 units/ gross acre) • Townhome (12-15 units/ gross acre)
High Density (17-23 units/ net acre)	<ul style="list-style-type: none"> • Condo flat (22 units/ gross acre)

Housing within the target price range is achievable in Witch Hazel Village. For example, Centex Homes has built comparable homes in four neighborhoods in Hillsboro and Washington County with base prices starting at \$122,900. Appendix F includes a letter from Centex Homes documenting their success providing affordable housing in Hillsboro, along with examples of some of the building types.

c. Witch Hazel Village Renter-Occupied Housing Affordability

For rental housing, affordability is defined by Metro as “at or below 80 percent of the area median incomes.”¹¹ Using 80 percent of the 2000 Hillsboro median annual income (\$41,390), a

¹⁰ Johnson-Gardner, October 2002, *Technical Memorandum – Residential and Retail Analysis for Site 55 (West) in Hillsboro, Oregon.*

¹¹ Metro Code, Section 3.07.1120.D

family of four can afford a monthly rent of \$1,035.¹² Analysis completed by Johnson Gardner indicates that garden apartments, at a monthly rent of \$650 to \$1,100, would provide affordable housing for renters.¹³ Garden apartments would be permitted in the high-density residential designation, which allows 17-23 dwelling units per net acre.

Affordable housing, both owner and renter-occupied, can be provided in Witch Hazel Village as described above. However, the estimates of affordable housing are based on a snapshot in time, given the current industry standards, interest rates, and land and building costs. Estimates of monthly mortgages are designed to be generic until the specific variables are known. If the interest rates and other related housing costs increase dramatically, the opportunity for housing affordability will decrease.

In addition, the concept of housing affordability is targeted at the first-time homeowner. An individual's ability to purchase a home, especially when interest rates are low, tends to be related to the ability to provide a down payment and other credit issues, not the monthly cost of housing. Although the Metro UGM Functional Plan affordable housing requirement does not allow public subsidies, it is worth noting that there are several programs available to assist with first time home purchases, such as Fanny Mae, Veteran's Administration, and HUD programs.

Parks

The greenspace in Witch Hazel Village has been designed to be accessible from almost any location. The most active public space is the civic plaza, at the heart of the development. Extending out from the civic plaza are allee's, or pedestrian walkways lined with trees. Although the allee's can accommodate auto traffic, they are designed to be primarily an urban greenway providing and designed to provide pedestrian connectivity to the system of parks in the community and are not considered to be part of the primary transportation system.

The allee's lead to small gardens that function as traffic diamonds. The traffic diamonds would be planted with flowers or shrubs, such as the Ladd's Addition Rose Gardens, to provide greenspace near the high-density residential development. Like the allee's, the traffic diamonds are designed to be primarily aesthetic and not a significant element of the transportation system. However, they will serve as traffic calming devices.

The traffic diamonds/gardens connect to linear parkways. The linear parkway lanes are 2.5 acres each and are tree lined lawn areas set between one-way travel lanes. These linear parks are proposed to be visual amenities primarily for low impact uses. Benches and walking paths are the primary improvements proposed for the linear parks.

Tree lined allee' provides a safe walking environment



¹² The amount of affordable rent is 30 percent of the monthly income. This calculation was extrapolated from 2002 HUD income guidelines.

¹³ The Johnson-Gardner report can be found in appendix E.

The linear parkway lanes connect the neighborhood to larger active and passive parkland on the west and east edges of the Plan area. On the west end of the plan area is a 13-acre park site that includes both active parkland and passive natural area uses. Along SE Alexander Street, the park is envisioned to be an active area with pedestrian and bike paths as well as benches and creek overlooks. Closer to Witch Hazel Creek, the area transitions to a more passive setting that will provide protection for the adjacent natural resource area. A meandering footpath crossing Witch Hazel Creek connects the northwest quadrant of the plan area to the remainder of the plan area. Although the footpath is within a park area it is considered an element of the transportation system. The pathway system is designed to provide connectivity through the neighborhood and across SW River Road to a crossing of Rock Creek and access to Rood Bridge Park. This would provide a walking and biking connection between SW 247th/Brookwood Avenue and SE Rood Bridge Road. In the eastern portion of the plan area, there is a four-acre neighborhood park proposed.

Additional natural areas, totaling 48 acres, are primarily Goal 5 significant resource lands along Gordon Creek and the Tualatin River. Foot trails are proposed along Gordon Creek and the Tualatin River in these areas. Trail construction will need to be consistent with the regulations governing significant natural resource areas and Title 3 lands.

There are 66 total acres (27% of the total plan area) designated as active parkland and passive natural open space areas within the Witch Hazel Village Community Plan.

C. Transportation

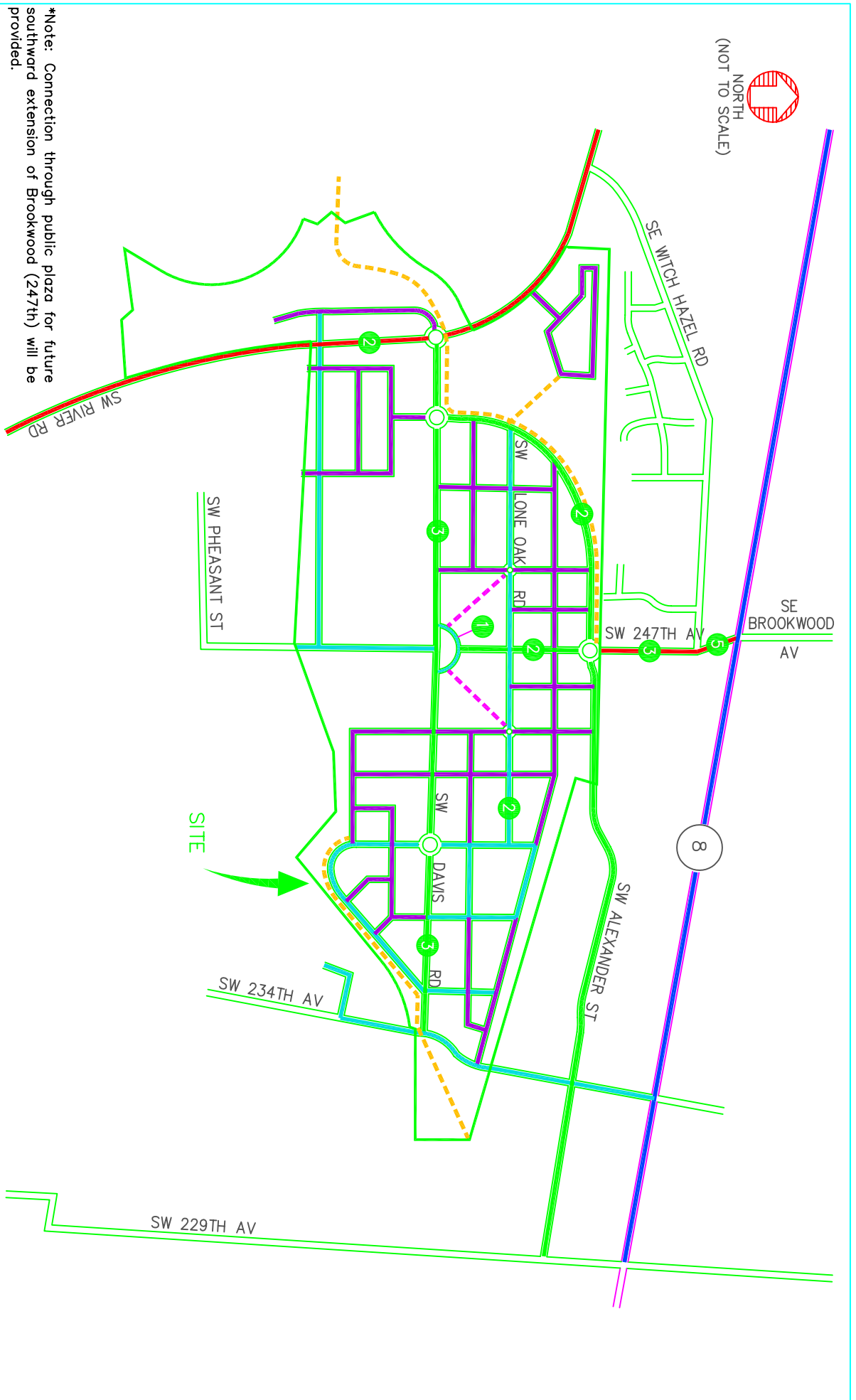
The transportation network proposed to serve Witch Hazel Village is a hierarchy of interconnected streets designed to serve both those who live and work in the community as well as those who need to access TV Highway from areas west and south of the plan area. Primary access through the area is limited to collector streets in order to direct and limit the through traffic from the south and west. Extensions of two roads within the plan area are proposed to direct traffic through the plan area, in both the north-south and east-west directions. SE Alexander Street would be extended southwest, adjacent to, but not crossing, Witch Hazel Creek, to connect to SW Davis Road. The western extension of SE Alexander Street would connect to SW 247th/Brookwood Avenue to the north and SW Davis Road (connecting to SW River Road) on the south to direct traffic through the plan area without passing in front of the new Witch Hazel Elementary School. SW Davis Road would be extended to serve as an east-west collector, connecting SW River Road to SW 234th/Century Boulevard.

The interior transportation network includes a unique system of smaller, pedestrian-oriented streets, intended to encourage increased pedestrian and bicycle travel, reducing the need for the automobile. The hierarchy of streets, as shown on Figure 10 through 14, includes:

- **Arterials:** SW River Road and SW 247th/Brookwood Avenue, north of SE Alexander Street, are designed to move people through the area and connect the plan area to other parts of the region.
- **Collectors:** SE Alexander Street, SW Davis Road and SW 247th/Brookwood Avenue, south of SE Alexander Street, are designed to move people through the site and to provide access to the interior of the plan area. Although designed to accommodate significant levels of traffic, the design of the collectors include traffic calming devices to slow traffic and

opportunities for walking and biking. Features include sidewalks, on-street parking, planter strips and bike lanes. Roundabouts located along SE Alexander Street and SW Davis Road are designed to calm traffic, but not necessarily to increase capacity on these roadways.

- **Neighborhood Routes:** As shown on Figure 9, a number of interior streets are designated as neighborhood routes, designed to provide access from the collectors to the interior neighborhoods in the plan area. These streets are narrower than collectors, and include on-street parking, planter strips and sidewalks.
- **Local Streets:** The local streets provide access to the residential neighborhoods. Streets are approximately 400 feet apart to create walk able blocks.
- **Alleys:** In order to reduce the number of curb cuts required to serve the neighborhoods, alleys are required throughout much of the plan area. Alleys create a more cohesive pedestrian-oriented neighborhood by requiring only one driveway curb cut off the local street to serve multiple houses. Alleys are required in all neighborhoods north of SW Davis Road, and in some of the medium-density and low-density housing proposed south of SW Davis Road. The Community Plan map identifies the specific alley locations.
- **Allee's:** Two urban streets intersect the high-density housing. The allee's double rows of canopy street trees and wide sidewalks are designed to provide a pleasant walking environment. The primary function of the allee's is not connectivity for automobile traffic, but rather for pedestrian and bicycle traffic.



LEGEND

	LOCAL STREET		PRINCIPAL ARTERIAL
	NEIGHBORHOOD ROUTE		ALLEE
	COLLECTOR		BIKE/PEDESTRIAN TRAIL
	ARTERIAL		NUMBER OF LANES

STREET NETWORK
 WITCH HAZEL VILLAGE COMMUNITY PLAN
 HILLSBORO, OREGON
 MAY 2003

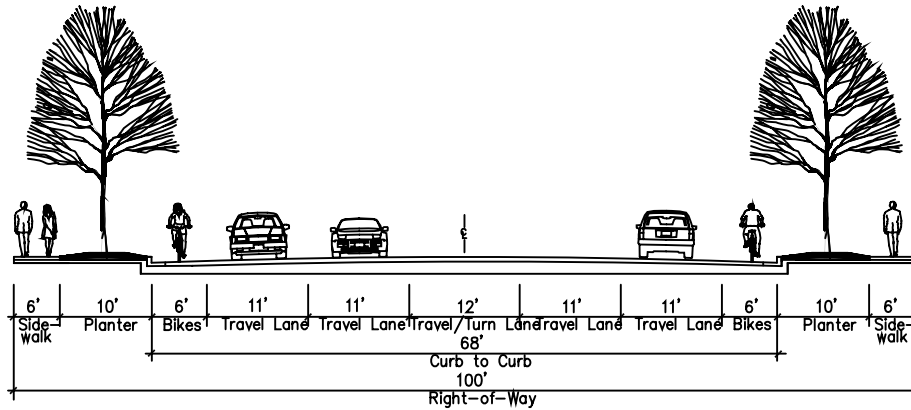
FIGURE
9

All streets are proposed to have sidewalks, and many are designed with bike lanes. Sidewalks will be separated from the auto lanes by planting strips to provide a safer pedestrian environment. Cross sections of the streets are shown on Figures 10 – 14. Although not included in the proposed street cross sections, “green street” techniques to reduce the impact from stormwater runoff should be applied to streets on a case-by-case basis. Because of the limited soil permeability in the plan area, it may not be feasible to apply green street techniques throughout the plan area. Potential streets where application may be feasible include the western extension of SE Alexander Street, adjacent to Witch Hazel Creek, and the local and neighborhood streets adjacent to Gordon Creek.

Additional pedestrian/bike facilities are proposed along Witch Hazel Creek and Gordon Creek. In addition, a pedestrian/bike bridge will cross over Witch Hazel Creek providing access to the neighborhood north of the creek and connecting the plan area to Rood Bridge Park. The pedestrian/bike trail along Gordon Creek provides access to the natural area along the creek and, may in the future; connect to neighborhoods east of the plan area.

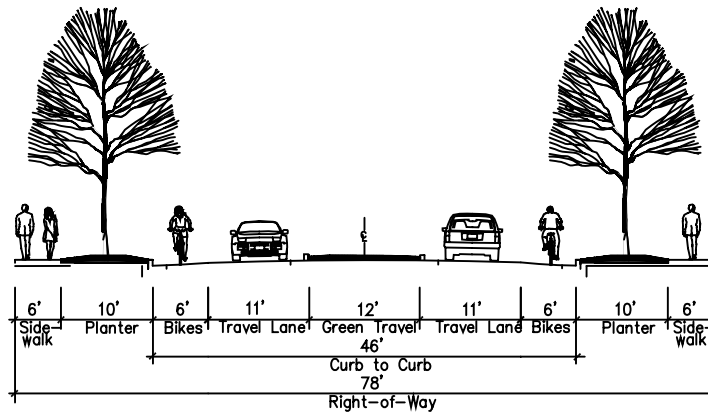
The area will have limited local transit service. Although regional transit service is available along TV Highway, it will not serve the plan area in the short to mid term due to lack of funding for additional local transit service.

1



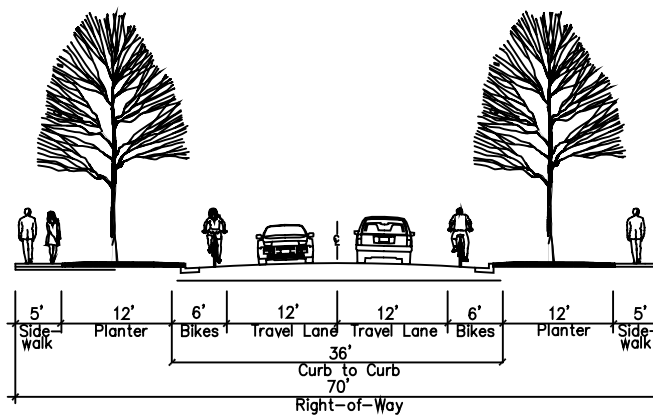
BROOKWOOD (247th) ENTRY
(TUALATIN VALLEY HWY TO WITCH HAZEL)

2



BROOKWOOD (247th) ENTRY
(WITCH HAZEL TO ALEXANDER)

3



RIVER ROAD

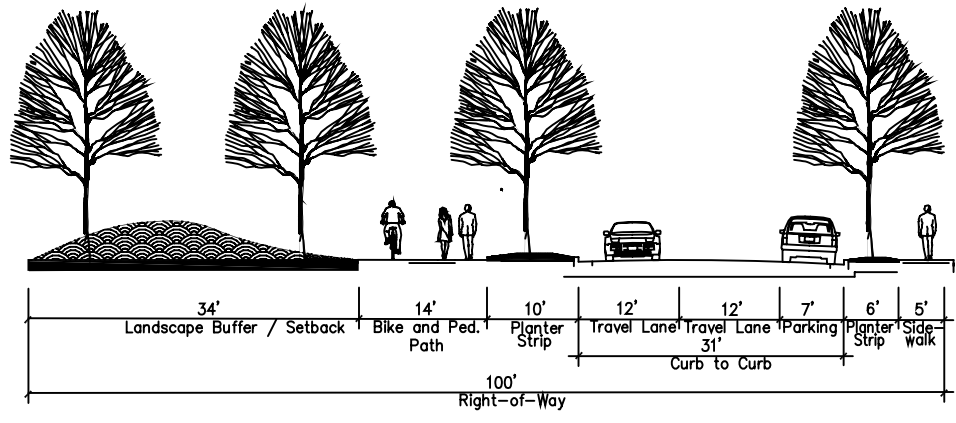
ARTERIAL CROSS SECTIONS

WITCH HAZEL VILLAGE COMMUNITY PLAN
HILLSBORO, OREGON
MAY 2003

FIGURE
10

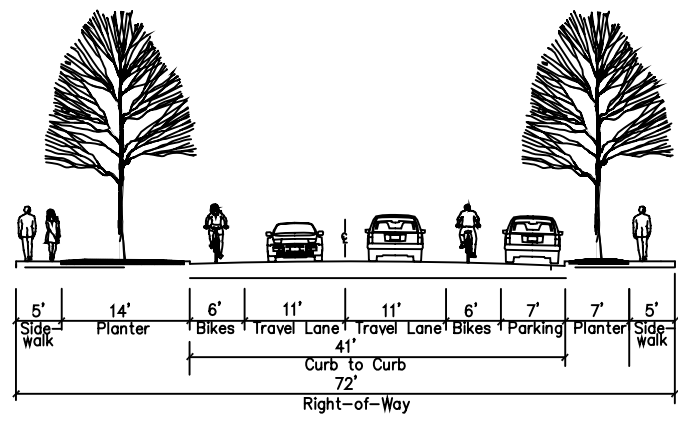


4



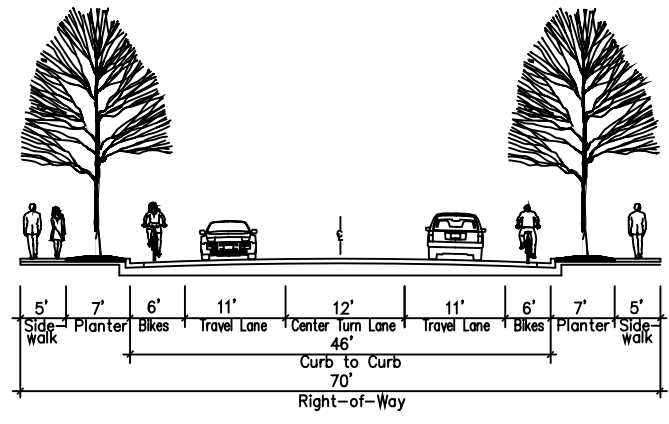
ALEXANDER WEST OF BROOKWOOD (247th)

5



ALEXANDER EAST OF BROOKWOOD (247th)

6

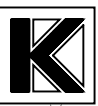


DAVIS ROAD "A"
BETWEEN ROUNDABOUTS

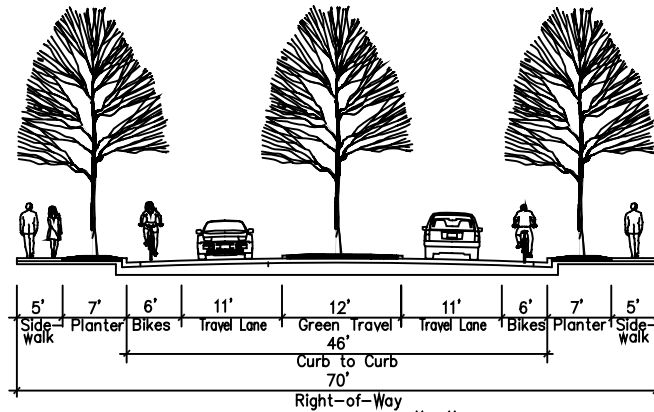
COLLECTOR CROSS SECTIONS

WITCH HAZEL VILLAGE COMMUNITY PLAN
HILLSBORO, OREGON
MAY 2003

FIGURE
11

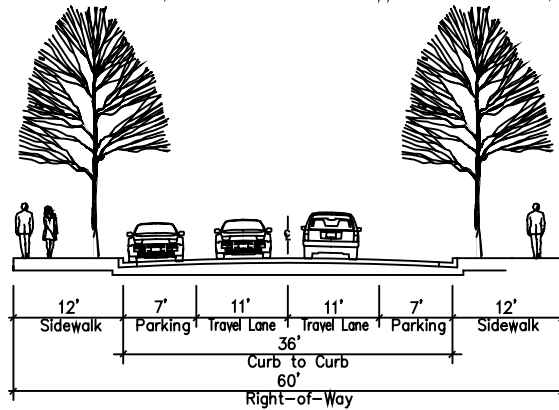


7



DAVIS ROAD "B"
 WEST ROUNDABOUT TO RIVER ROAD
 EAST ROUNDABOUT TO SW 234TH AVE

8



BROOKWOOD / SW 247TH
 MAIN STREET
 ALEXANDER TO DAVIS

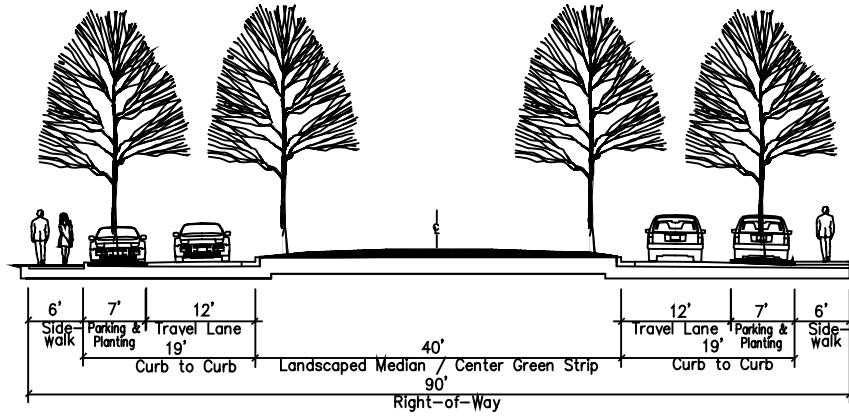
COLLECTOR CROSS SECTIONS

WITCH HAZEL VILLAGE COMMUNITY PLAN
 HILLSBORO, OREGON
 MAY 2003

FIGURE
 12

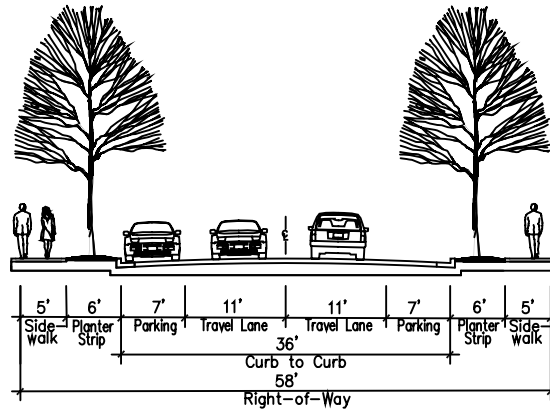


9



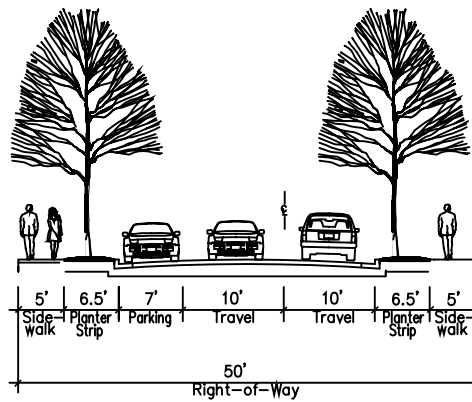
PARK STREETS AND WEST ENTRY TO NW CORNER FROM RIVER ROAD

10



NEIGHBORHOOD STREET

11



LOCAL STREET

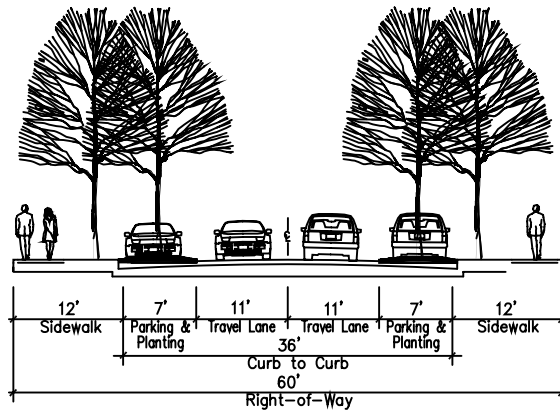
LOCAL STREET CROSS SECTIONS

WITCH HAZEL VILLAGE COMMUNITY PLAN
HILLSBORO, OREGON
MAY 2003

FIGURE
13

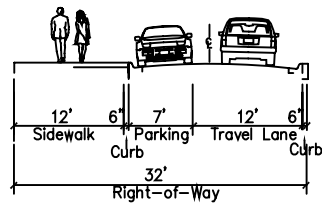


12



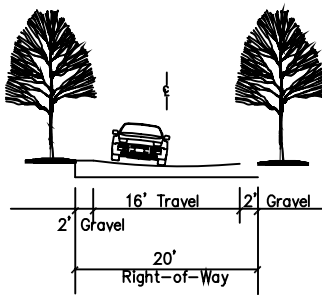
ALLEE
(OPTIONAL PEDESTRIAN MALL)

13



ONE-WAY CRESCENT

14



ALLEY
(No Parking)

LOCAL STREET CROSS SECTIONS

WITCH HAZEL VILLAGE COMMUNITY PLAN
HILLSBORO, OREGON
MAY 2003

FIGURE
14



Transportation Improvements

When Witch Hazel Village neighborhood is completed, approximately 12,815 daily automobile trips are projected.¹⁴ Approximately 10 percent of the daily trips would occur during the PM peak hour when approximately two-thirds of the trips (62%) would be residents of Witch Hazel Village coming home for the evening and one third of the trips (38%) would be by people leaving the area. At the end of the day, the people leaving the plan area would likely include employees of the commercial (retail and office) mixed-use area and the faculty at the elementary school.

Twenty percent of the retail and office trips would be by people who live outside the plan area and choose to come to Witch Hazel Village to shop, work or recreate rather than continuing on to services along TV Highway as they would today.

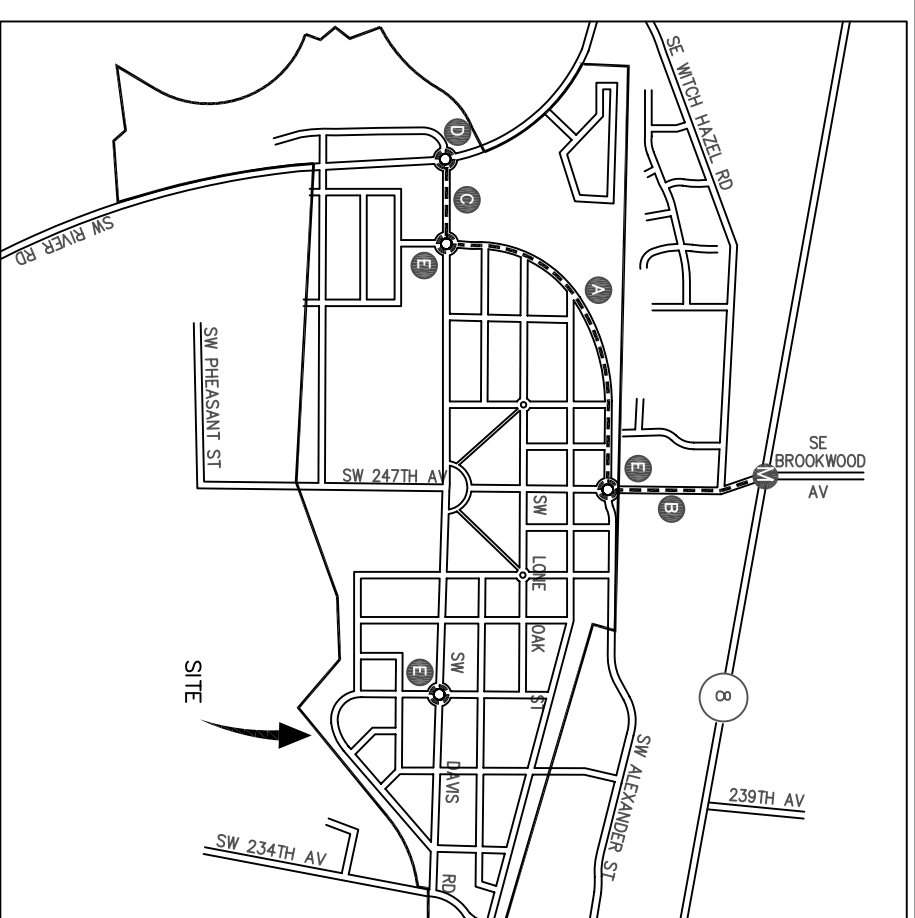
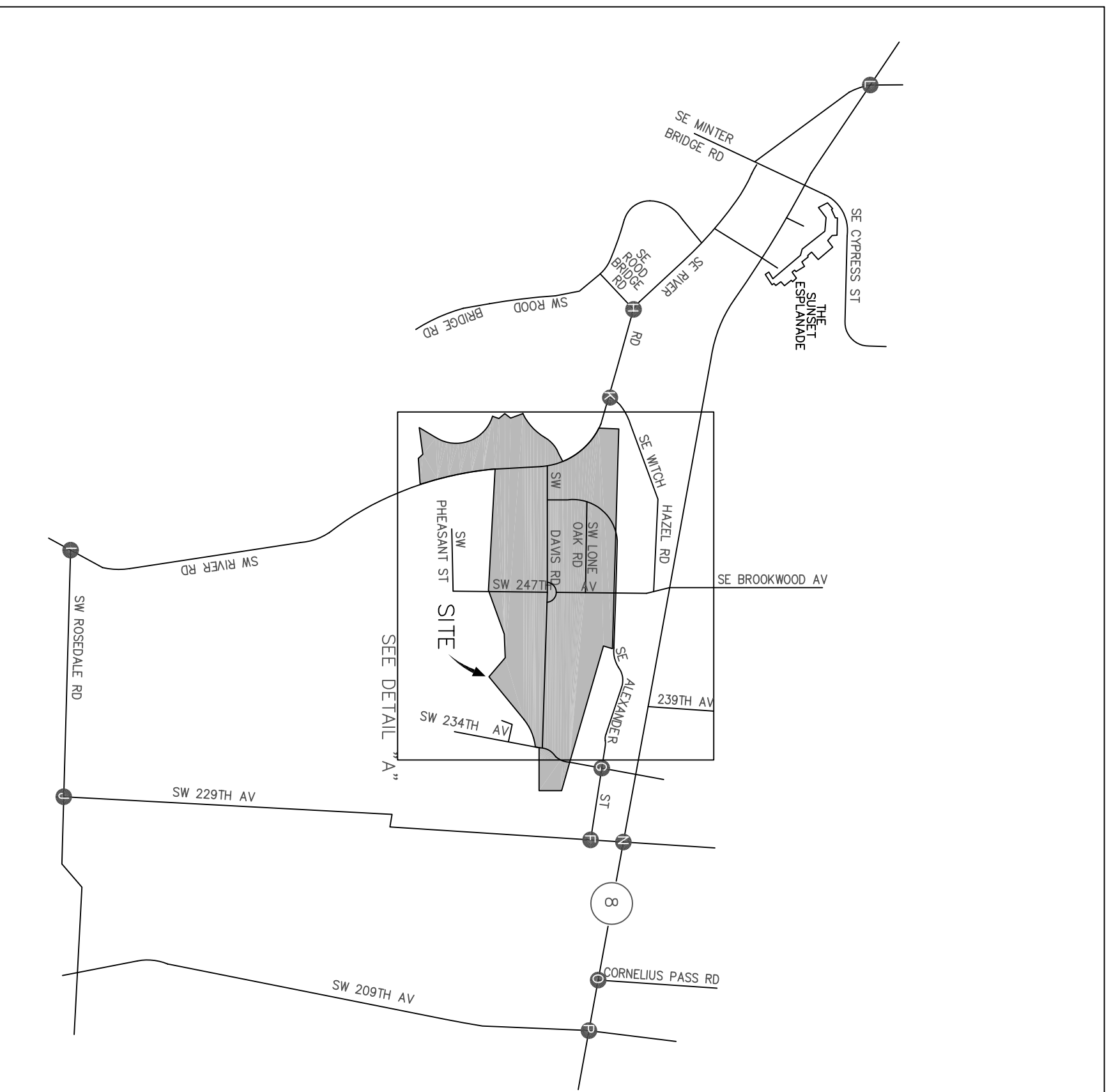
The increased daily automobile trips produced by the development of Witch Hazel Village would create the need for several transportation improvements on and off-site. The improvements, shown on Figure 15, include:

- **SE Alexander Street Extension** – Extend SE Alexander Street southwest from the SW 247th/Brookwood Avenue/SE Alexander Street intersection to the SW Davis Road extension as a two lane collector. The extension would provide an alternative route to those vehicles traveling between TV Highway and SW River Road.
- **SW 247th/Brookwood Avenue Widening** – Widen SW 247th/Brookwood Avenue to a three-lane cross section between SE Witch Hazel Road and SE Alexander Street.
- **SW Davis Road Extension**– Extend SW Davis Road from the proposed SE Alexander Street western extension to SW River Road as a three lane collector. The new road will include on-street parking, bike lanes, and sidewalks on both sides of the street.
- **SW River Road/SW Davis Road Roundabout** – Construct a single-lane roundabout at the intersection of SW River Road and SW Davis Road. The Parks Department prefers a standard signalized intersection here, however if a roundabout is installed they recommend a pedestrian activated signal to allow for safe crossing. Although the footpath is within a park area it is considered an element of the transportation system.
- **Internal Roundabout Construction** – Construct roundabouts at three locations within the plan area for traffic management purposes. Two would be located on SW Davis Road (at the SE Alexander Street/SW Davis Road intersection and approximately halfway between the SW Davis Road/SW 247th/Brookwood Avenue intersection and the SW Davis Road/SW 234th/Century Boulevard intersection), and one is located on SE Alexander Street at SW 247th/Brookwood Avenue.
- **SW 229th Avenue/SE Alexander Street Traffic Signal** – Signalize the SW 229th Avenue/SE Alexander Street intersection to ensure acceptable operations under the 2025 total traffic volumes.

¹⁴ Based on an annual growth rate of one percent for traffic along TV Highway and a three percent annual growth rate for all other intersections impacted by development of the plan area.

- **SW 234th Avenue/SE Alexander Street Traffic Signal** – Signalize the SW 234th Avenue/SE Alexander Street intersection to ensure acceptable operations under the 2025 total traffic volumes.
- **SW River Road/SE Rood Bridge Road Improvement** – Construct an eastbound right-turn lane at the SW River Road/SE Rood Bridge Road intersection to ensure acceptable operations under the 2025 total traffic volumes.
- **SW River Road/SW Rosedale Road Traffic Signal** – Signalize the SW River Road/SW Rosedale Road intersection.
- **SW 229th Avenue/SW Rosedale Road Improvements** – Construct a southbound right-turn lane at the SW 229th Avenue/SW Rosedale Road intersection.
- **SE Witch Hazel Road/SW River Road Traffic Signal**– Signalize the SE Witch Hazel Road/SW River Road intersection to ensure adequate intersection operations under the forecast 2025 volumes. This intersection would require the addition of a signal with or without the development of the plan area.
- **SW River Road/TV Highway Improvements** – Construct a northbound left-turn lane at this intersection to ensure acceptable operations under the 2025 total traffic volumes.
- **SW 247th/Brookwood Avenue/TV Highway Realignment** – Realignment of existing off-set intersection. The specific improvements for this intersection have not been finalized. The Task Force recommended three alternatives for further study. Those alternatives, and all alternatives considered, are discussed on page 40. For purposes of the analysis and cost estimates, the improvements assume construction of a traditional four-way intersection at the SW 247th/Brookwood Avenue/TV Highway intersection and the connection of SW 247th/Brookwood Avenue to SE Witch Hazel Road. The SW 247th/Brookwood Avenue extension includes two through lanes in each direction and a center left-turn lane between TV Highway and SE Witch Hazel Road. At the SE Witch Hazel Road and SW 247th/Brookwood Avenue intersection, one of the southbound lanes would be dropped as an exclusive right-turn lane westward onto SE Witch Hazel Road. This right-turn lane would encourage through traffic and trucks to utilize SE Witch Hazel Road over SE Alexander Street and SW Davis Road. SE Witch Hazel Road at the intersection of SE Witch Hazel Road and SW 247th/Brookwood Avenue would terminate with a right-turn only, south on to SW 247th/Brookwood Avenue. Final project design will occur through the transportation project design process.
- **SW 229th Avenue/TV Highway Improvements** – Add a northbound right-turn lane to meet operation standards under the 2025 total traffic volumes.
- **SE Cornelius Pass Road/TV Highway Improvements** – Add an eastbound left-turn lane at the SE Cornelius Pass Road/TV Highway intersection to mitigate future operational deficiencies.
- **SW 209th Avenue/TV Highway Improvements** – Construct northbound and southbound right turn lanes at the SW 209th Avenue/TV Highway intersection.

More information on the proposed transportation improvements is found in Appendix G, *Witch Hazel Village Community Plan Future Conditions Analysis*.



LEGEND

- A** SE Alexander Rd Extension
- B** SE Brookwood Av Extension + Widening
- C** SE Davis Rd Extension
- D** SW River Rd/Sw Davis Rd Roundabout
- E** Roundabouts (3)
- F** SW 229th Av/SE Alexander St Signal
- G** SW 234th Av/SE Alexander St Signal
- H** SE River Rd/Road Bridge Rd Improvement
- I** SE River Rd/Rosedale Rd Improvements
- J** SW 229th Av/Rosedale Rd Improvements
- K** SE Witch Hazel Rd/SE River Rd Signal
- L** SE River Rd/Tualatin Valley Hwy Improvements
- M** Brookwood/Tualatin Valley Hwy Improvements
- N** SW 229th Av/Tualatin Valley Hwy Improvements
- O** Cornelius Pass Rd/Tualatin Valley Hwy Improvements
- P** SW 209th Av/Tualatin Valley Hwy Improvements

Note: Connection through public plaza for future southward extension of Brookwood (247th) will be provided.

**RECOMMENDED TRANSPORTATION
SYSTEM IMPROVEMENT SUMMARY**

WITCH HAZEL VILLAGE COMMUNITY PLAN
HILLSBORO, OREGON
MAY 2003

FIGURE
15



D. Infrastructure

The plan to provide water, sanitary sewer and stormwater infrastructure follows the proposed land use and transportation elements of the Community Plan. Adequate infrastructure to provide water, sanitary sewer and stormwater services either currently exists or can be provided with minimal improvements.

Water

Future water service will be provided by the City of Hillsboro through an expansion of their existing infrastructure system. Analysis of future water demand for Witch Hazel Village indicates an estimated need of 2.2 million gallons of water per day, including a provision for daily peaks.

Water service for Witch Hazel Village was anticipated in the City's December 2001 20-Year Capital Improvement Plan, which calls for the extension of the backbone water infrastructure (i.e., 12-inch and 18-inch lines) to new areas within the UGB. Extension of the water infrastructure is identified in the City's December 2001 Public Facilities Plan which shows plans for an 18-inch line running down SW 234th/Century Boulevard from TV Highway to SW Davis Road, and a 12-inch line running along SW Davis Road from SW 247th/Brookwood Avenue east past SW 234th/Century Boulevard. These lines are designed to serve Witch Hazel Village and area 71 east of Witch Hazel Village. The proposed water system for Witch Hazel Village assumes the construction of these water lines, on-site as well as off-site, will be the responsibility of the developer.

In addition, the existing 42-inch water transmission line located in TV Highway will provide the main connection for Witch Hazel Village to the City's water system. This 42-inch water transmission line has the supply, capacity, and pressure to serve both domestic and fire supply for Witch Hazel Village at build-out.

A 10-inch water line, connected to the existing 42-inch water transmission line, is located in SW 247th/Brookwood Avenue and runs to the new Witch Hazel Elementary School property. The existing 10-inch water line would connect to a proposed 12-inch water line along SW Davis Road, running from SW River Road to the east boundary of Witch Hazel Village (a portion of the SW Davis Road water line currently exists as a 10-inch line). From the SW 247th/Brookwood Avenue and SW Davis Road water lines, smaller water lines are proposed to provide water service to the interior of the plan area and to individual homes. Water lines are anticipated to be located in the proposed street network. As designed, the planned water system has the ability to be modified as development occurs in Witch Hazel Village and area 71.

Sanitary Sewer

Clean Water Services (CWS) and the City of Hillsboro will provide public sanitary sewer services. However, the current sanitary sewer system in Witch Hazel Village consists of private septic systems, with the exception of the new Witch Hazel Elementary School.¹⁵ Property

¹⁵ The new Witch Hazel Elementary School will be connected to the public sanitary system when the school opens in the fall of 2003

owners are not required to connect to the public sanitary system (assuming that the private septic systems operate properly) when urbanization occurs. Although properties are not required to, it is highly recommended that properties connect to the public system as it will help reduce the potential for ground water pollution and maximize water quality in Gordon Creek and Witch Hazel Creek. District ordinance does require that, once public sewer is directly available to a parcel of land, structures on that parcel must connect within three years. For properly operating on-site systems, extensions up to a total of ten years may be granted.

Overall infrastructure capacity was designed to accommodate periodic peaking and infiltration/inflow conditions, as well as additional conditions once the infrastructure has been built. Sanitary sewage treatment will be provided at the existing Rock Creek Wastewater Treatment Plant, located northwest of SW River Road and Witch Hazel Village.

Proposed sanitary sewer lines are generally located in the public right-of-way or adjacent to property lines in public easements. The sewer pipelines could, with appropriate permits, follow existing stream corridors with a horizontal setback from the mean summer flow. Although the sanitary sewer system routing for Witch Hazel Village attempts to avoid streams and riparian corridors as much as possible, mitigation will be required to restore construction disturbances in these sensitive areas. Enhancement and creation of riparian resources with bio-engineered slope stabilization plantings are options to mitigate damage and enhance the existing, degraded, sensitive areas to a higher quality habitat.

The sanitary sewer system serving the plan area includes existing and planned public sanitary sewer lines identified in the CWS Capital Improvement Plan. These lines are:

- An 8-inch sanitary sewer line in the future SW Davis Road right-of-way, between SW 247th/Brookwood Avenue and SW River Road.
- A 12-inch sanitary sewer line is currently under construction and scheduled for completion in the fall of 2003. This line, when fully extended, will ultimately provide service to a portion of the plan area bordered by SW 247th/Brookwood Avenue on the east and the SE Alexander Street extension on the north and west, and a portion of the plan area south of SW Davis Road, near SW River Road. This line will extend from the existing manhole.

A 36-inch gravity trunk line will be extended southward in the future in SW River Road to serve the basin as development occurs.

- A District pump station in its final stages of design, scheduled for completion by early spring of 2004. Both the 12-inch and 36-inch sewer lines will serve the plan area by conveying wastewater by gravity to this pump station. The 12-inch line is part of the interim system that provides service for the opening of the new school in the plan area this fall of 2003. It also will become part of the permanent conveyance system serving the school and beyond as development occurs.
- Two proposed force mains (10-inch and 18-inch) will convey sewage from the CWS pump station to the Rock Creek Wastewater Facility. The 18-inch force main will provide service for future growth beyond the plan area, and will be capped until it is needed.

In addition to the existing and planned sanitary sewer lines, new sanitary sewer lines are required to provide service to all development within Witch Hazel Village:

- Development south of SW Davis Road would require an extension of the proposed CWS 36-inch trunk line south in SW River Road. This extension will provide infrastructure to serve properties on the west side of SW River Road.
- Development in the area northwest of Witch Hazel Creek will require construction of a new 8-inch sanitary sewer system in SW River Road.
- Development in the eastern half of the plan area, north of Davis Road, would require the extension of the existing 8-inch sewer line along SW Davis Road east to SW 234th/Century Boulevard. This extension would be a 12-inch pipe between SW 247th/Brookwood Avenue and SW 234th/Century Boulevard.
- Development east of SW 247th/Brookwood Avenue and south of SW Davis Road would require an 18-inch sewer line, beginning at SW River Road, following the southern plan area boundary inside the UGB, north of the Reserve Vineyards Golf Club, and continuing along the proposed street adjacent to Gordon Creek. This line would also provide additional capacity for anticipated growth from Area 71. Although the alignment would require the sanitary sewer line to be constructed at a minimum slope at deeper depths, it eliminates the cost of a future easement across the existing golf course and retains the sewer line inside the UGB. A future extension of the 18-inch sanitary line from Witch Hazel Village could gravity feed under Gordon Creek to a future alternate pump station to serve additional growth if needed.

Storm Drainage/Water Quality Facilities

The stormwater management system for Witch Hazel Village focuses on the natural features of the area by using overland flow, drain tiles, natural swales, irrigation channels, and ditches adjacent to roadways that all flow to Witch Hazel Creek and Gordon Creek, eventually draining to the Tualatin River. However, the soil types in the area also require a system of pipes and ditches to move stormwater to the larger system because the soils have little or no water permeability. A public storm line collects flow from an existing ditch inlet on the south portion of SW River Road and transports it to the north to an outfall energy dissipater near Witch Hazel Creek. The existing public storm line in SW Davis Road would be upsized to serve the properties in the plan area. The proposed stormwater piping system would be located in the public right-of-way and would provide storm drainage service to each individual property. The infrastructure should be designed to CWS standards, which incorporates a provision for peak storm conditions and increases in impervious surfaces resulting from urban development.

The water quality methodologies in Metro's "Green Streets" manual should also be considered whenever feasible, as a means to manage stormwater. As mentioned in the transportation section of the Community Plan, streets adjacent to greenways and parks (i.e., SE Alexander Street along Witch Hazel Creek, streets along Gordon Creek, medians in SW Davis Road and SW 247th/Brookwood, and areas adjacent to SW River Road and the Reserve Vineyards Golf Club) are appropriate for "Green Street" application. Because the existing plan area soils display moderately little or no water permeability, infiltration methods should not be applied in most areas unless specific testing proves otherwise.

A regional detention facility may be required to mitigate stormwater quality within the plan area. CWS will assess the need after conducting a downstream stormwater system analysis. If required, a detention facility should:

- Be designed in compliance with the CWS Design Manual;
- Have storage locations above the flood plain elevation to provide in-corridor flood storage to mitigate future flooding;
- Be located in "low-quality" degraded vegetated corridors identified by CWS, if elevations permit, where construction disturbance may be mitigated by enhancing the "low-quality" sensitive areas to a higher quality habitat; and
- Discharge into existing waterways and wetlands.

There are several locations within the various drainage basins in Witch Hazel Village appropriate for a regional stormwater detention facility, including the area adjacent to and south of Witch Hazel Creek and the riparian corridors along Gordon Creek and Witch Hazel Creek. All three of these locations are designated as passive recreational areas in the Community Plan, a use that is consistent with a regional stormwater detention facility. Although developers may construct some of these facilities, the City would likely want to own and maintain them in order to assure proper operation, maintenance and monitoring of the system.

Private Utilities

Gas, electricity, cable and communication services will be provided by the private sector. The only known above ground infrastructure requirement is the need for a switching station building in the plan area to serve Verizon communications. The specific location and size of the station have not yet been determined.

More information on the proposed infrastructure improvements is found in Appendix H, *Witch Hazel Village – Infrastructure Final Report*.

E. Financing Strategy

One of the key components to implementing the Witch Hazel Village Community Plan is financing the necessary public improvements and mitigating the impacts that development will have on off-site public infrastructure.

Key financing strategy conclusions are:

- Transportation costs far exceed the revenue that can be generated from development of the plan area using the City's existing fee structure.
- Water, sanitary sewer, and stormwater costs are all well within the revenue generated from system development charges (SDC) and developer requirements.
- Cost of full park improvements slightly exceeds the funds that can be generated through development on-site.

a. Transportation

The total cost for all necessary transportation improvements is approximately \$11.9 million. Of this, \$4.3 million is for on-site improvements and \$7.6 million is for off-site improvements. Not all the off-site improvements are fully attributable to the plan area: some infrastructure improvements would have been required without the development of Witch Hazel Village. Of the total cost, both on-site and off-site, 51% of the cost or \$6.1 million, is attributable to Witch Hazel Village development.

Revenue for transportation improvements, attributable to Witch Hazel Village, can be generated from developer requirements and traffic impact fees (TIF). Developers may be required to build or pay for approximately \$1.8 million in improvements. However, approximately \$681,000 of this revenue will be credited back to developers as TIF credits. The traffic impact fees (TIF) are anticipated to generate approximately \$3.6 million for roadway improvements. Total revenue generated for transportation improvements is approximately \$2.9 million, leaving a projected shortfall of \$7.1 million, of which \$1.3 million is attributable to the Witch Hazel Village development.

For the transportation improvements attributable to Witch Hazel Village development, feasible options to raise additional funds appear to be a TIF or SDC surcharge on development within Witch Hazel Village. However, this would raise development fees to levels that could negatively affect housing affordability, a key objective of the project. A local improvement district (LID) could be used to fund some internal improvements, such as roundabouts. However, the contribution would be small.

Given that over two-thirds of the revenue shortfall is for transportation improvements that are off-site and not attributable to Witch Hazel Village, a funding source that spreads the costs beyond Witch Hazel Village should not be sought to address the shortfall for on-site improvements. Likewise, asking Witch Hazel Village developers and property owners to pay all costs associated with the necessary improvements to TV Highway and other off-site locations is an unreasonable and unrealistic burden, and may be unconstitutional.

To address the revenue shortfall for transportation improvements that are off-site and not attributable to Witch Hazel Village, County and State funding sources should be explored.

b. Water

The total cost of infrastructure improvements related to water is anticipated to be approximately \$7.7 million, of which 99% is attributable to the plan area. This does not include any cost associated with the existing off-site water system infrastructure that must be reimbursed when the plan area is developed.

On the revenue side, on-site revenue comes from developer requirements that would fund approximately \$7.3 million and SDC revenue that would provide an additional \$5.1 million, for a total of approximately \$12.4 million. The approximately \$4.7 million generated in excess of the immediate costs may be used for any required debt service associated with building the existing water system, and/or for new projects to serve future growth and/or existing residents. Although the estimated cost for water does not account for the reimbursement of costs associated with existing water system infrastructure, the reimbursement can be met by the SDC revenue from Witch Hazel Village. About 65% (approximately \$3.2 million) of the water SDC is designated as a reimbursement component (as opposed to an improvement component).

c. Sanitary Sewer

Sanitary sewer improvements are anticipated to be approximately \$8.5 million, of which 97% is attributable to the plan area. This cost does not provide for any reimbursement of the existing off-site sanitary sewer system infrastructure that will serve this plan area.

Developer requirements would generate approximately \$8.1 million and SDCs would generate approximately \$4.2 million. The revenue generated would be approximately \$3.7 million beyond immediate costs. This additional revenue will be used in part to provide reimbursement to the City and CWS for existing off-site sanitary sewer system capacity used by Witch Hazel Village.

d. Surface Water Management

The total cost of infrastructure improvements related to surface water management is anticipated to be approximately \$9.1 million, of which 100% is attributable to the plan area. Developer requirements are anticipated to fund all of the necessary improvements. System development charges, at \$500 per equivalent service unit for both water quality and quantity, are anticipated to generate \$860,788. It is likely that 42 percent of the potential funds generated will be eligible for SDC credits for water quality, reducing the generated capital revenue in excess of the immediate costs to \$499,257. The excess revenue will be used for any new capacity-adding improvements that may be necessary to serve future growth, including Witch Hazel Village.

e. Parks

The cost of acquiring and developing parks, open space and the civic plaza is anticipated to be approximately \$4.1 million, all of which is attributable to the plan area. Developers are generally not required to provide any park or recreation facilities within or outside their development, leaving park SDCs as the only revenue source for parks. The parks SDC is expected to generate approximately \$3.7 million in revenue. As a result, the parks SDC would generate most, but not all, the revenue needed to meet the anticipated associated costs. Additional costs may also be required to pay the roughly \$66,000 in SDCs and TIFs the City will have to pay as a developer/owner of property in Witch Hazel Village.

The maintenance cost of street landscape medians, linear parks, traffic diamonds and roundabouts is another issue that needs to be resolved. It costs approximately 40 cents per square foot per year to maintain these types of landscape features. These costs do not include any costs for tree care. Currently in the City, trees are maintained either by adjoining property owners, homeowners associations, and the Public Works or Parks Department. The continuing costs of maintaining trees and landscaping will require future policy decisions to assure the attractiveness of the Witch Hazel Village neighborhood.

The City has three options to fund the park improvements:

- Phase the development of the parks, thus spreading the cost of the park improvements out over multiple years;
- Simplify the specific park improvements to reduce the cost of building the parks; or

- Raise additional revenue. Options include creating a local improvement district to fund the central crescent plaza and spreading the costs among the owners within Witch Hazel Village or obtaining grants and donations for park acquisition or development. Another option may be to include specific park costs in an SDC surcharge for open space improvements of common benefit to Witch Hazel Village.

f. Community Amenities

There are additional community amenities adding value to the Plan that may also require funding solutions. These amenities include:

- Plaza (247th/Brookwood Avenue at Davis Road)
- 247th Avenue – Alexander to Witch Hazel Road / widening and enhanced landscaping
- 247th Avenue – Witch Hazel Road to TV Highway / widening and enhanced landscaping
- Alexander Street extension – north side construction with park improvements
- Traffic Diamonds
- Allee's
- Landscaped medians on "Park" streets
- Landscaped medians on Davis Road
- Roundabouts
 - East and west on Davis Road
 - River Road
 - Alexander Street

Should future studies indicate that roundabouts are not feasible or desirable in the locations specified in the Plan traditional four-way intersections will be built to accommodate safe pedestrian passage. The City and the development community should develop a fair and equitable method of funding park and community amenities as well as assuring future maintenance.

More information on proposed financing strategies is found in Appendix I, *Proposed Funding Strategy for Witch Hazel Village Infrastructure*.

F. Implementation

The first step in implementing the Witch Hazel Village Community Plan is to incorporate the Plan into the Hillsboro Comprehensive Plan (HCP), establishing goals, policies and measures to guide future development in the Plan area. The Community Plan must be consistent with Title 11 of Metro's Urban Growth Management Functional Plan. The Planning Commission has expressed concern that a solution needs to be identified to resolve potential transportation impacts at the SW 247th/Brookwood Avenue and TV Highway intersection, as well as 247th/Brookwood Avenue both north and south of TV Highway. Following the recommendations of the Task Force, the City is continuing to study possible solutions for the Brookwood/TV Highway intersection with Washington County and ODOT. The City has entered into an Intergovernmental Agreement with Washington County to conduct an alternatives analysis for the intersection improvement that will include a 50% design component for the selected alternative. This process is anticipated to take approximately 8 months to complete. After an acceptable intersection design has been identified, the funding for the intersection will need to be secured. Washington County is currently working on a funding strategy for the intersection improvement.

During several work sessions, the Planning Commission voiced concern regarding concurrency of infrastructure, particularly with respect to transportation improvements. The traffic study conducted by DKS in conjunction with this Plan determined that 200 homes could be built prior to improvement of the 247th/Brookwood Avenue and TV Highway intersection. Construction of improvements at this intersection may be completed by the end of 2006. Conveyance of homes constructed in the first phase of development could occur in 2005. It may be possible to make other street improvements prior to the 247th/Brookwood Avenue and TV Highway intersection improvements that would alleviate traffic congestion in the Plan area, thus allowing more than 200 homes to be built in the first phase of development prior to the completion of the 247th/Brookwood Avenue/TV Highway intersection improvement.

The City will develop an implementation strategy that ensures development is coordinated with infrastructure improvements. Improvements will be made in a timely manner to support development as it occurs. The City, will develop an implementation strategy that would include an annexation and phasing strategy based on logical and progressive extension of infrastructure supporting the creation of a unique neighborhood.

The successful implementation of the Community Plan will require cooperation from the development community, Parks Commission, the Parks Department, and the Public Works Department to develop a maintenance plan for the community amenities listed above. In some circumstances, a homeowners association or adjacent property owners may be responsible for long term maintenance.

Developer Agreements

Prior to annexation of properties within the Plan area, the City of Hillsboro and the Witch Hazel Village developers could enter into pre-annexation development agreements as an implementation tool. These agreements would identify certain development triggers guiding the phasing of project development. The value of this approach is its ability to secure assurances for the City and the development community that certain improvements (i.e., transportation, infrastructure, parks) will take place in a timely manner, commensurate with a managed flow of development activity. It would also establish the terms of cost sharing for each of the respective parties to the agreement.

Annexation of Property

The implementation of the Witch Hazel Village Community Plan is dependent upon annexation of the Plan area into the City of Hillsboro. Public comment received during the creation of the Community Plan indicated that not all property owners are interested in annexation at this time.

Annexation may only occur in the area shown on Figure 16: Composite Phasing Plan Map as the Initial Phase prior to the time the contract is awarded for the TV Highway/Brookwood/Witch Hazel Road intersection improvements.

Phasing

Ideally, all improvements needed to support development in the Plan area would occur in a sequence that is most cost effective and efficient. This approach, however, assumes that all land is available for development at the same time. The phasing plan, therefore, is based on providing services logically and efficiently, and identifying when improvements would be needed due to existing infrastructure reaching capacity. The phasing plan is intended to be a guide to allow planning for future City capital improvement expenditures and to assist developers in understanding what public improvements may be required of them.

The Initial Phase is comprised of land located between River Road and SW 247th Avenue, south of Witch Hazel Creek and will be developed first because of the ability to logically extend water and sewer services and the proximity to existing and proposed civic infrastructure, namely the new Witch Hazel Elementary School and the Civic Plaza.

a. Transportation

Many of the transportation improvements identified for the Plan area have been designed to satisfy localized travel demand generated by development in Witch Hazel Village, rather than address existing capacity issues. For the majority of the transportation improvements, the location of development will likely dictate what and when improvements are required.

Some improvements, such as the realignment of the SW 247th/Brookwood Avenue/TV Highway and SE Witch Hazel Road/SW 247th/Brookwood Avenue intersections, would be impacted by development outside the plan area as well as inside. As a result, the phasing of these improvements is not as dependent on the specific location of development inside the Plan area. Rather, the phasing of the improvements is tied to when development occurs in the Plan area.

In order to assess when transportation improvements would be required, trigger points have been identified in the Plan that indicate when improvements should be made. The trigger points can be used to assist with planning the timing of improvements needed to support development. Not making specific improvements when recommended could result in certain roadways being over capacity and functioning at an unacceptable level of service.

Witch Hazel Village Community Plan

In order to provide adequate access to the plan area, the improvements along SW 247th/Brookwood Avenue would likely be the first improvements necessary to serve Witch Hazel Village, regardless of where development occurs first in the plan area. These improvements, necessary to maintain an acceptable level of service on SW River Road, TV Highway and SW 247th/Brookwood Avenue, include:

<i>Transportation Improvement</i>	<i>Trigger Point</i>
1. SW 247 th /Brookwood Ave Improvements	When 200 houses and/or retail and office uses are in commercial core
2. SW 247 th /Brookwood Ave/TV Hwy Intersection Improvements	When 200 houses and/or retail and office uses are in commercial core
3. SE Witch Hazel Rd/ SW River Rd Signalization, if necessary	Concurrent with development in northwest portion of Witch Hazel Village

In the five to ten year time period, eleven transportation improvement projects would likely be needed, assuming that the majority of development in the plan area occurs within this time period. The specific timing of these improvements will be dependent on when specific quadrants of the plan area develops. The projects include:

<i>Transportation Improvement</i>	<i>Trigger Event/Development</i>
1. Cornelius Pass Rd/TV Highway Improvements	Concurrent with development in northeast portion of Witch Hazel Village
2. SW River Road/TV Highway Improvements	Concurrent with development in northwest portion of Witch Hazel Village
3. SE Alexander Street Extension	When adjacent housing in northwest quadrant develops
4. SW Davis Road Extension to SW River Road	Concurrent with residential and retail/office development west of SW 247 th /Brookwood Ave.
5. SW River Road/ SW Davis Road Roundabout	Concurrent with SW Davis Rd extension to SW River Rd
6. SW River Road/SW Rood Bridge Road Improvements	When unacceptable LOS occurs
7. SW 209 th Avenue/TV Highway Improvements	Concurrent with development in northeast portion of Witch Hazel Village
8. SW 229 th Avenue/ SE Alexander Street Signalization	Concurrent with development in northeast portion of Witch Hazel Village, or when signal warrants are met
9. SW 229 th Avenue/TV Highway Improvements	Concurrent with development in northeast portion of Witch Hazel Village
10. SW 234 th /Century Boulevard/SE Alexander Street Signalization	Concurrent with development in northeast portion of Witch Hazel Village, or when signal warrants are met

Construction of the two internal roundabouts on SW Davis Road and one roundabout at the intersection of SW 247th/Brookwood Avenue and SE Alexander intersection should occur as the adjacent land uses, and roads, are developed. The common treatment for roundabout intersections is to build them completely, even if the local intersecting streets are only partially built. Full right-of-way would be dedicated and the complete intersection improvements constructed at one time to ensure proper appearance and function. The abutting owners would not pay for their share until the time they develop. If the developer-of-record at the time the intersection is built pays for it to be fully constructed, the City could establish a payback

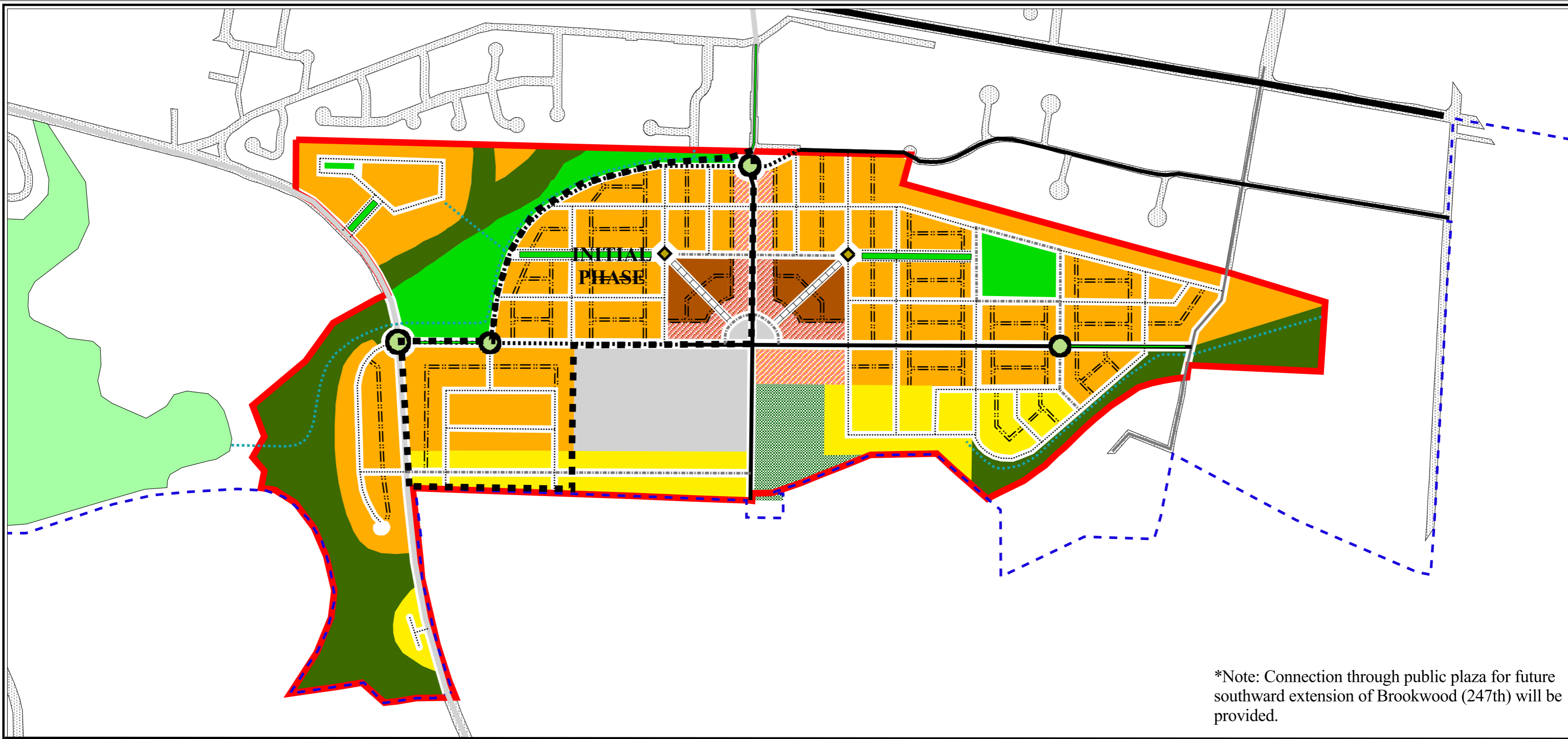
agreement for the portion that exceeded the developer-of-record's responsibility. The agreement would be predicated on either transfer of funds from the abutting owners at the time they develop or at a time certain by the City, whichever is sooner.

In the long term, improvements along SW Rosedale Road, both at the intersection of SW River Road and SW 229th Avenue will be required when unacceptable levels of service occur. Given the amount of traffic projected for SW Rosedale, the level of service is not anticipated to be unacceptable for 10 to 20 years.

b. Water, Sanitary Sewer, Stormwater

It is assumed that water, sanitary sewer and stormwater improvements will occur concurrently and likely in conjunction with the development of new roads throughout the plan area. The phasing plan that has been developed is chronologically based on the most efficient and cost effective means of constructing the infrastructure. However, the improvements can be completed outside of the recommended phases. Construction of the improvements can occur all at once, or phases located geographically adjacent to each other could occur concurrently. If developers choose to develop land adjacent to portions of the plan area that have not been urbanized, the developers may be responsible for more of the improvements than originally identified if connections to the main existing infrastructure are not yet in place.

As shown in Figure 16, the composite phasing plan map, the most cost efficient infrastructure to construct first are the extensions from the existing infrastructure in SW 247th/Brookwood Avenue and SW Davis Road which would serve the area west of SW 247th/Brookwood Avenue.



*Note: Connection through public plaza for future southward extension of Brookwood (247th) will be provided.



Witch Hazel Village
Figure 16: Composite Phasing Plan
 Plot Date: December 2, 2003



Legend

Land Uses

- Low Density Residential (3-7 Units Per Acre)
- Medium Density Residential (8-16 Units Per Acre)
- High Density Residential (17-23 Units Per Acre)
- Mixed-Use Zone
- Public Facility
- Private Golf Course
- Open Space
- Parks

Existing Streets

- Local Street
- Neighborhood Route
- Collector
- Arterial
- Principal Arterial
- Street Right of Way

Proposed Streets

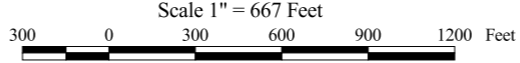
- Local Street
- Neighborhood Route
- Collector
- Alley
- Allee

Proposed Features

- Bike/Pedestrian Trail
- Greenway
- Traffic Diamond
- Roundabout

Base Map Information

- Witch Hazel Village Planning Area
- Urban Growth Boundary
- Phase Line



SOURCE:
 City of Hillsboro Planning
 City of Hillsboro GIS - Current as of June 1, 2003
 Aerial Photography - Current as of July 2002
 METRO's Regional Land Information System (RLIS) - Current as of June 2003
 Group Mackenzie - Phasing Plan May 2003

DISCLAIMER:
 This map is derived from various digital database sources. While care has been taken to insure the accuracy of the information shown on this page, the City of Hillsboro assumes no responsibility or liability for any errors or omissions in this information. All data presented on this map is continually updated and is current as of the dates listed above. This map is provided "as is". Therefore, there are no warranties for this product. The City cannot accept responsibility for any errors. However, notification of errors would be appreciated.

The last area likely to be developed is the low-density area west of SW River Road and the area in the southern portion of the plan area. This area is identified as the final phase due to the relatively high cost to serve the area in the short term. The area northwest of Witch Hazel Creek can be served at any time given its separation from the rest of the plan area and the close proximity of existing utilities.

Design Guidelines and Standards

Development in Witch Hazel Village must follow specific guidelines and standards in order to create the community envisioned by the Community Plan. Although flexibility in design standards may be allowed in some areas of the Community Plan, it is important to dictate specific standards for specific components of the plan or key locations within the plan area to ensure the desired outcomes of the plan are achieved. Consultant recommendations for design standards are included in Appendix J.