



FROG POND WEST

Master Plan



*A Vision and Implementation Strategy for
Wilsonville's Next Great Neighborhood*

Adopted by Wilsonville City Council
JULY 17, 2017



A VISION FOR FROG POND IN 2035

The Frog Pond Area in 2035 is an integral part of the Wilsonville community, with attractive and connected neighborhoods. The community's hallmarks are the variety of quality homes; open spaces for gathering; nearby services, shops and restaurants; excellent schools; and vibrant parks and trails. The Frog Pond Area is a convenient bike, walk, drive, or bus trip to all parts of Wilsonville.

*Frog Pond Area Plan Vision Statement,
adopted by Wilsonville City Council November 16, 2015.*

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Frog Pond **WEST**

Boeckman Road

Wilsonville Road



Willamette River

Purpose and Scope



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PURPOSE

The purposes of the Frog Pond West Master Plan (Master Plan) are to:

1. Establish the overall vision for the Frog Pond West Neighborhood.
2. Illustrate and define neighborhood-specific plans and requirements for land use, streets, pedestrian connections, bike routes, parks and open spaces, and natural resource areas.
3. Describe and illustrate the City's expectations for high-quality architectural and community design.
4. Serve as the guide for coordinating individual developments and public realm improvements into a cohesive whole.
5. Provide implementation strategies for land use regulations and infrastructure funding.

SCOPE AND REGULATORY ROLE

The Master Plan applies to the 181-acre area added to the Urban Growth Boundary (UGB) in 2002, located west of Stafford Road and north of Boeckman Road in East Wilsonville. Frog Pond West is approximately one-third of the area that was concept planned as part of the Frog Pond Area Plan (Area Plan), which was adopted by the Wilsonville City Council on November 16, 2015. The chapters of the Master Plan address Frog Pond West's intended vision; land use; residential and community design; transportation; parks and open spaces; and public lighting, street trees, gateways, and signage. Regulatory and infrastructure funding implementation are also included. Infrastructure plans were completed as part of the Area Plan, and are included in the Appendix for reference.



The Frog Pond West Master Plan is an adopted “supporting document” of the Wilsonville Comprehensive Plan (Plan), with the regulatory force and effect of the Plan. The Master Plan fits within a three-part regulatory structure for development review in Frog Pond West. The Comprehensive Plan provides the policies and high level intent for Frog Pond West. The Master Plan establishes the overall vision, descriptive and illustrative guidance, and geographically-specific requirements for development, with a focus on integrating private development with planned public realm improvements. The Development Code (Code) establishes the zoning, standards, and procedures for development. The Code references parts of the Master Plan as regulatory elements, which are applied as standards and review criteria. Those parts of the Master Plan not specifically referenced by the Code are descriptive and illustrative of the City’s general expectations for development—they will be used as guidance to the City’s discretionary review of development.

THE PLANNING PROCESS

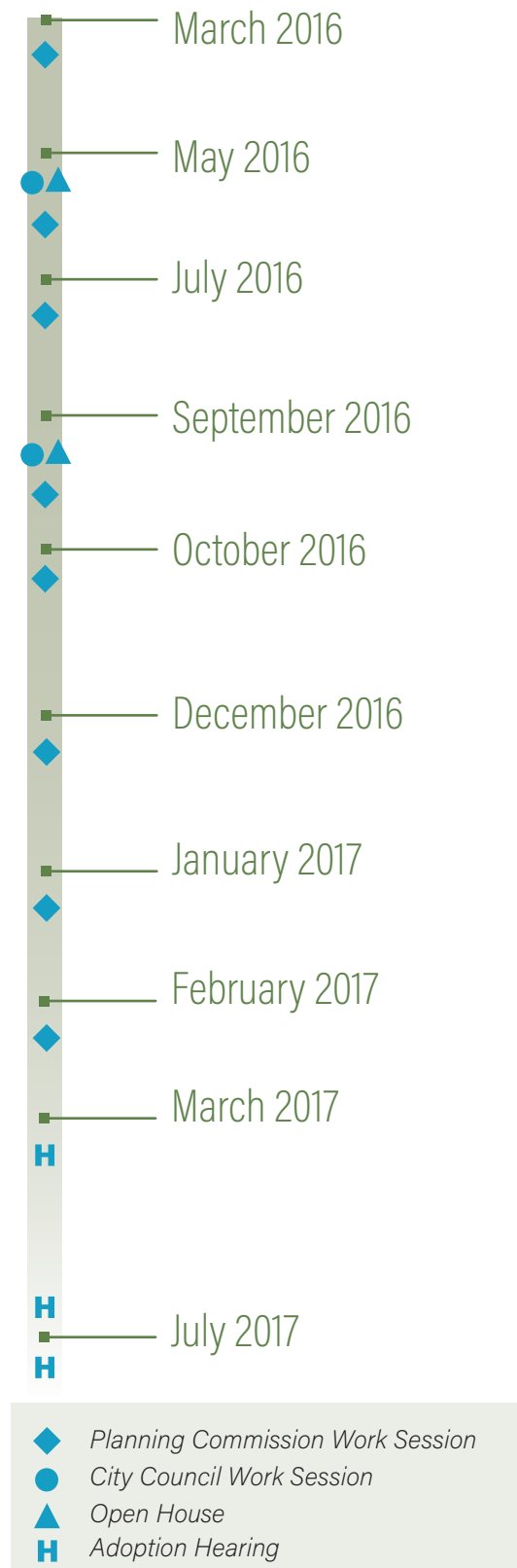
Planning for the Frog Pond Area as part of Wilsonville began with the City’s first City Plan in 1972, where it was shown as a residential area. The context for that vision evolved over time through the introduction of statewide planning, Wilsonville’s first Comprehensive Plan, the inclusion of the area in the UGB, and the designation of urban reserves. Figure 1 depicts key milestones during the four decades that led up to concept planning for the Frog Pond Area and master planning for Frog Pond West.

The Frog Pond Area Plan was a two-year planning process that provided extensive opportunities for community involvement, including:

Figure 1. Wilsonville Planning Milestones



Figure 2. Frog Pond Master Plan Timeline



- May 2014: Frog Pond Area Plan Kick Off
- October 2014: Open House and Online Survey
- January 2015: Joint City Council / Planning Commission Work Session
- April 2015: Open House and Online Survey
- June - August 2015: City Council / Planning Commission Work Sessions
- September - November 2015: Area Plan Adoption

Building from the community involvement process used for the Area Plan, the Master Plan was created through an open and inclusive process that began in March 2016 and continued through mid 2017. The process included:

- Eight work sessions with the Planning Commission.
- Two briefings with the City Council.
- Two community Open Houses.
- Ongoing maintenance of the project website.
- Ongoing distribution of information through email updates to the Interested Parties email list, articles in the Wilsonville Spokesman, updates in the Boones Ferry Messenger, and mailed notices of events.
- Stakeholder meetings with developers and property owners regarding the draft infrastructure funding plan.
- Many individual meetings and communications with property owners and interested parties.
- Public hearings in March (Planning Commission) and June-July (City Council), 2017.



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Vision, Principles, and Intent



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VISION

The vision for Frog Pond West was first crafted as part of the Frog Pond Area Plan (see inside cover). The specific vision for Frog Pond West is consistent with the Area Plan. The vision is for Frog Pond West to be:

- **A great neighborhood** that is a connected part of Wilsonville.
- **A cohesive place** where individual private developments and public realm improvements fit seamlessly together into a coordinated whole.
- **A neighborhood with walkable and active streets**, a variety of housing, extensive walking and biking routes, an excellent school, and quality parks, open spaces, and natural areas.
- A part of the city known for its **high quality architectural and community design**.
- A part of Wilsonville that has **visual and physical access to nature**.

Figure 3. Conceptual view of Frog Pond West and Wilsonville, looking southwest



PRINCIPLES

As with the vision statement, the guiding principles for Frog Pond West were crafted and adopted as part of the Area Plan. Throughout the Master Plan process, the City developed residential design principles, called the Ten Essentials of Residential Design, which are listed on page 12, to realize the vision and guiding principles.

Guiding Principles from the Frog Pond Area Plan

The following Guiding Principles were adopted as part of the Frog Pond Area Plan and apply to the Master Plan.

Create great neighborhoods

Frog Pond's homes, streets, open spaces, neighborhood-scale retail, and other uses fit together into walkable, cohesive, and connected neighborhoods. Frog Pond is a fun place to live.

Create a complete streets and trails network

Streets are designed for safe and enjoyable travel by bike, on foot, or by car. A great network of trails is provided. Safe crossings and connections are provided throughout the street and trail network.

Provide access to nature

The creeks and natural areas provide opportunities to see and interact with nature close to home.

Create community gathering spaces

Beautiful parks, quality schools, and other public spaces serve as community centers and gathering places. The land uses, transportation, and open space around the Advance Road school and park sites support a compatible neighborhood plan in that area. The Frog Pond Grange, and adjacent uses, fit together as a focal point of the community.

Provide for Wilsonville's housing needs

A variety of attractive homes are provided to fulfill the City's housing needs and align with the market. Single-family detached homes, including some on large lots, are a significant part of the mix. Neighborhoods are designed to be multi-generational and offer a diversity of attractive housing options at a variety of prices.

Create a feasible implementation strategy

A realistic funding plan for infrastructure, smart and flexible regulations, and other strategies promote successful implementation of the plan.

Frog Pond is an extension of Wilsonville

Frog Pond is truly connected—it is an easy and safe walk, drive, bike trip, or bus ride to other parts of Wilsonville, and Frog Pond feels like a well-planned extension of the city.

Retain trees

Mature native trees are integrated into the community to enhance the area's character and value.



Honor Frog Pond's History

A sense of history is retained, recognized, and celebrated.

Provide compatible transitions to surrounding areas

New urban land uses are good neighbors to adjacent rural land uses, future developable areas, and existing neighborhoods. The plan provides for future growth of the City into adjacent urban reserves.

Promote healthy, active lifestyles

Extensive walkways, community gardens, recreational facilities, and other elements support active and healthy lifestyles.

Integrate sustainability

The plan integrates solutions which address economic, environmental, and social needs. Frog Pond is a sustainable community over the long term.

Coordinate with Wilsonville's transportation network

The plan is consistent with the Wilsonville Transportation System Plan for all modes of travel: trails, bikeways, SMART, and vehicles. Traffic impacts are managed for key streets and intersections, including the I-5 interchanges.

Process Principles

- *Provide early and ongoing opportunities for stakeholders to raise issues and concerns.*
- *Facilitate equitable and constructive communication between the public and the project team.*
- *Empower residents to become involved with the project.*
- *Provide the public with balanced and objective information to help them understand issues, alternatives, opportunities, and solutions.*
- *Aim to create the best product, a model that could be used in other communities.*



The Ten Essentials of Residential Design

1. Each home is part of the larger neighborhood and community.
2. Front doors and walkways should face streets.
3. The front yard and porch or stoop are “semi-public” spaces.
4. Parking and driveways should not dominate.
5. Garages should not dominate.
6. Details are important.
7. Variety is the spice of good design.
8. Green is great.
9. Design guidelines should be tailored to each zone.
10. Adopt the fewest number of rules needed to get the job done.



KNITTING TOGETHER A LIVABLE NEIGHBORHOOD

Frog Pond West is a unique opportunity for a walkable, cohesive neighborhood that looks, feels, and functions as a master planned community. But it faces some challenges: the 181-acre area is comprised of 32 tax lots and 26 different ownerships (as of 2015); development is likely to occur incrementally, perhaps through 10-15 different development reviews spanning 10-20 years; and parcel lines are oriented north-south and east-west, but topography and other natural conditions in some areas will require development patterns that fit the landscape rather than straight parcel boundaries.

The Master Plan and its implementing regulations provide solutions and strategies to help overcome the above-listed challenges, with a goal of knitting together a cohesive, livable neighborhood. Those solutions and strategies include:

- A. Comprehensive Plan and Code Requirements.** Creating a cohesive neighborhood is a stated purpose and goal within the Comprehensive Plan, the Master Plan, and the implementing code.
- B. Planned Development Review (PDR) process.** The PDR review process will ensure that code requirements are met, with flexibility for site planning and adaptation to local site conditions.
- C. Street Demonstration Plan.** A street “demonstration plan” illustrates the intended level of street connectivity, with flexibility to propose site-specific street alignments and types.
- D. Community Gathering Places.** A 2.5-acre public park will provide a community gathering place enjoyed by all residents of the neighborhood. A 1.5-acre trailhead park will provide another key green space that links the neighborhood to the Boeckman Trail and Boeckman Creek resource area. A future school will serve both Frog Pond West and adjoining neighborhoods.
- E. Public Lighting Plan.** The public lighting plan will provide effective lighting of public streets and places to enhance livability and safety.
- F. Street Tree Plan.** The street tree plan will provide continuity and wayfinding between individual developments.
- G. Gateways, Monuments, and Signage Plan.** Coordinated entry gateways, monuments, and signage will help reinforce the cohesive identity of the neighborhood.



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Land Use



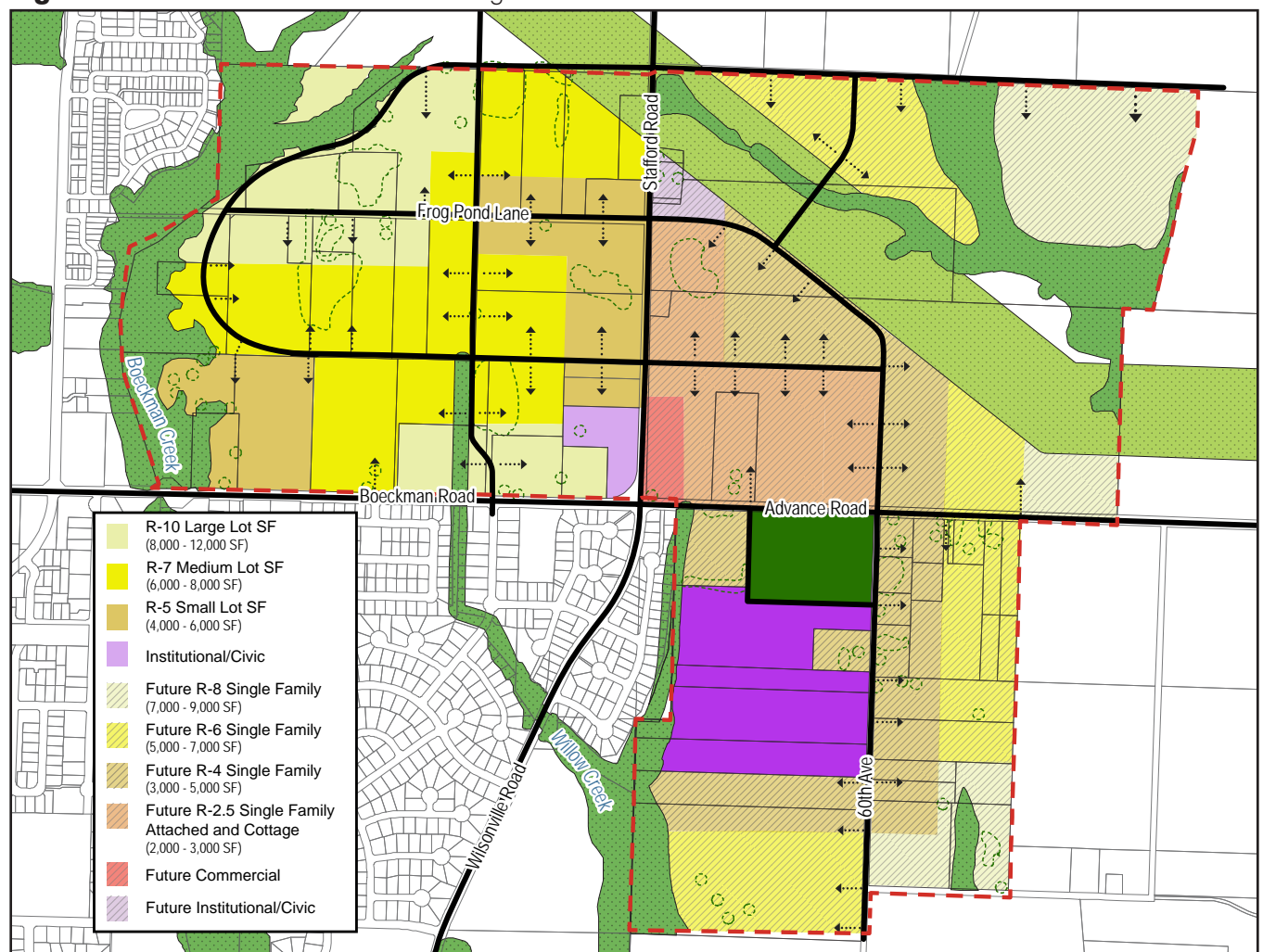
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FROG POND AREA PLAN CONTEXT

The 181-acre Frog Pond West Neighborhood is part of the larger 500-acre Frog Pond Area, which has been planned by the City in the adopted Frog Pond Area Plan.¹ The entire Frog Pond Area is a logical and intuitive extension of the City of Wilsonville. Historically, it was part of the City's early settlement pattern, with important gathering places for the rural farming community, such as the Grange Hall (originally the Frog Pond School) and the Frog Pond Church. Physically, it is adjacent to key connector streets (e.g. Wilsonville and Boeckman Roads), existing neighborhoods, and natural areas such as Boeckman Creek. Even the shape of the study area wraps around the edge of the community.

Figure 4. Land Use Framework from Frog Pond Area Plan



¹ The Frog Pond Area Plan, A Concept Plan for Three New Neighborhoods in East Wilsonville, was adopted by the Wilsonville City Council on November 16, 2015.



The Frog Pond Area is naturally comprised of three parts: the area west of Stafford Road, which is inside the Urban Growth Boundary and is the subject of the Master Plan; the area east of Stafford Road and north of Advance Road; and the area south of Advance Road. The Area Plan utilizes this framework to establish a vision for three new walkable neighborhoods: Frog Pond West, Frog Pond East, and Frog Pond South.

The Area Plan provides an area-wide concept plan that includes a land use framework, transportation framework, bicycle/pedestrian framework, and parks framework (see Appendix B). The Area Plan also includes the following elements that set the planning context for the Frog Pond West Master Plan:

- A vision statement and guiding principles for the Frog Pond Area.
- A framework for three walkable and connected neighborhoods.
- A phased residential land use strategy that emphasizes lower density and detached homes in the West Neighborhood, and a greater mix of housing types in the East and South Neighborhoods.
- Demonstration plans that illustrate community design principles.
- A future 3.2-acre neighborhood commercial center in the East Neighborhood.
- Five civic land uses: the Frog Pond Grange, the Community of Hope Church, the 10-acre Community Park, the 30-acre middle school and future school site south of Advance Road, and the 10-acre future school site in Frog Pond West—all connected by pedestrian routes, bike paths, and trails.²
- A network of streets, traffic controls, intersection treatments, and potential local street connections.
- A network of bicycle routes, pedestrian routes, and trails. The trails wrap around the area and include the Boeckman Trail, BPA Easement Trail, School Connection Trail, and 60th Avenue Trail.
- Two parks and a future school site in the West Neighborhood, a neighborhood park in the East Neighborhood, and schools in the South Neighborhood
- Infrastructure plans to support full buildout of the area.

² The future school site in the West Neighborhood was added as part of the Frog Pond West Master Plan process.



PLANNING AND ZONING DESIGNATION – RESIDENTIAL NEIGHBORHOOD

A new “Residential Neighborhood” Comprehensive Plan Map and Zoning Map designation will be applied to Frog Pond West. The purpose of the new designation is to explicitly implement the vision for Frog Pond West as a great neighborhood, as described in the following Comprehensive Plan policy:

Policy 4.1.7a *New neighborhoods in residential urban growth expansion areas may be designated “Residential Neighborhood” on the Comprehensive Plan Map.*

The purpose of the Residential Neighborhood designation is to:

1. Implement legislative area plans and master plans for new neighborhoods in Wilsonville.
2. Create attractive and connected residential neighborhoods.
3. Regulate and coordinate development to result in cohesive neighborhoods that include: walkable and active streets; a variety of housing appropriate to each neighborhood; connected paths and open spaces; parks and other non-residential uses that are focal points for the community; and connections to and integration with the larger Wilsonville community.
4. Encourage and require high-quality architectural and community design.
5. Provide transportation choices, including active transportation options.
6. Preserve and enhance natural resources so that they are an asset to the neighborhoods, and there is adequate visual and physical access to nature.

The Residential Neighborhood designation has been crafted so that it may be applied to the other neighborhoods within the Frog Pond Area Plan, as well as any other areas the City deems appropriate. Figure 5 shows the Residential Neighborhood designation in the context of surrounding Comprehensive Plan designations.

The Residential Neighborhood Zone district (RN) implements the Comprehensive Plan. It is a hybrid of the zoning approaches used within the City’s Planned Development Residential Zones and the Villebois Village Zone. It includes the elements summarized below and is described in more detail in the Master Plan and in the Code.

- **Purpose.** The purpose statement mirrors the Comprehensive Plan policy cited above.
- **Planned Development Residential procedures.** The RN Zone will be administered through the same process as PDR Zones are in other areas of the City.



- **Uses similar to PDR but updated for Frog Pond.** The use lists from PDR have been used as a starting point for the RN Zone.
- **Subdistricts.** The Master Plan and the RN Zone establish “subdistricts” to geographically specify the minimum and maximum number of residential dwellings in each subdistrict area of the neighborhood.
- **Development standards tailored to Frog Pond.** Using the PDR and Villebois development standards as a base, development standards have been updated, as needed, to implement planning for Frog Pond.
- **Residential design standards.** The RN Zone includes residential design standards addressing main entrances, garages, architectural detailing and quality, and house plan variety.

FROG POND WEST RESIDENTIAL SUBDISTRICTS

The Master Plan establishes “subdistricts” to specify the minimum and maximum number of residential dwellings within twelve subareas of the neighborhood. The number of dwellings and density distribution are consistent with those adopted in the Frog Pond Area Plan. They are grouped into three “zones”: R-10 Large Lot, R-7 Medium Lot, and R-5 Small Lot single family districts. The key elements of the subdistrict approach include:

- **Net acreage calculations.** The density metrics are based on estimates of “net” buildable land, consistent with the Area Plan. Net buildable land is the remaining acreage after removing land for streets, Significant Resource Overlay Zones, storm water facilities, existing homes, wetlands, and the two planned parks.
- **Maximum densities.** The maximum number of dwellings in a subdistrict is the net buildable acres divided by the average lot sizes assumed in the Area Plan: 10,000 net sq. ft. for R-10 Large Lot Single Family; 7,000 net sq. ft. for R-7 Medium Lot Single Family; and 5,000 net sq. ft. for Small Lot Single Family.
- **Minimum densities.** The minimum number of dwellings in a subdistrict is 80% of the maximum, as required by the Wilsonville Comprehensive Plan and Development Code.
- **Proportional basis for density calculations.** Where a subject property spans more than one subdistrict, or comprises only a portion of a subdistrict, the minimum and maximum densities are established on a proportional



basis, using gross acreage. See Appendix C for further information on the subdistrict metrics and method for calculating proportional density.

- Flexibility.** The City may allow a reduction in the minimum density for a subdistrict when it is demonstrated that the reduction is necessary due to topography; protection of trees, wetlands, and other natural resources; constraints posed by existing development; infrastructure needs; provision of non-residential uses; or similar physical conditions.

The subdistrict approach provides a straightforward and clear method of establishing lot types, densities, and standards that implement the Area Plan. It eliminates the uncertainty that the City, property owners, and developers often face when using the old formulas for density calculation in the Code. The draft Frog Pond West subdistrict method is simpler and more predictable for all parties, while still providing flexibility. Table 1 lists the minimum and maximum dwelling units in each subdistrict.

Table 1. Minimum and Maximum Dwelling Units Permitted in Each Subdistrict

Area Plan Designation	Frog Pond West Subdistrict	Minimum Dwelling Units in Subdistrict	Maximum Dwelling Units in Subdistrict
R-10 Large Lot Single Family (8,000 – 12,000 SF)	3	26	32
	7	24	30
	8	43	53
R-7 Medium Lot Single Family (6,000 – 8,000 SF)	2	20	25
	4	86	107
	5	27	33
	9	10	13
	11	46	58
R-5 Small Lot Single Family (4,000 – 6,000 SF)	1	66	82
	6	74	93
	10	30	38
Civic	12	0	7 ^a
Public Facilities (PF)	13	0	0
TOTAL		452	571

^a These metrics apply to infill housing within the Community of Hope Church property, should the property owner choose to develop housing on the site. Housing in the Civic subdistrict is subject to the R-7 Medium Lot Single Family regulations.



OTHER LAND USES

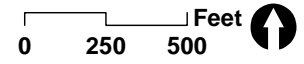
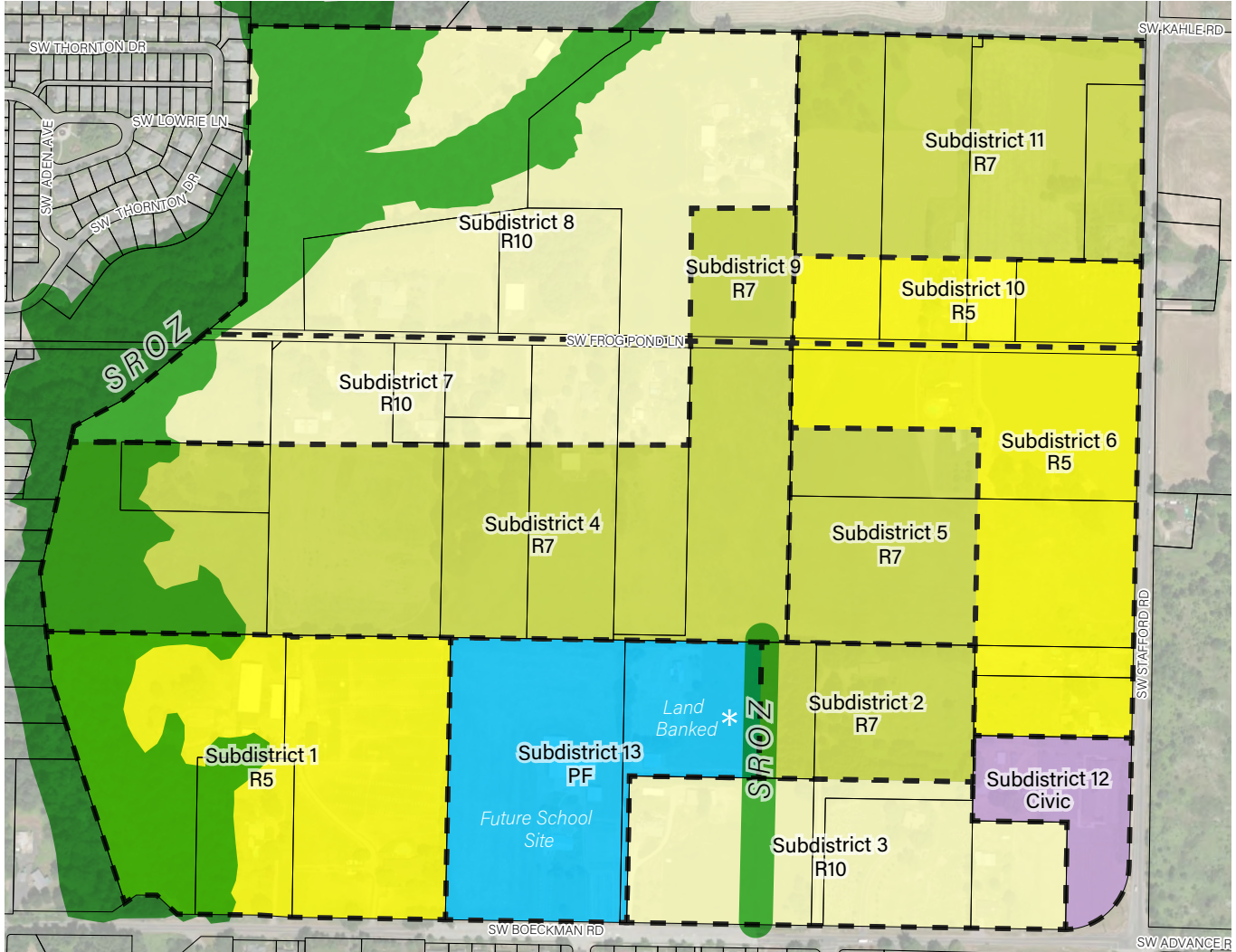
Land use in Frog Pond will be predominately, but not exclusively, residential. The streets, parks, future school, natural areas, and Community of Hope Church are important parts of the overall land use pattern. The following is an estimate of the acres of broad category land uses in Frog Pond West:







- **Net Residential Area:** 86.5 Acres
- **Significant Resource Overlay Zone (SROZ):** 27 Acres
- **BPA Corridor:** 2.8 Acres
- **Streets and Pedestrian Connections:** 46 Acres
- **Future School:** 10.9 Acres
- **Neighborhood Park:** 2.5 Acres
- **Trailhead Park:** 1.5 Acres
- **Community of Hope Church:** 3.8 Acres
- **Total Area:** 181 Acres

The West Linn-Wilsonville School District owns three tax lots comprising 25 acres within Frog Pond West. The 10-acre property that fronts on Boeckman Road is planned for a future school, which will provide a key civic land use serving the neighborhood and surrounding area. The adjacent 5-acre parcel is labeled “land banked”. The intent for this parcel is for the School District to have options for its use including school facilities, a neighborhood park, and/or residential use. The district’s remaining acreage fronts on Stafford Road and is land banked for future residential uses.



Figure 6. Frog Pond West Land Use and Subdistricts



- | | | | |
|---|-------------------------------|--|---|
|  | R5 - Small Lot Single Family |  | Public Facilities |
|  | R7 - Medium Lot Single Family |  | Civic |
|  | R10 - Large Lot Single Family |  | Significant Resources Overlay Zone (SROZ) |

* Land banked for school facilities, a neighborhood park, and/or residential use.





Residential and Community Design



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OBJECTIVES

Wilsonville places a high priority on quality design, as expressed in the following existing Comprehensive Plan implementation strategy:

Implementation Measure 4.1.5.ii *The design of developments within the community can be regarded from two viewpoints: the design of structures as they relate to site and function (architectural design) and, their relationship to the surrounding area (community design). Both aspects shall be considered to be of equal importance. Good architectural design is necessary to provide visual variety and allow for individual identity. At the same time, good community design provides a sense of unity with other development while eliminating conflicting appearances.*

The Master Plan further regulates and guides development in order to achieve quality and livability. In addition to the expectation cited above, it is the premise of the Master Plan that quality design will achieve the following benefits:

- **Economic value.** Property and structure values will be enhanced by quality development.
- **Compatibility with adjacent areas.** New development will be more acceptable to existing residents of Wilsonville if the City's high standards for quality design are implemented and enhanced.
- **Coordinated and cohesive development.** As described above, one of the key challenges for Frog Pond West is to knit individual developments together into a coordinated and cohesive whole. The design standards in the Master Plan are intended to help achieve that outcome.
- **Safety.** The Master Plan emphasizes walkability on multiple levels (e.g. street plan, orientation of residential main entrances toward streets). The intent is to create a neighborhood where walking is safe, inviting, and comfortable.
- **Precedence for future neighborhoods.** Frog Pond West is the first of the new residential expansion areas that will be developed in Wilsonville, principally in East Wilsonville. It is important that a successful precedent is set, and quality design is a key tool to achieve that outcome.



MAIN ENTRANCES

Principles

- Each home is part of the larger neighborhood and community.
- Front doors and walkways should face streets.
- The front yard and porch or stoop are “semi-public” spaces.

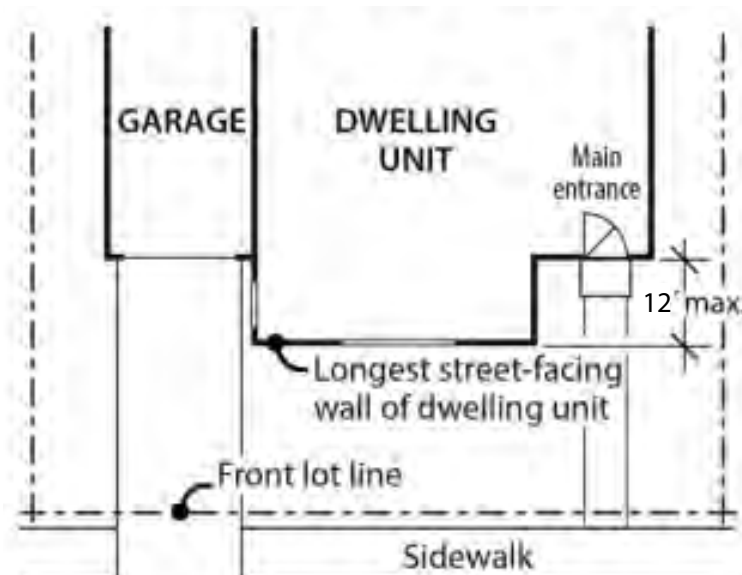
Master Plan Intent

The location of front doors, and their direct connections to the street, should:

1. Support a physical and visual connection between the living area of the residence and the street;
2. Enhance public safety for residents and visitors and provide opportunities for community interaction;
3. Ensure that the pedestrian entrance is visible or clearly identifiable from the street by its orientation or articulation; and
4. Ensure a connection to the public realm for development on lots fronting both private and public streets by making the pedestrian entrance visible or clearly identifiable from the public street.

The Code standards require a direct visual connection between the front door of the home and the front yard and street. Porches are an excellent way to emphasize this relationship and create a transition between the private realm of the home, the “semi-public” realm of the front yard, and the public realm of the sidewalk and street.

Figure 7. Main Entrances



Precedents:
Main Entrances



Porches and yards that blend with the streetscape invite play and relaxation, fostering a sense of community.



Doors and porches facing the street increase neighborhood safety and a sense of community.



Houses where windows and doors are hidden from the street detract from the perceived safety of the neighborhood, because no one is aware of what happens in the street.



Well-designed garage doors help to create a more attractive neighborhood street.



GARAGES

Principles

- *Parking and driveways should not dominate.*
- *Garages should not dominate.*

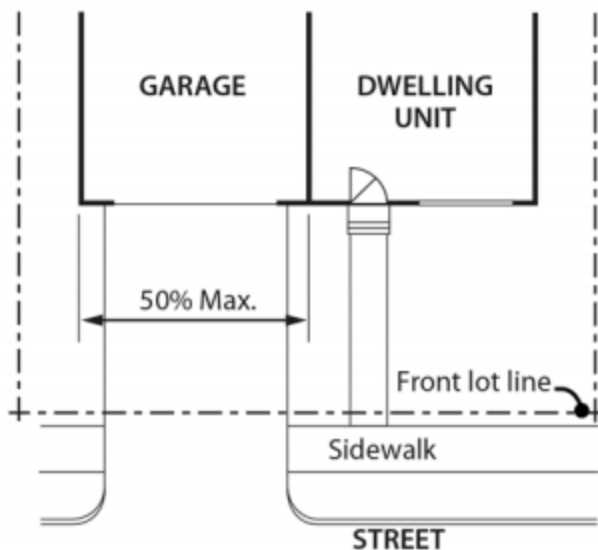
Master Plan Intent

The size and location of garages should be designed to:

1. Ensure that there is a physical and visual connection between the living area of the residence and the street;
2. Ensure that the location and amount of the living area of the residence, as seen from the street, is more prominent than the garage;
3. Prevent garages from obscuring the main entrance from the street and ensure that the main entrance for pedestrians, rather than automobiles, is the prominent entrance;
4. Provide for a more pleasant pedestrian environment by preventing garages and vehicle areas from dominating the views of the neighborhood from the sidewalk; and
5. Enhance public safety by preventing garages from blocking views of the street from inside the residence.

The Code standards require limitations on the length and setback of the front garage wall so that they do not dominate the façade. Alleys and shared driveways are encouraged as a solution to be used where applicable; alleys are a specified solution for Small Lot Residential blocks along some collector streets. There is flexibility to have larger 3-bay garages, but with a 2-foot offset so the additional garage space is diminished in appearance. A minimum setback of 20-feet is required so that off-street parking in the driveway can be accommodated without parked cars overhanging the sidewalk.

Figure 8. Length of front garage wall



Precedents:
Garages



Garages that are accessed from the side of a house can reduce the visual impact of the driveway.



Large driveway areas disconnect houses from the street and create an unattractive frontage.



Recessed garages help to create a more attractive neighborhood street.



RESIDENTIAL DESIGN STANDARDS

Principles

- *Each home is part of the larger neighborhood and community.*
- *Details are important.*
- *Variety is the spice of good design.*
- *Create great neighborhoods.*

Master Plan Intent

Detailed and varied home designs are intended to:

1. Support consistent quality standards so that each home contributes to the quality and cohesion of the larger neighborhood and community.
2. Support the creation of architecturally varied homes, blocks, and neighborhoods—whether a neighborhood develops all at once or one lot at a time—avoiding homogeneous street frontages that detract from the community's appearance.

There are three groups of standards to achieve quality residential design:

- **Windows and Articulation.** A percentage of the façade must be made up of windows, including glazed portions of doors. Varied rooflines, offsets, balconies, and other forms of articulation are required to add interest, shadow lines, and variety to the façade.
- **Design Menu.** Architectural detailing and variety is required through a flexible “menu” of standards. Builders may choose from a list of standards and meet a subset of them specified by the code. This system is in use in many cities and has proven to be effective and easily administered. Examples of the standards include: dormers, covered porch entries, second story balconies, roof overhangs (minimum 16”), decorative gables, stone or other decorative materials, transom windows, and decorative base materials (minimum 36” in height).
- **House Plan Variety.** The basic requirement is that no two adjacent or opposite dwellings may have the same elevation. Small lot developments over 10 acres are required to incorporate duplexes or attached 2-unit homes. These standards are intended to promote variety, create interesting streetscapes, and prevent monotony.





Precedents:
Residential Design Standards



Details are important.



Homogeneous homes, without adequate detailing and landscaping, detract from the attractiveness of the neighborhood.



Use of alleys and orientation to pedestrian connections provides pedestrian-friendly frontages.



High quality construction, detailing, and diverse architectural styles make a neighborhood more attractive.



LOT AND SITE DESIGN IN SMALL LOT SUBDISTRICTS

Principles

- *Each home is part of the larger neighborhood and community.*
- *Variety is the spice of good design.*
- *Design guidelines should be tailored to each zone.*

Master Plan Intent

Small Lot Subdistricts have unique lot and site design requirements in order to:

1. Ensure that development in the Small Lot Subdistricts is compatible with other developments in the Frog Pond West Neighborhood;
2. Ensure varied design that avoids homogenous street frontages;
3. Orient site design to support active pedestrian street frontages; and
4. Integrate open space into the development pattern.

Small lots present unique opportunities and challenges. On the positive side, they provide affordable housing choices, options for residents who do not want to maintain large homes and lots, and a solution for maintaining density while providing open space. They are an important part of Frog Pond's variety of housing. On the challenging side, they require careful site design to ensure an attractive street edge and compatibility with nearby larger lots. To address these issues, the Master Plan and the implementing code utilize a flexible system where one or more of the following site design elements are employed on each block:

- **Alleys**, so that streetscapes are "people places" and not dominated by closely-spaced driveways.
- **Residential main entries grouped around a common green or entry courtyard** (e.g. cluster housing) provide open space integrated with the small homes.
- **Four or more residential main entries facing a pedestrian connection** allowed by an applicable master plan to activate pedestrian connections with front doors and activity.
- **Garages recessed** at least 4 feet from the front façade or 6 feet from the front of a front porch.



Lot and Site Design in
Small Lot Subdistricts



Small Lot Single Family Demonstration Plan



Alleys.



Varied design to avoid homogenous frontages.



Residences facing pedestrian connection.



Main entries grouped around a common green.



OPEN SPACE IN SMALL LOT SUBDISTRICTS

Principles

- *Variety is the spice of good design.*
- *Green is great.*
- *Create community gathering spaces.*

Master Plan Intent

The Master Plan, and the implementing Code, require that open space is included in developments within Small Lot Single Family Subdistricts. The amount of open space is “10 percent of net developable area,” meaning 10% of the net area after “take-outs” for non-residential uses, SROZ-regulated lands, streets, alleys, and pedestrian connections. The required open space must be in the form of active greens, courtyards, community gardens, tot lots, public pedestrian ways, tracts with preserved trees and wetlands, and similar spaces. The City’s rationale and purpose for this open space requirement is to:

1. Add variety and livability to the built form in Small Lot Subdistricts, where density is highest in the neighborhood.
2. Provide a useful tool to preserve trees and wetlands in areas of smaller lots.
3. Provide active play spaces close to homes that have smaller yards.

Natural resource areas such as tree groves and/or wetlands and unfenced low impact development storm water management facilities may be counted toward the 10% requirement at the discretion of the City. Fenced storm water detention facilities do not count toward the open space requirement. The minimum area for a single facility or tract is 4,000 square feet so that spaces are a meaningful size for active uses or resource protection; the City may approve smaller spaces on a case-by-case basis.

The Small Lot Subdistrict open space requirement is one part of the framework of open spaces planned for Frog Pond West. In summary, the open space framework for the neighborhood includes:

- Land within the Boeckman Creek SROZ
- SROZ along Willow Creek
- BPA Corridor
- One 2.5-acre neighborhood park and one 1.5-acre trailhead park
- A 10-acre future school with expected fields and play areas
- An estimated 20% of identified wetlands
- Pedestrian greenways that will result from implementation of the Street Demonstration Plan
- Small Lot Subdistrict open spaces

Please see page page 67 for further information on the Open Space Framework.



Open Space in Small Lot Subdistricts



Demonstration Plan of 10% Open Space Standard in Small Lot Subdistrict



Trailhead Park



Common Green



Pedestrian Connection



Community Garden



BOECKMAN AND STAFFORD ROAD FRONTAGES

Principles

- *Details are important.*
- *Create a complete streets and trails network.*
- *Provide compatible transitions to surrounding areas.*

Master Plan Intent

Boeckman Road and Stafford Road are very important streets for Frog Pond West. Visually and functionally, Boeckman Road is a “front door” to Frog Pond West. It is also a “seam” between Frog Pond West and existing neighborhoods to the south. It serves an important connecting function between East Wilsonville and Central and West Wilsonville. Stafford Road will be the new gateway into Wilsonville from the north and a seam between Frog Pond West and the future Frog Pond East.

The Master Plan seeks to: (1) Ensure that development does not isolate Boeckman Road and Stafford Road from their adjacent neighborhoods; (2) Create walkable and bikeable streets, even though they are arterial classifications and will carry relative large volumes of traffic; (3) Coordinate frontage standards to create an attractive edge to the neighborhood and a strong connection with the larger community; and (4) Find the right balance between a streetscape that works for people, and development that seeks residential privacy.

There are two strategies employed by the Master Plan to achieve the above objectives. The first strategy involves tailored cross-sections that have a planted median, a buffered bike lane, a generous planter strip and wide sidewalks. The second strategy involves coordinated frontage requirements that will create a cohesive and attractive design along the frontages of both roads. Figure 9 shows planning concepts for Boeckman Road. Figure 10 shows the required frontage improvements and Figure 11 describes guidelines for the road wall along Boeckman Road and Stafford Road. The elements include:

1. **Brick wall with wrought iron fence on top.** The property line fencing along Boeckman Road and Stafford Road will include a 4' high brick wall with a 2' high wrought iron fence located at the lot line. Brick columns will be placed at intervals, and should be placed at property corners.
2. **Foundation landscaping.** Landscaping comprised of low shrubs and ornamental plants will be provided at the foot of the wall to offer variety and visual interest.
3. **Pedestrian connections.** Connections will be provided from Boeckman Road into the neighborhood, at a spacing consistent with the Street Demonstration Plan. The pedestrian connections will be consistent with the Pedestrian



Connection cross-section in the Frog Pond West Master Plan.

4. **Landscape buffer tract landscaping.** A Landscape Buffer Tract will be provided between the right-of-way and the rear of the abutting lots. The buffer will be a common tract and will be planted with climate-adaptive shrubs to create a landscaped edge to the streetscape and reduce the visibility of the walls.
5. **Enhanced elevations.** The street-facing facades of the homes along Boeckman will meet the standards (windows, articulation, residential design standards, house plan variety) for front elevations elsewhere. These elevations do not need to mirror the fronts, but they do need to meet the Code's standards. These "enhanced elevations" requirements also apply to facades facing pedestrian connections, parks, open space tracts and the Boeckman Trail.

Figure 9. Boeckman Road Frontage

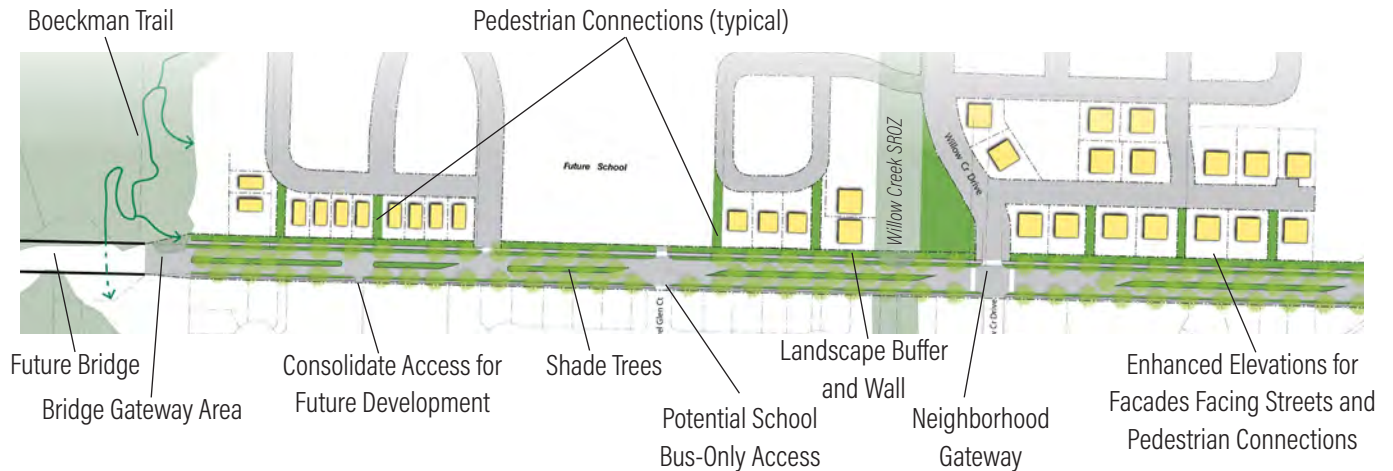


Figure 10. Boeckman Road and Stafford Road Frontage Improvements

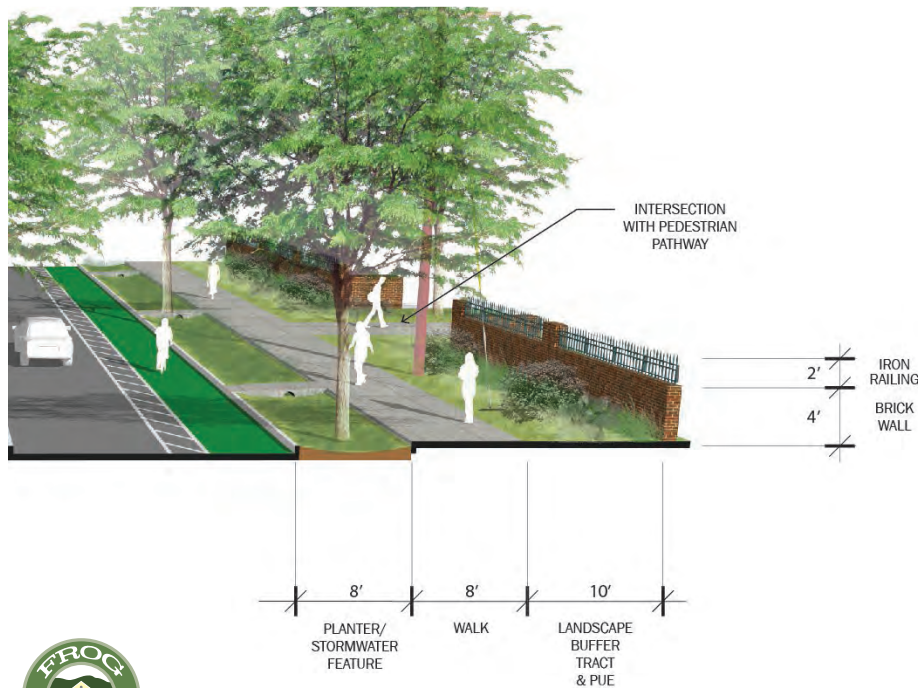
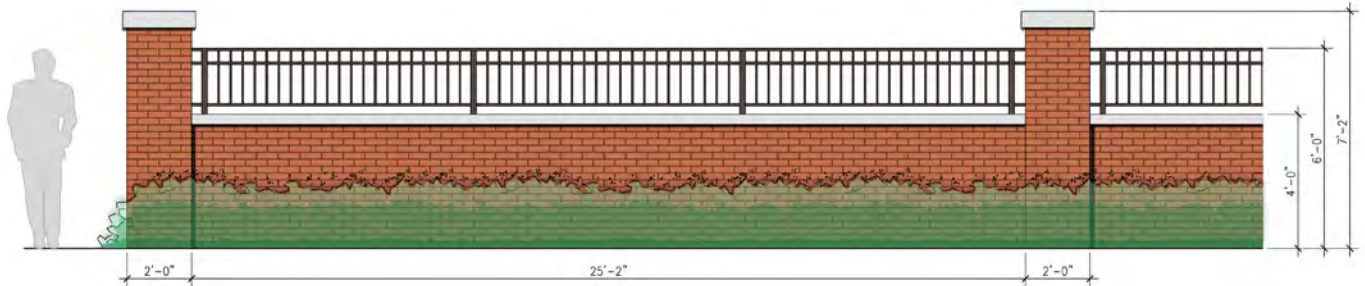


Figure 11. Boeckman & Stafford Road Wall Guidelines



Landscape Notes:



- Within 10' Buffer/PUE**
- Informal planting bed
 - Low maintenance plantings
 - Low evergreen shrubs
 - Low trees (if suitable under powerline)
 - No lawn



- Corner of Willow Creek Drive**
- Formal planting bed
 - Seasonal color
 - Entry 'statement'
 - Low plantings
 - No lawn
 - Frame wall 'arc'

Corner Plan:



Conceptual corner plan at Boeckman-Willow Creek Drive intersection

All guidelines are typical. Final designs are determined at development review.



BOECKMAN CREEK FRONTAGES

Principles

- *Green is great.*
- *Design guidelines should be tailored to each zone.*
- *Provide access to nature.*
- *Provide compatible transitions to surrounding areas.*

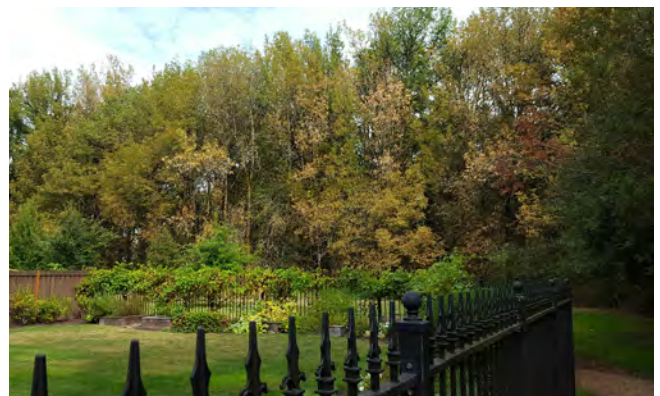
Master Plan Intent

The Boeckman Creek Significant Resource Overlay Zone (SROZ) is a unique asset to the West Neighborhood. It provides a scenic backdrop, a large open space, the location of the Boeckman Trail, and a planned future trail crossing that will connect the Frog Pond neighborhoods to the Canyon Creek Road area on the west side of the Boeckman Creek corridor. The character and form of adjacent development—the orientation of lots, the design and location of open space tracts, the type of fencing, and the landscape plantings—will all influence (1) how compatible (or incompatible) new development is with the resource area; and (2) how much physical and visual access the neighborhood and larger community has to Boeckman Creek.

The Master Plan intends for the following to be implemented in order to ensure development is compatible with the adjacent SROZ and that physical and visual access to the Boeckman Creek Trail and SROZ area is provided:

1. The SROZ shall not be “walled off” or privatized by development. Rather, the objective is to ensure compatibility and to create physical and visual access for all neighborhood residents and visitors.
2. Streets shall terminate in, or run adjacent to, the Boeckman Creek trail at trailhead locations shown on the Street Demonstration Plan. It is particularly

Figure 12. Examples of Creekside Treatment



important for the east-west streets to follow this requirement, so that there are clear visual corridors from the interior of the neighborhood to the Boeckman Creek SROZ area.

3. Open space tracts and pedestrian connections that are provided with development shall be oriented to support the goals of compatibility and physical and visual access.
4. Where possible, lots shall be oriented to minimize rear-yard orientation to the SROZ area.
5. All elevations adjacent to the Boeckman Creek trail shall be enhanced with articulation and architectural detailing consistent with the Residential Design Standards of the Neighborhood Residential Zone.
6. Fences facing onto the Boeckman Creek SROZ open space shall be comprised of wrought iron or other transparent materials acceptable to the City. Colors shall be black or a similar dark color.
7. The City's SROZ regulations for the use of native vegetation, preservation of existing trees, and other "Habitat Friendly Development Practices" will be applied.



Figure 14. Conceptual View of Street Culminating on Boeckman Creek Corridor



SITE PLANNING TO PRESERVE TREES AND WETLANDS

Principles

- *Green is great.*
- *Provide access to nature.*
- *Retain trees.*
- *Integrate sustainability.*

Master Plan Intent

The tree groves within the planning area provide a key visual asset and are a link to the historic character of the area. To the extent that existing mature trees can be retained and protected as annexation and development occurs, it will contribute to the character and desirability of new neighborhoods. The city has existing annexation policies that incentivize tree retention.¹

Maps prepared for the City show an area of farmed wetlands in the southeast area of the neighborhood. They are relatively low-quality wetlands that do not meet the City's criteria for "significant" designation and application of the SROZ. However, they do have potential to be restored, used as storm water areas, and incorporated as amenities into the neighborhood.

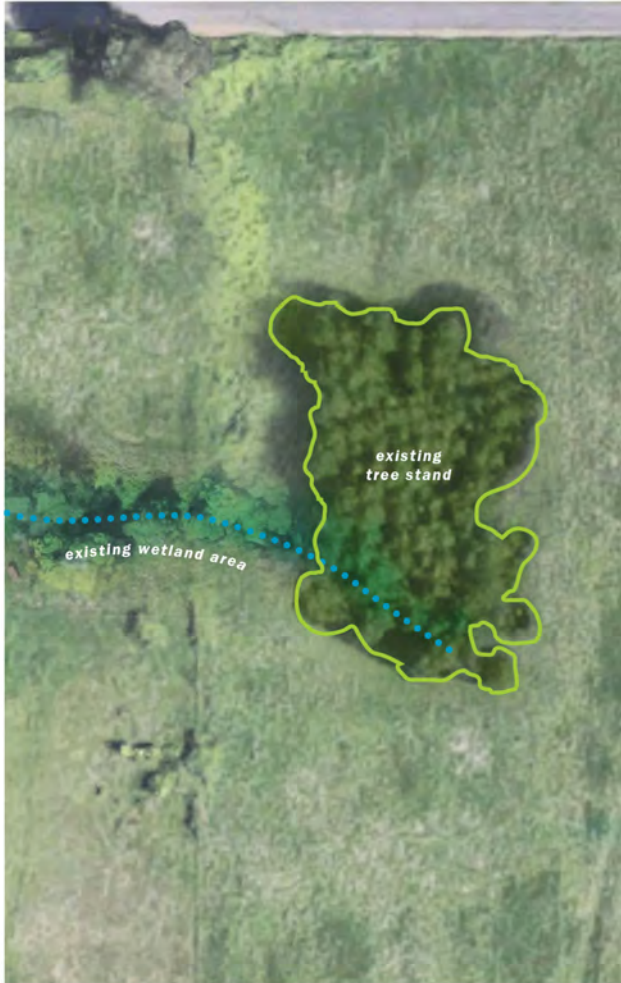
The Master Plan intends for tree groves to be preserved and incorporated into the design of developments as much as possible. This will be achieved through the Planned Development Review and application of Section 4.600, Tree Preservation and Protection, of the Development Code. Tree protection is also incentivized by counting toward open space requirements in the Small Lot subdistricts.

Figure 15 shows a site with a grove of trees, and how those trees might be incorporated into a development plan that would be acceptable to the City. The City encourages exploration of tree and wetland issues during the pre-application process before significant funds have been invested in designs that may not be approved.

¹ See Wilsonville Natural Resources Annexation Policy, adopted July 16, 2007. Available at <http://www.ci.wilsonville.or.us/DocumentCenter/View/550>.



Figure 15. Preservation of Existing Trees



Before development



After development



Transportation



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OVERVIEW

The vision for Frog Pond West is to be a highly-connected neighborhood with a transportation network that is safe and convenient, whether one is traveling by foot, bike, SMART Transit, or car. The network of streets, pedestrian paths, and bikeways will knit together to provide public access to areas and amenities within the neighborhood, in the rest of the city, and in future growth areas. The City's overarching transportation strategy is in the Comprehensive Plan:

Implementation Measure 3.2.1a *Provide a safe, well-connected, and efficient network of streets and supporting infrastructure for all travel modes.*

The Frog Pond Area Plan Transportation Framework (Figure 16) and Bicycle/Pedestrian Framework (Figure 17) provide the foundation for a strong multi-modal network between and within each of the Frog Pond neighborhoods. The transportation element for Frog Pond West is the first stage for implementing these area-wide framework plans at a neighborhood-specific level of planning and design. The Master Plan recommendations recognize well-designed streets will provide other amenities in addition to transportation, including: a sense of community identity; provision of street trees and green space; locations for active transportation and healthy activity; and facilities for low impact stormwater treatment.



Figure 16. Frog Pond Area Plan Transportation Framework

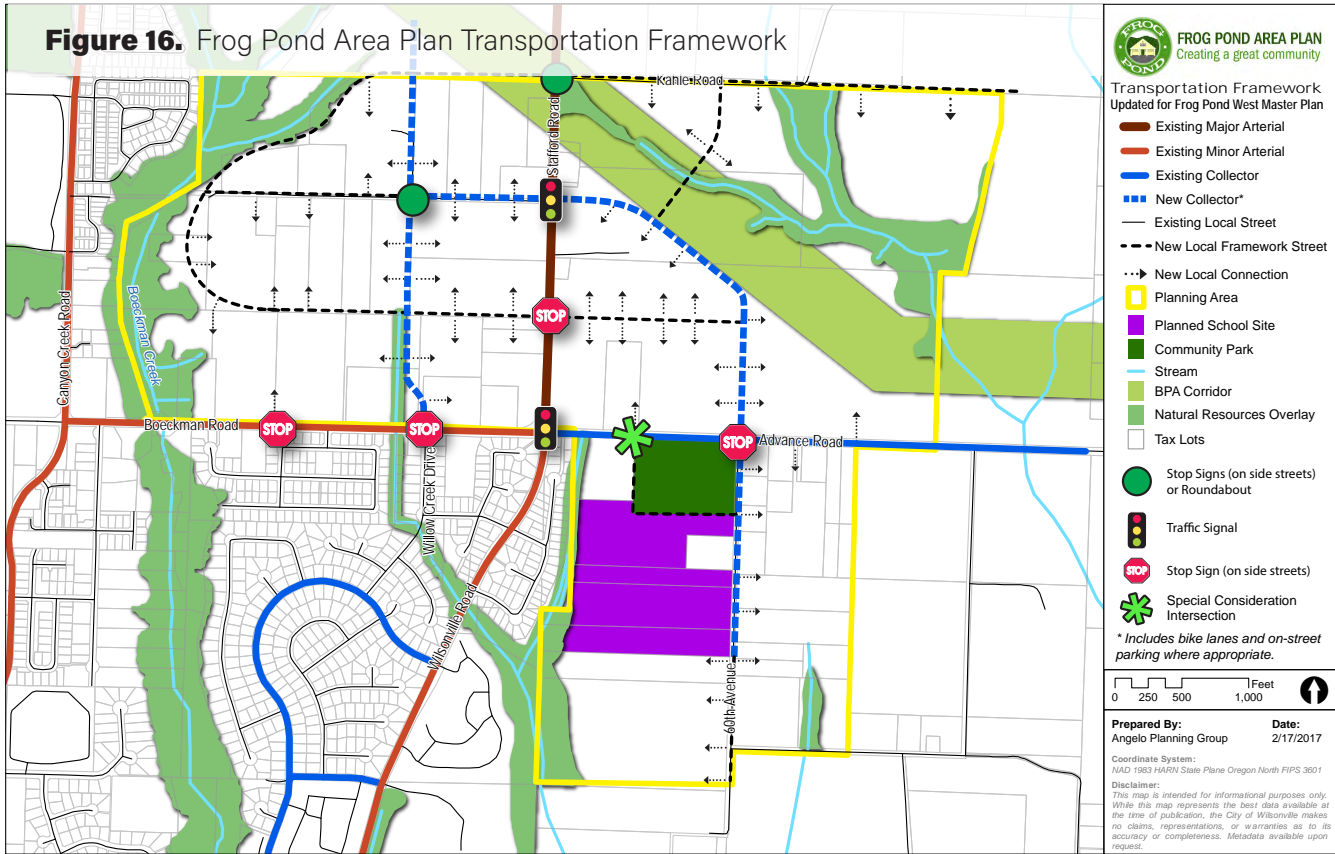
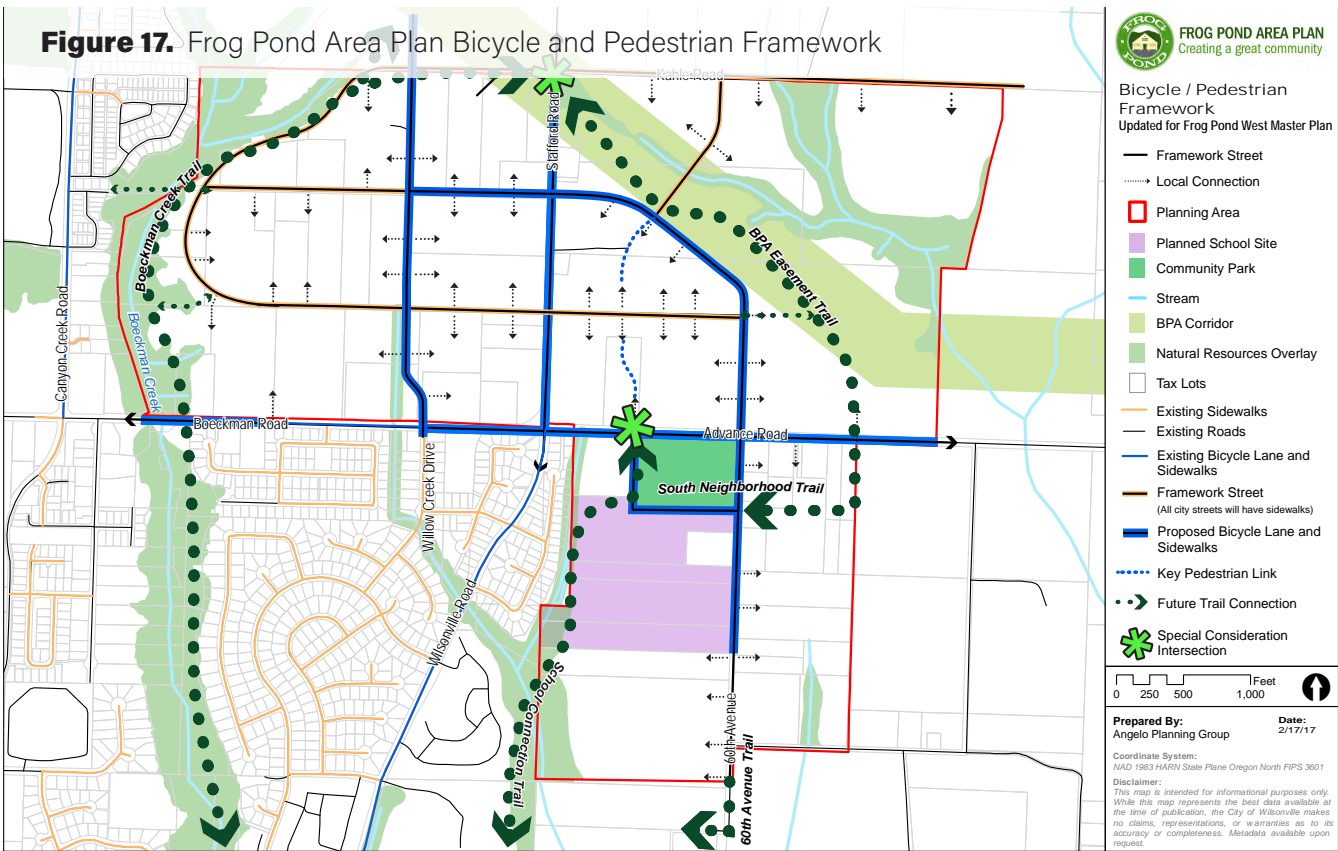


Figure 17. Frog Pond Area Plan Bicycle and Pedestrian Framework



STREET DEMONSTRATION PLAN

The Street Demonstration Plan is a detailed guide to the desired level of connectivity and overall street pattern for the Frog Pond West Neighborhood. It implements the “Framework Streets” developed in the Frog Pond Area Plan and shows a conceptual layout of local streets, alleyways, pedestrian and bicycle connections, and trails. The ultimate layout of the local street network will be implemented based on the needs of individual developments, consistent with the Street Demonstration Plan.

The street layout and block pattern in this diagram is illustrative; it shows one way of achieving the transportation and connectivity goals of the plan. It is intended to be guiding rather than binding, and used as a “consistency” standard during development review. This will be implemented through new zoning code text for the Neighborhood (N) Zone.

Wilsonville Code (WC) Section 4.127(.09) *Block, access and connectivity shall comply with adopted Legislative Master Plans.*

Within the Frog Pond West Neighborhood, streets shall be consistent with Figure 18, Street Demonstration Plan, in the Frog Pond West Master Plan. The Street Demonstration Plan is intended to be guiding, not binding. Variations from the Street Demonstration Plan may be approved by the Development Review Board, upon finding that one or more of the following justify the variation: barriers such as existing buildings and topography; designated Significant Resource Overlay Zone areas; tree groves, wetlands, or other natural resources; existing or planned parks and other active open space that will serve as pedestrian connections for the public; alignment with property lines and ownerships that result in efficient use of land while providing substantially equivalent connectivity for the public; and/or, site design that provides substantially equivalent connectivity for the public.

If a legislative master plan does not provide sufficient guidance for a specific development or situation, the Development Review Board shall use the block and access standards in Section 4.124 (.06) as the applicable standards.



Figure 18. Street Demonstration Plan



Street Types and Cross Sections

Cross sections for the various functional classifications of roadways in the City of Wilsonville are included in the City's Transportation System Plan (TSP). They depict typical roadway elements and widths for arterial, collector, and local streets, as well as shared-use paths. The Frog Pond West Master Plan provides a street classification that is consistent with the TSP, but more specific and tailored to the neighborhood—see Street Types Plan (Figure 19) and specific cross sections.

Cross Sections for the street types listed below are illustrated in Figure 20 through Figure 28. As with all street design in Wilsonville, the City has authority to require or allow variations from the typical cross-sections. Frog Pond West's cross-sections are:

- Boeckman Road
- Stafford Road
- Low Impact Development Local Street
- Collector – Gateway
- Collector – Internal
- Typical Pedestrian Connection
- Typical Alley
- "Woonerf" street
- "Hammerhead" diagram
- Boeckman Creek Trail (see page 61)

The list of cross sections includes a local street type called "Woonerf and Special Street Designs". The City will consider, on a case-by-case basis, specialized street sections for low-volume, local streets that emphasize pedestrian safety, low impact storm water management, and traffic calming, while still maintaining connectivity. A Woonerf is one type of street that meets these criteria.

Stormwater will be managed within planter strips along the streets of Frog Pond West as much as possible. The design of the landscape/stormwater strips will accommodate the various needs of stormwater, pedestrian movement, and street trees. The City, at its discretion, may consider stormwater management through facilities other than planter strips on a case-by-case basis.



Figure 19. Street Types Plan

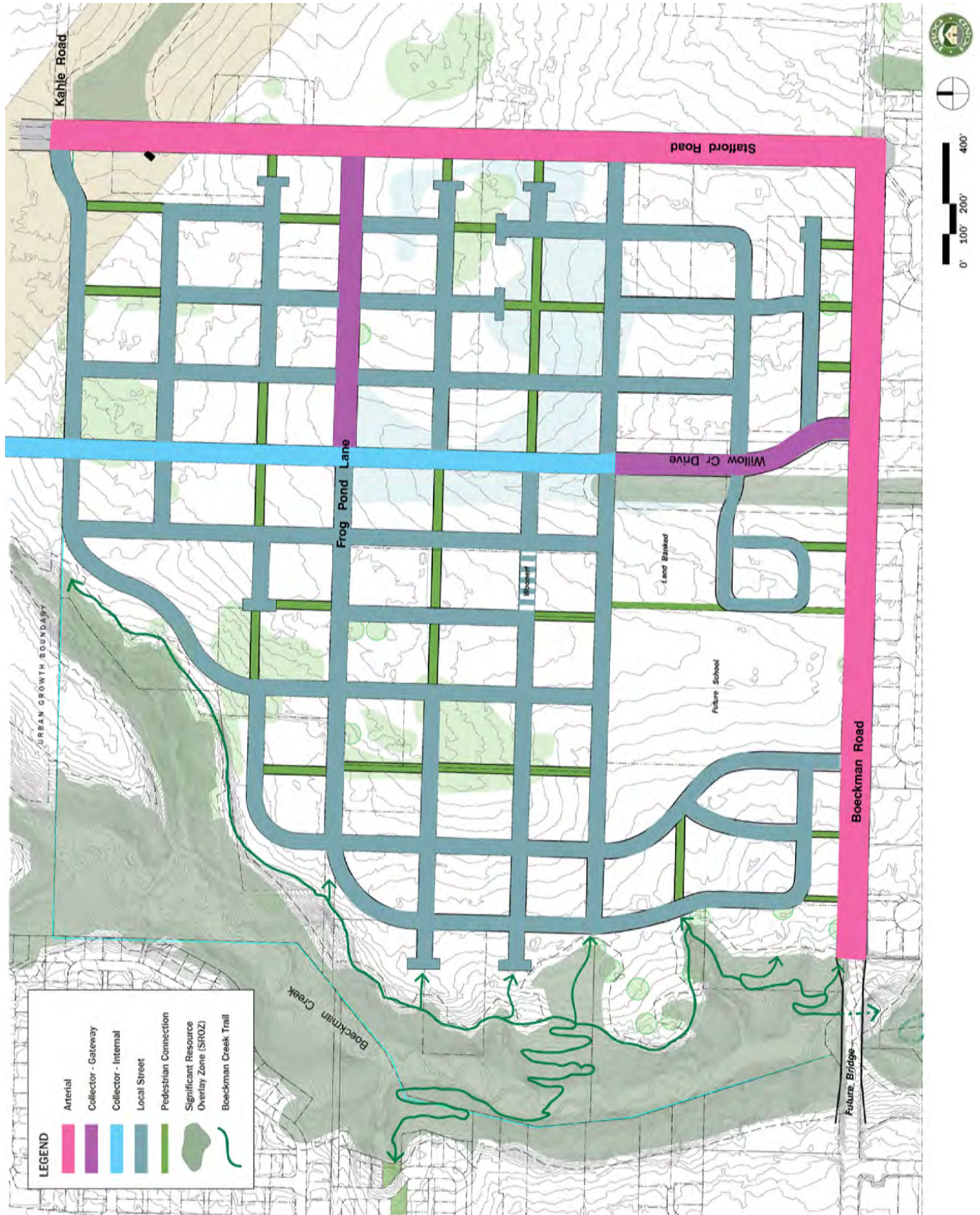


Figure 20. Boeckman Road - Looking West

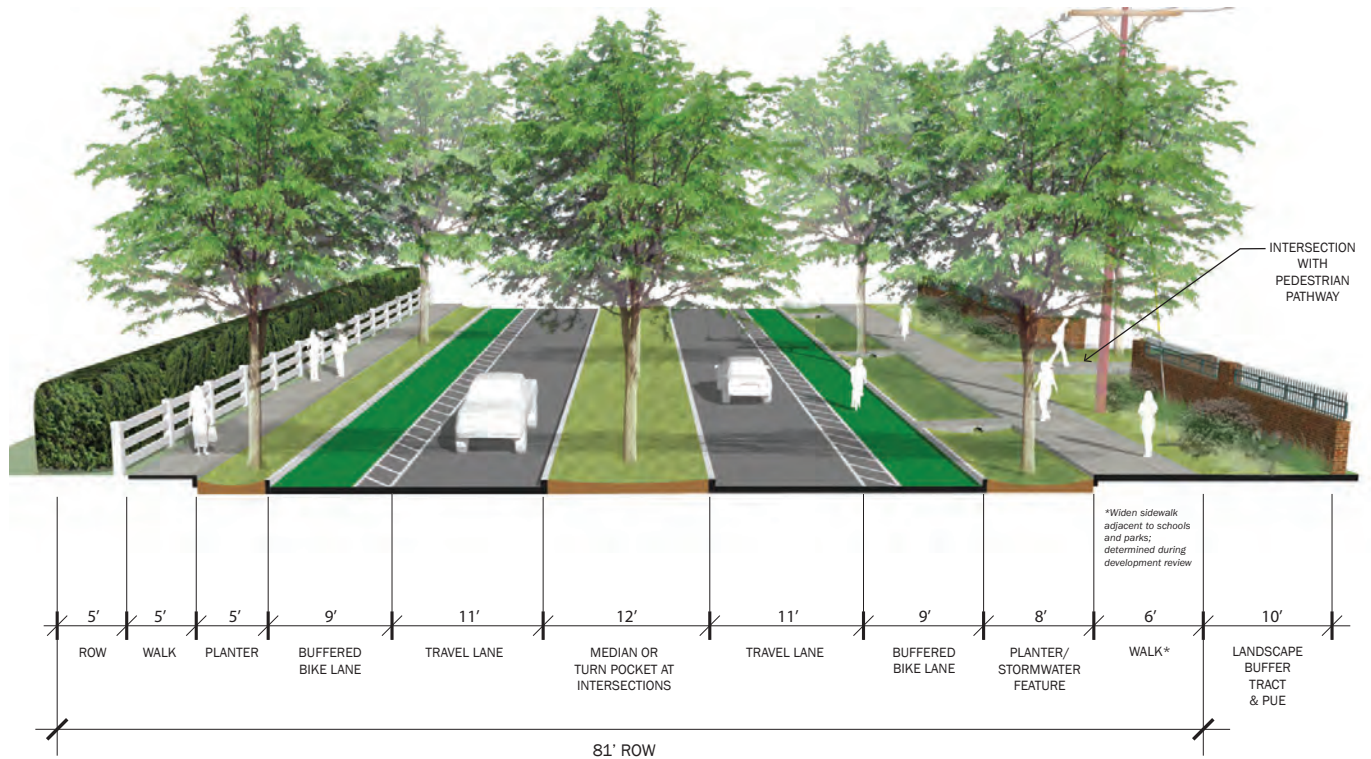


Figure 21. Stafford Road - Looking North

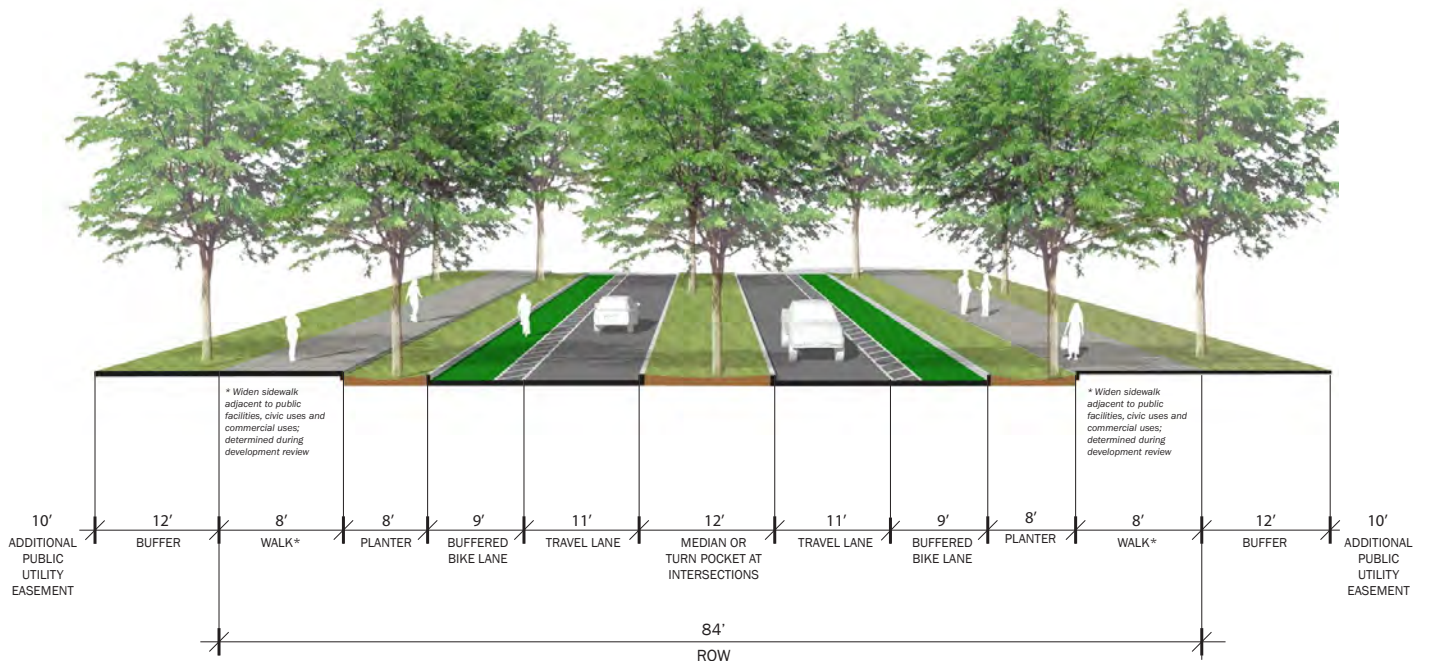


Figure 22. Low Impact Development Local Street

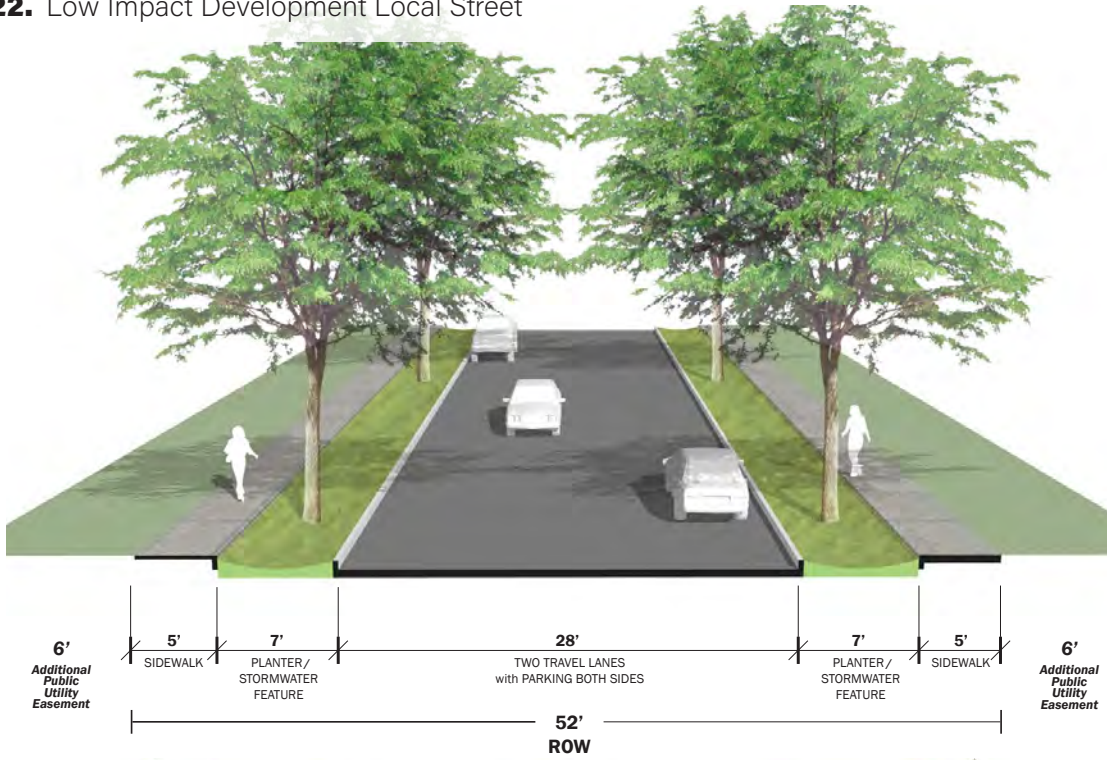


Figure 23. Collector - Gateway

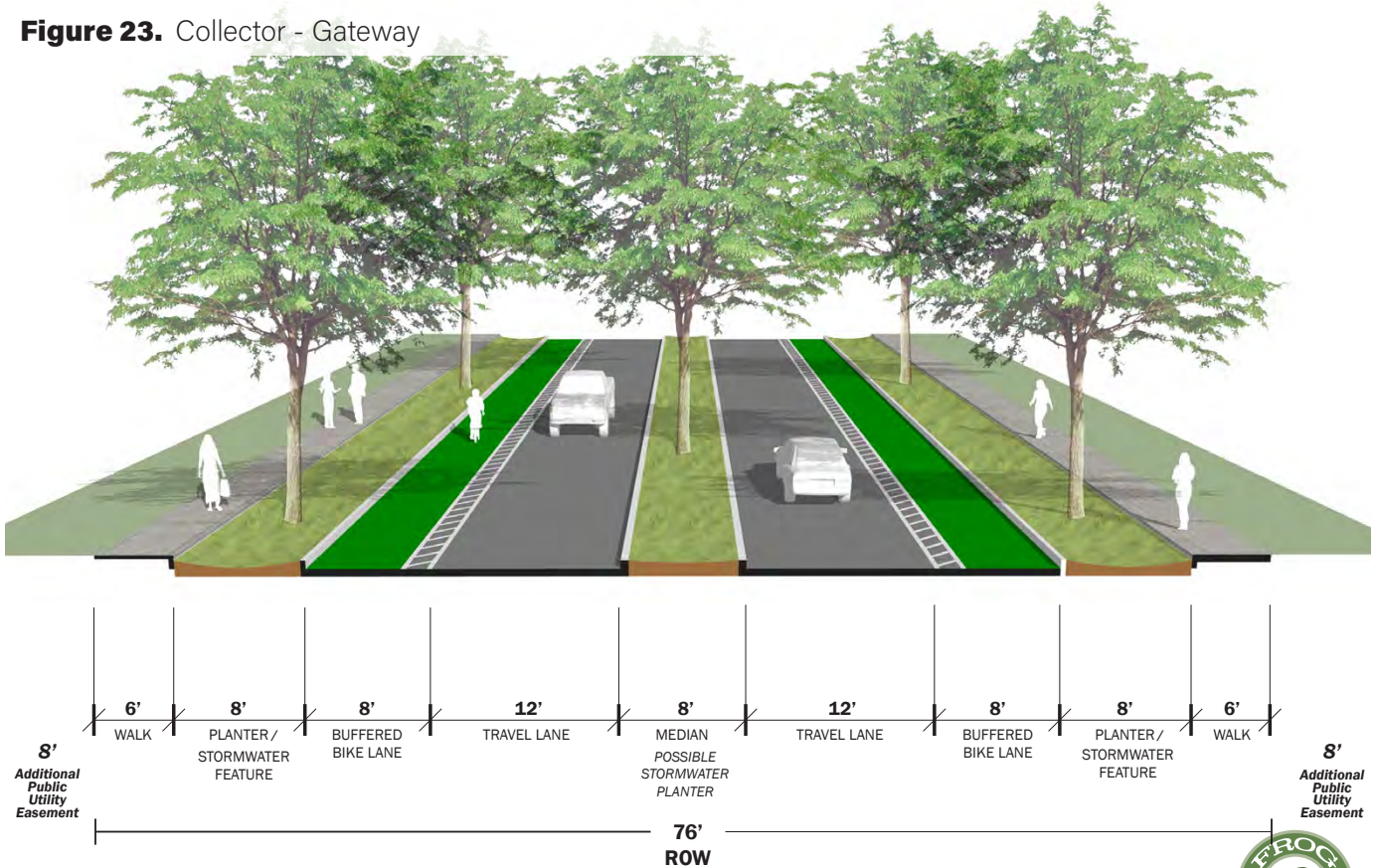


Figure 24. Collector - Internal

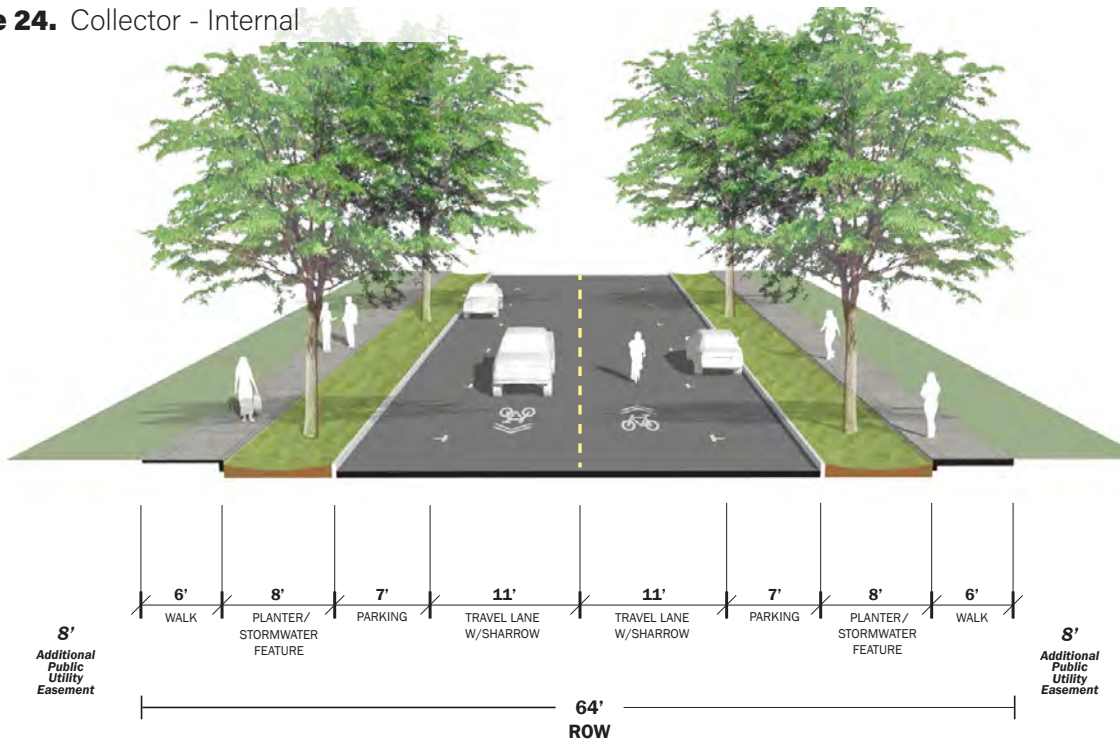


Figure 25. Typical Pedestrian Connection

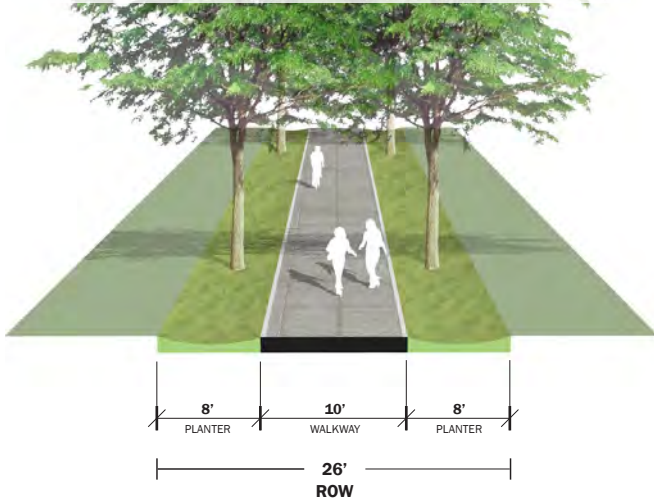


Figure 26. Typical Alley

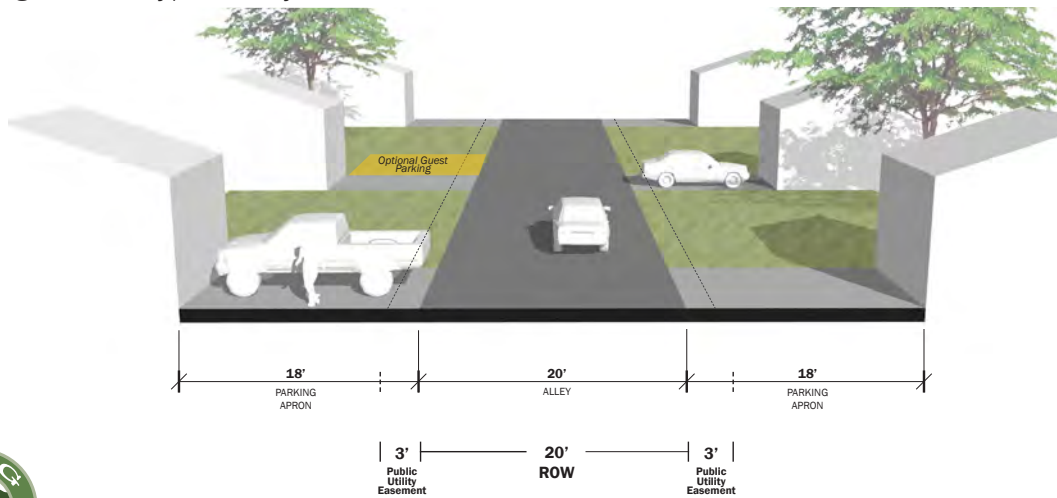


Figure 27. "Woonerf" street

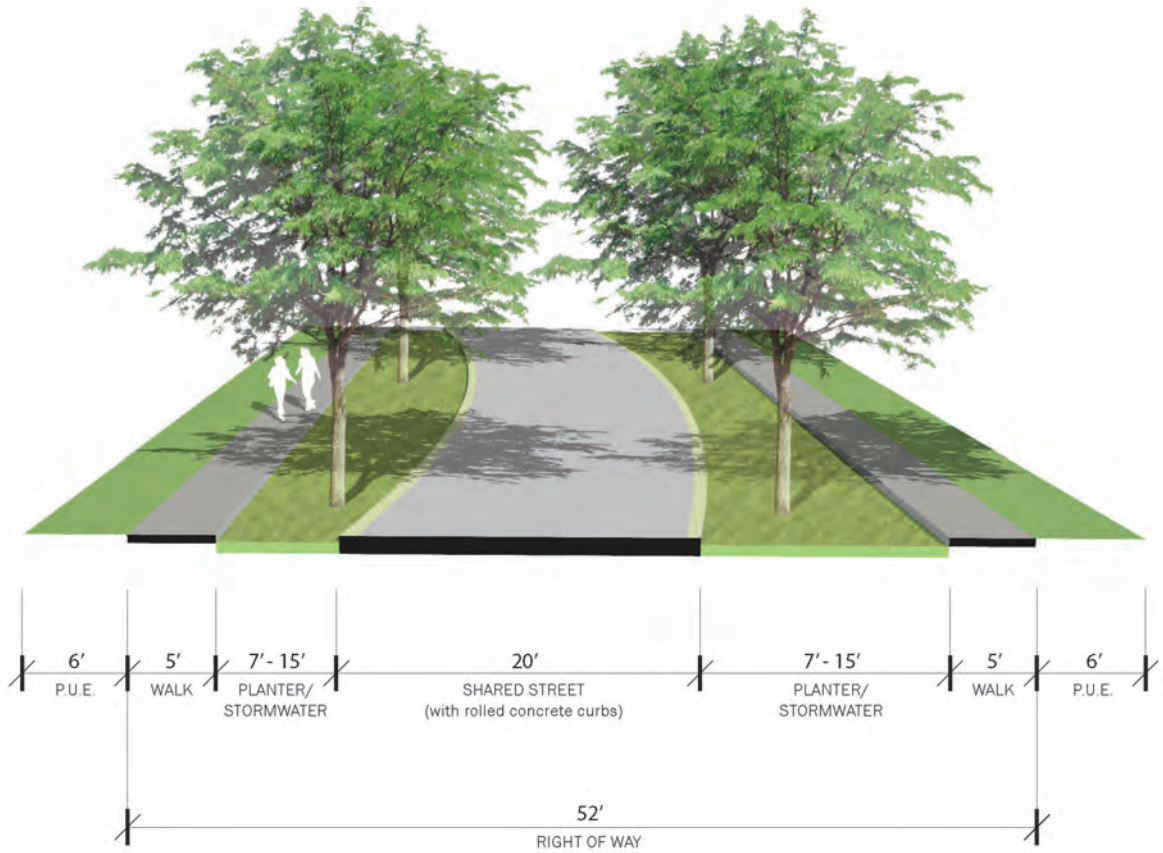
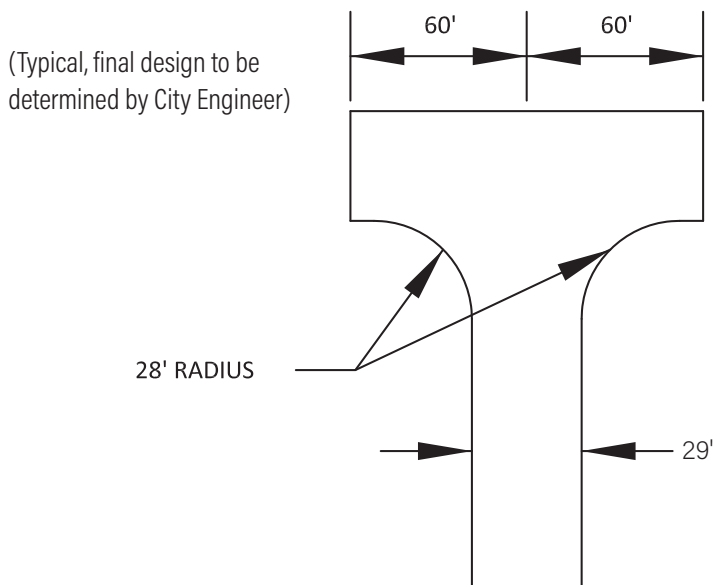


Figure 28. "Hammerhead" diagram

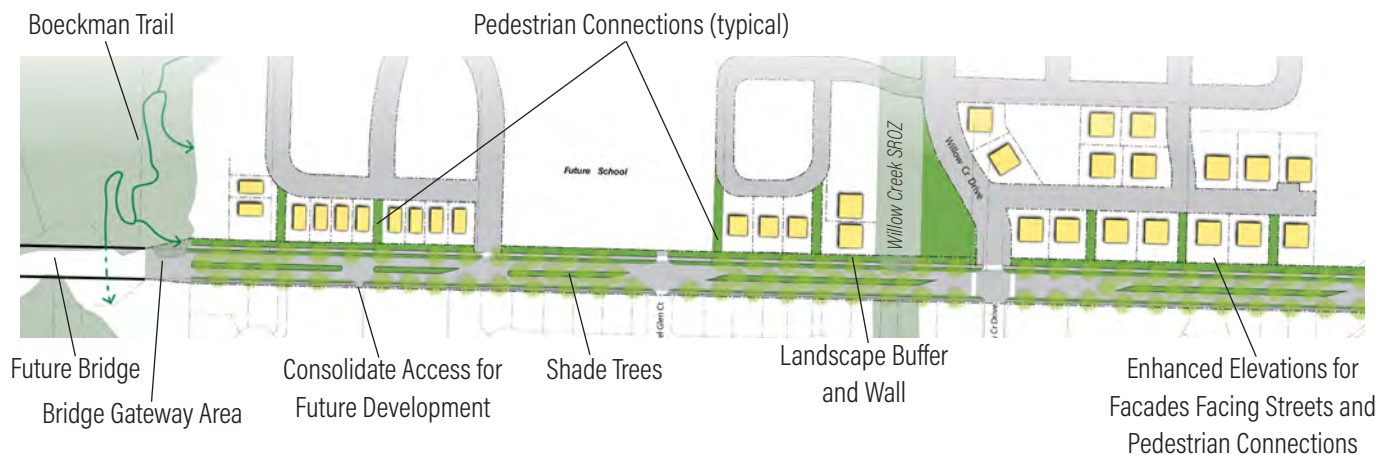


BOECKMAN ROAD DESIGN OBJECTIVES

As noted above, Boeckman Road is a very important street for Frog Pond West. Visually and functionally, Boeckman Road is a “front door” to Frog Pond West. It is also a connecting “seam” between Frog Pond West and existing neighborhoods to the south. It serves an important connecting function between East Wilsonville and Central and West Wilsonville. Stormwater management will be accommodated within the right-of-way and integrated with the street design. Street width and design will be tailored along the road to meet site-specific conditions and needs.

A “Boeckman Road Plan” is shown in Figure 29. The intent of this plan is to show the multiple design elements that have been planned together for Boeckman Road. The following elements have been considered and coordinated in preparing the Boeckman Road Plan: the street demonstration plan, the Boeckman Road cross-section, the Boeckman frontage requirements for the landscape buffer tract and brick wall, relocation of the power lines, potential access and circulation for the future school, and existing development on the south side of Boeckman Road.

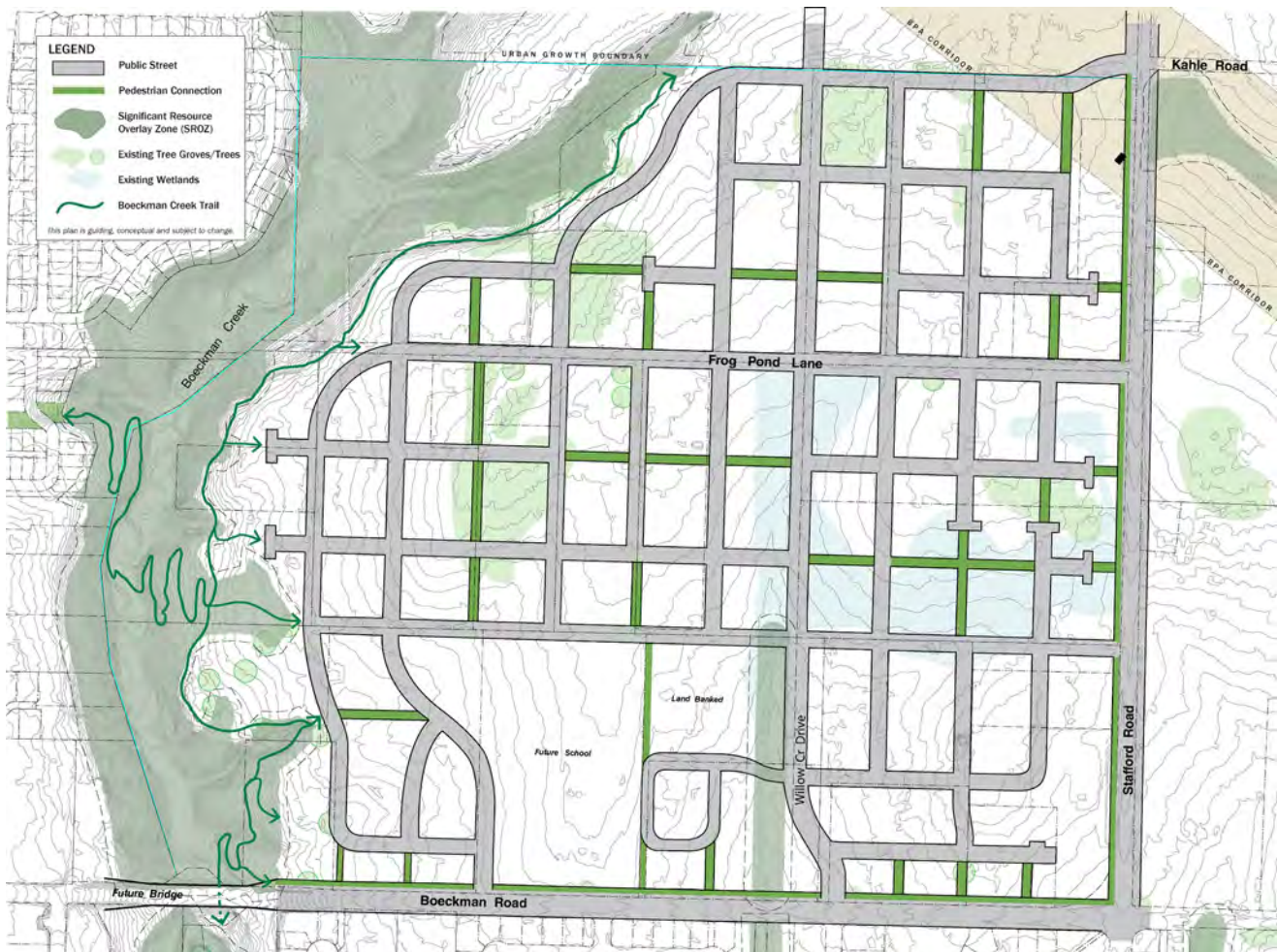
Figure 29. Boeckman Road Plan



PEDESTRIAN CONNECTIONS

Frog Pond West will consist of a highly connected transportation network with direct, convenient, and comfortable walking routes. The Master Plan envisions the use of high-quality pedestrian connections (see Figure 30) to complete the street grid where automobile connections are not necessary. The street network and pedestrian connections shown on the Street Demonstration Plan will provide the framework for the school district to plan “Safe Routes To Schools” that are coordinated with the overall plan for the neighborhood. The typical cross section for a Pedestrian Connection is shown in Figure 25.

Figure 30. Street Demonstration Plan - Pedestrian Connections



BOECKMAN TRAIL

The Boeckman Creek Regional Trail will be both a neighborhood amenity and a key pedestrian connection to adjacent areas. South of Boeckman Road, the trail will run within the creek canyon along the sewer line easement. After passing under the future Boeckman Road bridge (which will be raised to address the "dip"), the trail will climb to the top of the bank and run along the edge of the vegetated corridor/SROZ and the western edge of the Frog Pond West neighborhood. The trail alignment provides the opportunity for a trailhead park along this natural feature, with nodes of activity, or "pocket parks," such as trailheads and play areas framed by the forest edge. This location will ensure that the trail is a neighborhood asset and increase its use and safety. The area's east-west streets are intended to terminate at the trail, enhancing the visual and physical connection to the trail and creek corridor from within the neighborhood. As shown in Figure 34, the Boeckman Trail will continue east to the Kahle Road-Stafford Road intersection, connecting to the BPA Easement Trail and the South Neighborhood Trail.

Figure 31. Boeckman Creek Forest Trail Cross-Section

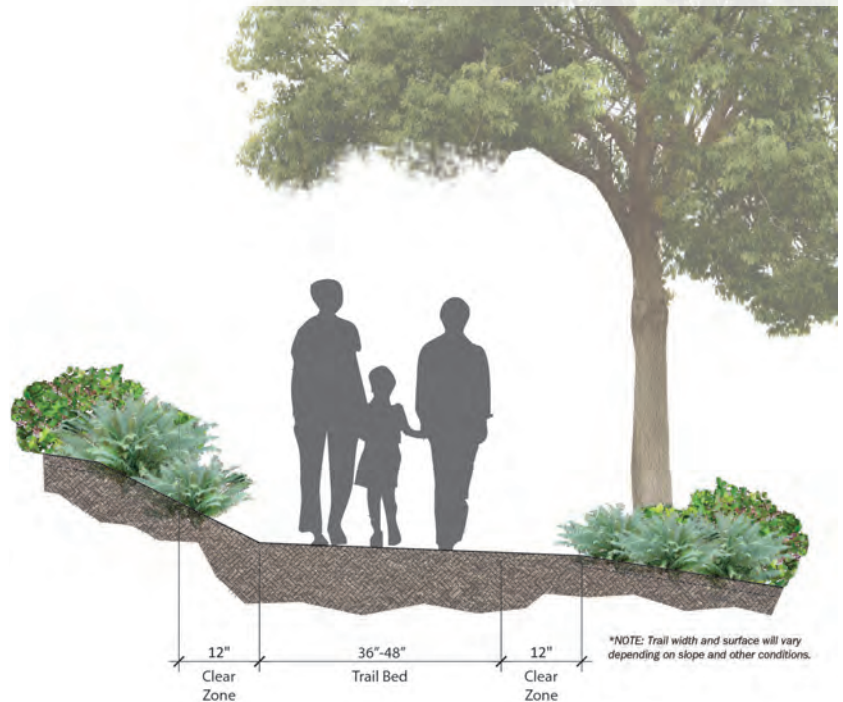


Figure 32. Boeckman Creek Regional Trail Cross-Section

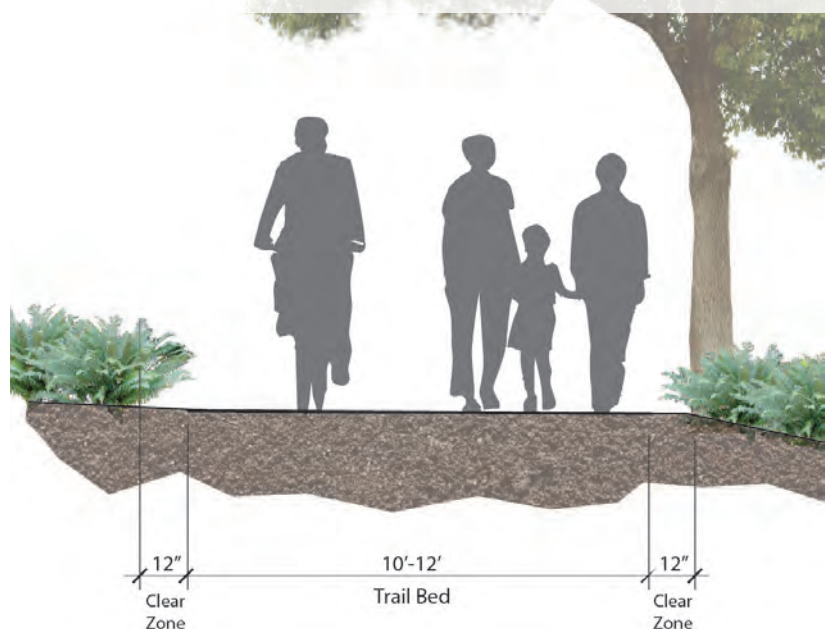


Figure 33. Boeckman Trail City Connections



Figure 34. Area Plan Bicycle/Pedestrian Plan, Including Boeckman Trail Connections

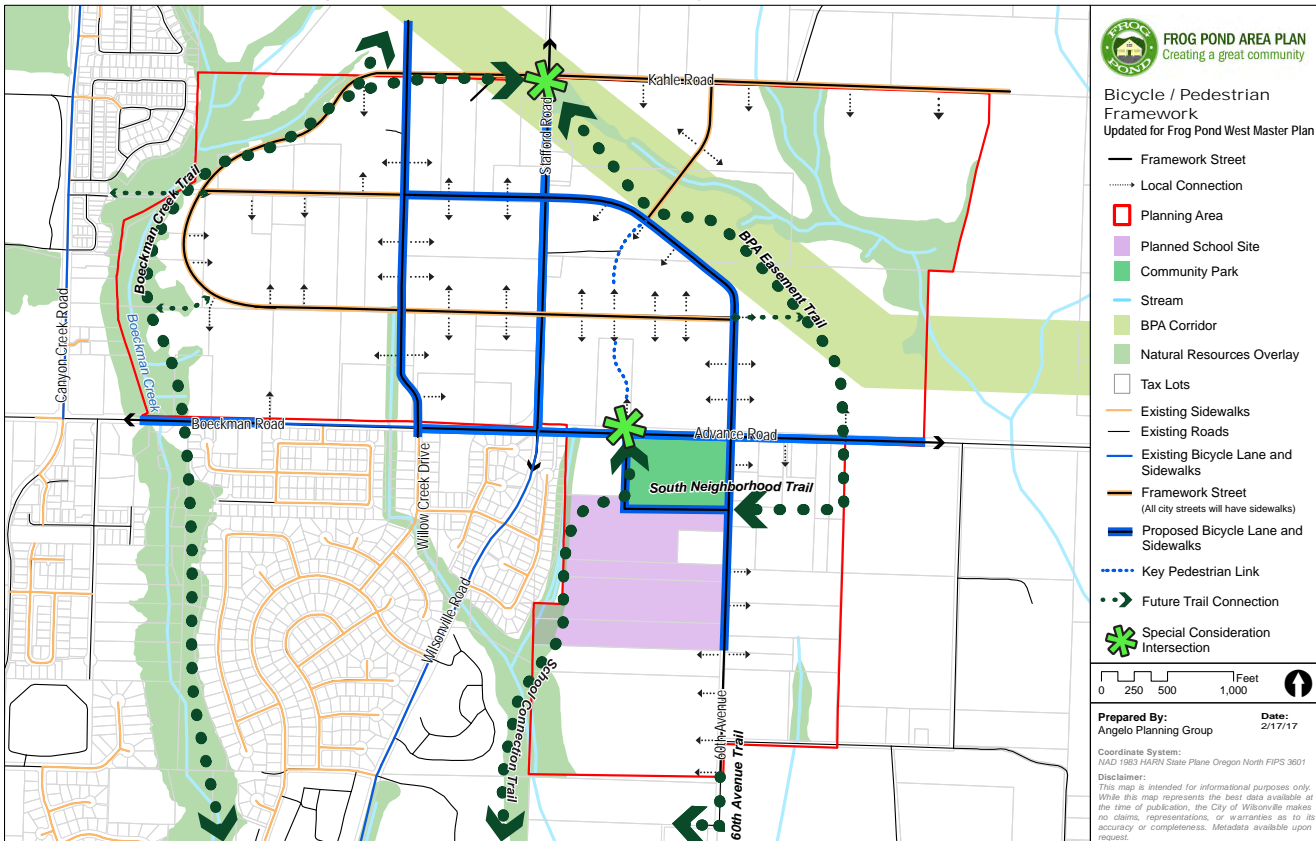


Figure 35. Boeckman Trail in Frog Pond West



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Parks & Open Space



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PARKS AND OPEN SPACE CONCEPT

Frog Pond West will be a green community, with ample parks and open spaces. Open space in the West Neighborhood will be comprised of:



2.5 ac Neighborhood Park



Wetland or riparian area



Pedestrian connection



Incorporating existing trees into the neighborhood



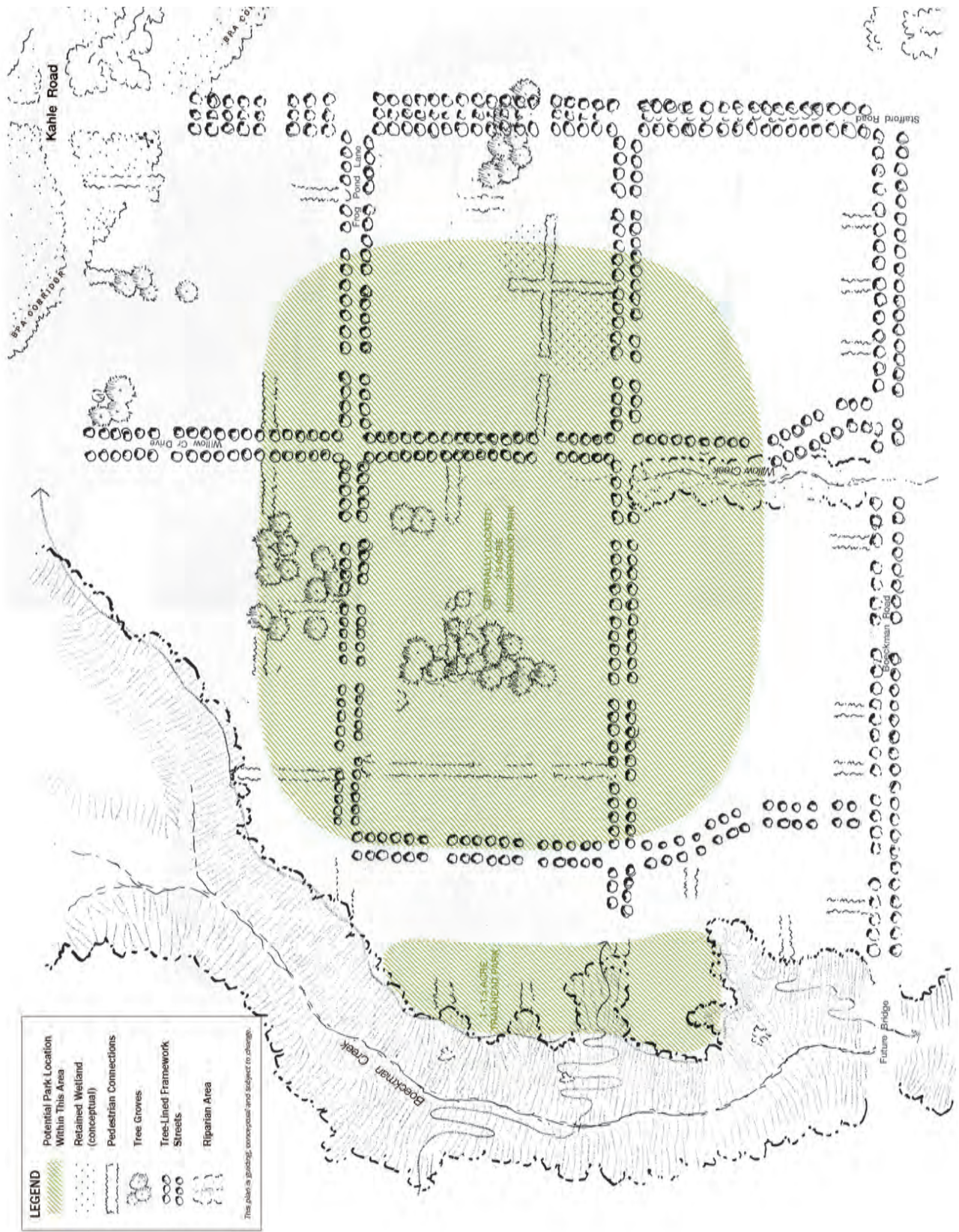
Tree-lined framework streets

- Significant Resources Overlay Zone (SROZ) along Boeckman Creek.
- SROZ along Willow Creek.
- A Bonneville Power Administration (BPA) Corridor in the northeast corner of the neighborhood.
- A 2.5-acre neighborhood park conveniently located within the neighborhood (acreage is approximate).
- A 1.5-acre trailhead park located near the Boeckman Creek trail in the west portion of the neighborhood (acreage is approximate).
- Open space provided as part of the future school, which may include a play area and fields.
- Existing tree groves and wetlands, a portion of which will be protected through the development process.
- Pedestrian greenways that will result from implementation of the Street Demonstration Plan.
- The tree-lined streets and public realm that provide active transportation routes.
- Development designs with voluntary platted open space tracts and large lots around new or existing homes.
- An additional 10% open space in Small Lot Single Family Subdistricts, where homes are likely to have smaller yards, in the form of active greens, courtyards, community gardens, tot lots, public pedestrian ways, and similar spaces.

Figure 36 shows how these open spaces are generally expected to be integrated into a cohesive network, creating a green and walkable open space system.



Figure 36. Open Space Framework



NEIGHBORHOOD PARK

The Frog Pond Neighborhood Park will be much more than a place to recreate or enjoy open space, it will be a key shared amenity for the community. The neighborhood park within Frog Pond West will be an important gathering place for residents of this and nearby neighborhoods. The park for this area was first identified in the 2007 Wilsonville Park and Recreation Master Plan, and carried forward into the Frog Pond Area Plan and the Master Plan. Many other neighborhoods in Wilsonville have created parks owned and maintained by their neighborhood associations. Due to its fragmented ownership pattern, Frog Pond West is a master planned neighborhood that will be built in multiple increments.

The Master Plan shows a “land banked” parcel adjacent to the future school site’s east boundary, on property owned by the West Linn-Wilsonville School District. The intent for this parcel is for the School District to have options for its use including school facilities, a neighborhood park, and/or residential use. The City’s intent is to work with the district to acquire a site for a neighborhood park at this location. The City and district have a long history of partnering on such projects. The location and characteristics of the site would be ideal for a neighborhood park, because: the school and park are co-located, resulting in a multi-purpose community gathering place; significant open space is provided by the adjacency of the school play fields, park, and Willow Creek SROZ; and excellent access from the adjacent neighborhood streets.

Figure 37. Neighborhood Park Design



The relationship between the adjacent homes and the park will be important. Where feasible, the blocks fronting the park should have homes facing the street and alley access to their garages. This design will eliminate curb cuts and driveways along the park's frontage, connecting the greenery of the front yards with the greenery of the park. Additionally, it will help reinforce "eyes on the street" and "eyes on the park."

Figure 38. Examples of Park Features



Park through a natural area



Park Events



Neighborhood Park



Park integrated with power line easement

BOECKMAN CREEK TRAILHEAD PARK

As described on page 61, the Boeckman Creek Trail will provide public access through an otherwise undeveloped open space corridor, allowing residents and visitors to enjoy a natural setting with trees and wildlife. The trailhead park will provide access to this amenity, as well as both passive and active open space serving a variety of neighborhood needs.

The Trailhead Park should be visually and physically accessible from within the West Neighborhood, at the western end of a street opening up to Boeckman Creek (see page 43). This location will provide a public focal point at the west end of the neighborhood, and a gateway to the natural resources that define the western edge of the neighborhood.

Figure 39. Examples of Trailhead Parks



Jackie Husen Park, bordering Cedar Mills Creek in Washington County



Little Sugar Creek Greenway Park in Charlotte, NC



SIGNIFICANT NATURAL RESOURCES

Protection of natural resources within the Frog Pond West Neighborhood has been a foundational principle for both the Area Plan and the Master Plan. Wilsonville’s Significant Resource Overlay Zone (SROZ) implements the goals and policies of the Comprehensive Plan relating to natural resources, open space, and flood hazards that have been designated “significant” by the City. SROZ resources in the West Neighborhood include Boeckman Creek corridor and Willow Creek, totaling roughly 27 acres. Properties that contain land within the SROZ will be subject to regulations in WC Section 4.139 of the Wilsonville Zoning Code as they undergo development review.

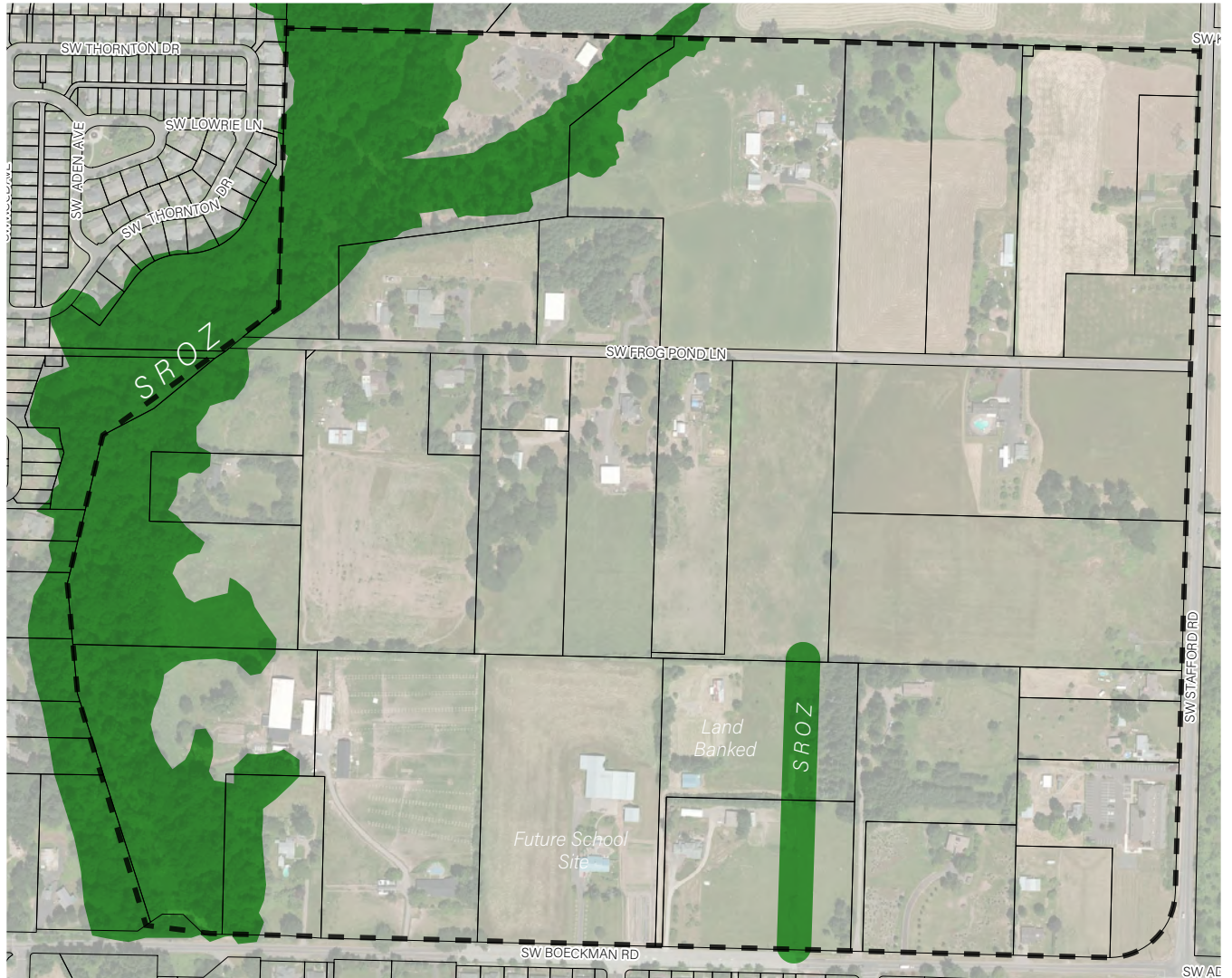
In addition to SROZ land, existing trees are subject to the Tree Preservation and Protection sections of the Wilsonville Zoning Code (Sections 4.600 – 4.640). The City places a high value on trees and tree groves, and requires Tree Removal Permits when trees are proposed for removal on an individual basis and as part of development review. There are four types of review procedures, ranging from review by the Development Review Board to review by the Planning Director. As illustrated in Figure 40, the Master Plan requires incorporation of existing trees and groves into creative site plans.

Wetland areas will be subject to the fill and removal regulations of the Oregon Department of State Lands (DSL) and Army Corps of Engineers (ACOE). Preliminary (non-survey) wetland inventories for Frog Pond West indicates potential wetlands in the eastern part of the neighborhood. Wetland boundaries will need to be delineated and refined as part of land use review. The City, in coordination and consultation with DSL and ACOE, may permit filling of and mitigation for non-significant wetlands. Similar to trees and tree groves, the Master Plan encourages incorporation of wetlands into creative site plans.

Figure 40. Preserving Trees and Wetland Areas



Figure 41. SROZ in the West Neighborhood



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Lighting, Street Trees, Gateways & Signage



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PUBLIC LIGHTING PLAN

Intent

The Frog Pond Public Lighting Plan is intended to provide effective lighting of public streets and places to enhance neighborhood livability, night-time vitality and safety. The lighting recommendations focus on providing an even, consistent coverage, softening contrast ratios at edges and improving visibility by avoiding excess illumination and brightness. Most of the neighborhood will be part of the Lighting Overlay Zone LZ 2: Low-density suburban neighborhoods and suburban commercial districts, industrial parks and districts, as specified in Chapter 4.199 of the City's Planning and Land Development Regulations. Dark-sky-friendly fixtures are required, as well as LED bulbs. The City will own and maintain all lighting and PGE will provide power. Design details should follow City of Wilsonville Public Works Standards.

Lighting Plan Hierarchy

For Frog Pond, a subtle hierarchy in lighting is proposed, as shown in Figure 42, Public Lighting Plan. These categories of street lighting are tied to the Street Types Plan and unique requirements of pedestrian connections, trailheads, and paths.

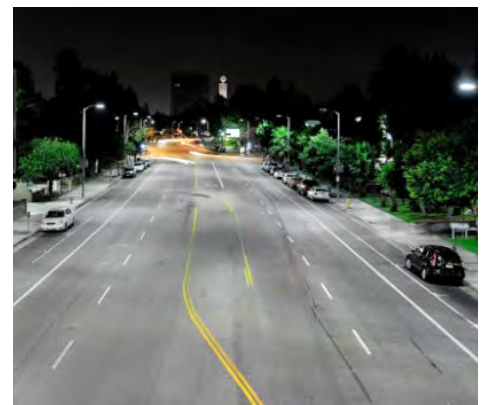
Arterial

- This includes segments of Boeckman Road and Stafford Road and is intended to be the brightest standard to maximize safety for vehicles and bicycles.
- The street light for City arterials will be per City's Cobrahead light standard at the time of construction.
- Design should follow City of Wilsonville Public Works Standards Chapter 201.9.01 Roadway and Intersection Lighting.

Key Intersections

The following general recommendations apply to three key intersections: Willow Creek Drive and Boeckman Road, Frog Pond Lane and Stafford Road, and the intersection of Stafford, Boeckman, Wilsonville, and Advance Roads:

- These three areas act as transition zones between urban-scale arterial lighting and more neighborhood-scale lighting types.
- Placement of fixtures should be carefully considered to ensure the two types do not conflict visually
- The intersections should be more brightly-lit, acting as a



Arterial LED lights are primarily focused on vehicular safety but their light is also important for pedestrians and cyclists.





The proposed Local Street fixture, Philips Hadco LED Westbrooke

- wayfinding 'beacon' when approaching them
- Coordinate lighting with future landscaped gateway features at the intersections

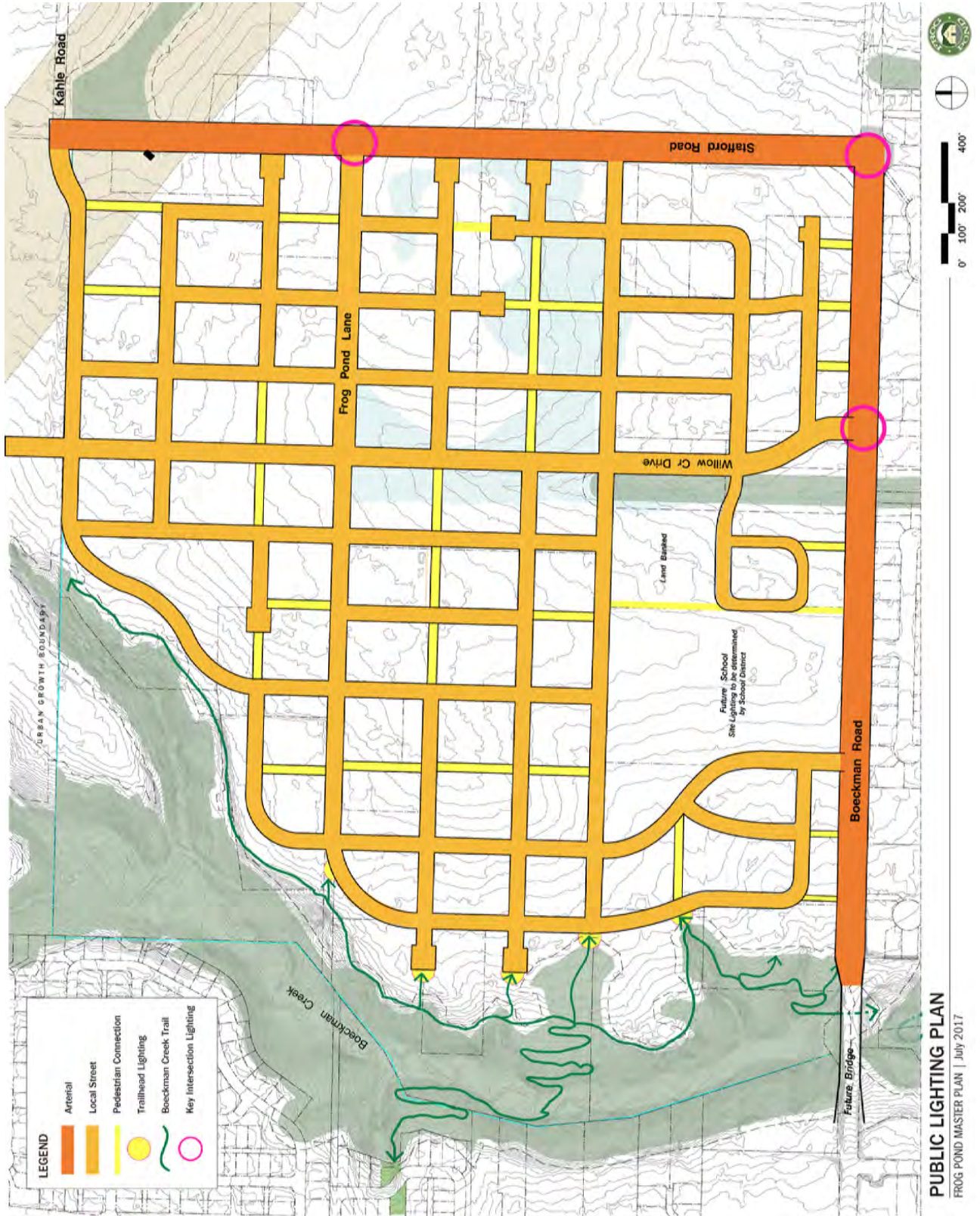
Local Street

- Local streets should provide minimum light levels for safe circulation, while contributing to the visual appeal of streetscapes.
- Light placement should avoid negative effects on adjacent housing
- Dark sky friendly light fixtures should be used
- A consistent lighting standard should be used throughout the neighborhood to knit together individual subdivisions.
- Use the following ornamental light standard: Phillips Hadco Westbrooke.



Local street fixtures should provide subtle lighting that does not affect livability of nearby homes

Figure 42. Public Lighting Diagram



Pedestrian Connections, Trailheads and Paths

- Consistent pedestrian lighting is an important contributor to the neighborhood's identity and can define a hierarchy of travel routes.
- Trails and paths should be uniformly illuminated
- In-ground up-lighting should be avoided.
- Trailhead parking areas should be illuminated
- Coordinate lighting locations and pole heights with tree locations and landscape areas and constructed elements
- Design should follow City of Wilsonville Public Works Standards Chapter 201.9.02 Shared-Use Path Lighting. Key components include:
 - The City Engineer may reduce the lighting standards or not require lighting of shared-use paths in designated natural resource and wildlife areas.
 - Lighting provided along shared-use paths shall be pedestrian scale with a mounting height no greater and no less than 10 feet. A clearance of 10 feet shall be provided from the path surface for street lighting overhanging a shared-use path. Pedestrian level lighting, such as bollards, shall not be permitted.
- The SROZ area, buffers and the trailhead areas will be in Lighting Zone LZ 1, as specified in Chapter 4.199 of the City's Planning and Land Development Regulations, which apply to *"Developed areas in City and State parks, recreation areas, SROZ wetland and wildlife habitat areas; developed areas in natural settings; sensitive night environments; and rural areas. This zone is intended to be the default condition for rural areas within the City."*



Lighting in parks, pedestrian connections or trailheads should be minimal, with shorter poles and directed downwards for dark skies.



STREET TREE PLAN

Master Plan Intent

The concept for street trees in the Frog Pond West Neighborhood is shown in the attached Street Tree Plan. The overall intent is to beautify and unify the neighborhood while providing a variety of tree species. The Street Tree Plan provides guidance tied to the street typology for Frog Pond West, as described below.

Primary Streets

The **Primary Streets** in the neighborhood should provide a clear identity to the community, and serve as a wayfinding structure, with street tree continuity serving as a useful tool. Continuity can be achieved by using consistent tree types and spacing along both sides of a street.

The proposed trees for these Primary streets come partly from the City of Wilsonville's recommended tree list for "trees over 50 feet mature height" (Section 4.176 Landscaping, Screening and Buffering), with updates to exclude some species that do not meet current practice or are known to be invasive or prone to disease or breakage.

It should be noted that other species with similar characteristics may be considered, as identified and proposed by a professional landscape architect.



Northern Red Oak

The Primary Street Tree List is as follows:

- Green Column Black Maple (*Acer nigrum* 'Green Column')
- Tulip Tree (*Liriodendron tulipifera*)
- Columnar Tulip Tree (*Liriodendron tulipifera* 'Fastigiatum')
- Bloodgood London Plane Tree (*Platanus x acerifolia* 'Bloodgood')
- Scarlet Oak (*Quercus coccinea*)
- Northern Red Oak (*Quercus rubra* Borealis)
- American Linden (*Tillia Americana*)
- Green Vase Zelkova (*Zelkova serrata* 'Green Vase')



The proposed 8' planting strips on Primary streets will help ensure these trees grow to form large canopy structures over the streets, providing future value to adjacent homes.

As required by the City's Public Works Standards, root barriers should be used in all situations to protect the sidewalk infrastructure from root damage.

The Street Tree Plan (Figure 43) attributes a code to each Primary Street, from P1 to P6. To provide strong continuity, a Primary street should be planted with the same species for its entire length. No specific tree is proposed for a given Primary Street but each of these streets should be planted on both sides with a species unique to that street, selected from the list of eight possibilities.

Neighborhood Streets

Neighborhood Streets should strive for variety, as required in the Wilsonville Development Code (page C54-55 section D). All streets in a single subdivision or development's streets should not be planted with only trees of a single species. For example, east-west streets would have one tree from the recommended list and north-south streets would need to have another. An even finer grain of species distribution is recommended, if possible, at the City's discretion. However, both sides of a street should be planted with the same tree species.



Katsura Tree

The Neighborhood Street Tree List is as follows:

- Paperbark Maple (*Acer griseum*)
- Red Sunset Maple (*Acer rubrum* 'Red Sunset')
- Katsura Tree (*Cercidiphyllum japonicum*)
- Yellow Wood (*Cladrastis kentukea*)
- Halka Honeylocust (*Gleditsia triacanthos* 'Halka')
- Skycole Honeylocust (*Gleditsia triacanthos* 'Skycole')
- Chinese Pistache (*Pistacia chinensis*)
- Glenleven Little Leaf Linden (*Tilia cordata* 'Glenleven')
- Accolade Elm (*Ulmus* 'Morton' Accolade)

Underneath the BPA powerlines, a shorter neighborhood street tree will be required. The Paperbark Maple (*Acer griseum*) is an attractive candidate for street tree planting in this condition.

Pedestrian Connections

Pedestrian Connections would feature a columnar species, reflecting the narrow space in these connections and ensuring that there are views through the length of them, helping with safety and wayfinding. The tree list for Pedestrian Connections includes:

- Common Hornbeam (*Carpinus betulus* 'Fastigiata')
- Bowhall Red Maple (*Acer rubrum* 'Bowhall')
- English Oak (*Quercus robur* 'Fastigiata')
- Musashino Zelkova (columnar) (*Zelkova serrata* 'Musashino')

To the extent possible, existing groves of Oregon white oak should be incorporated into the neighborhood, as street trees, within common area tracts, or within pedestrian connections. These existing groves have been identified generally with approximate extents on the street tree plan (in green).



Bowhall Red Maple



Figure 43. Street Tree Plan

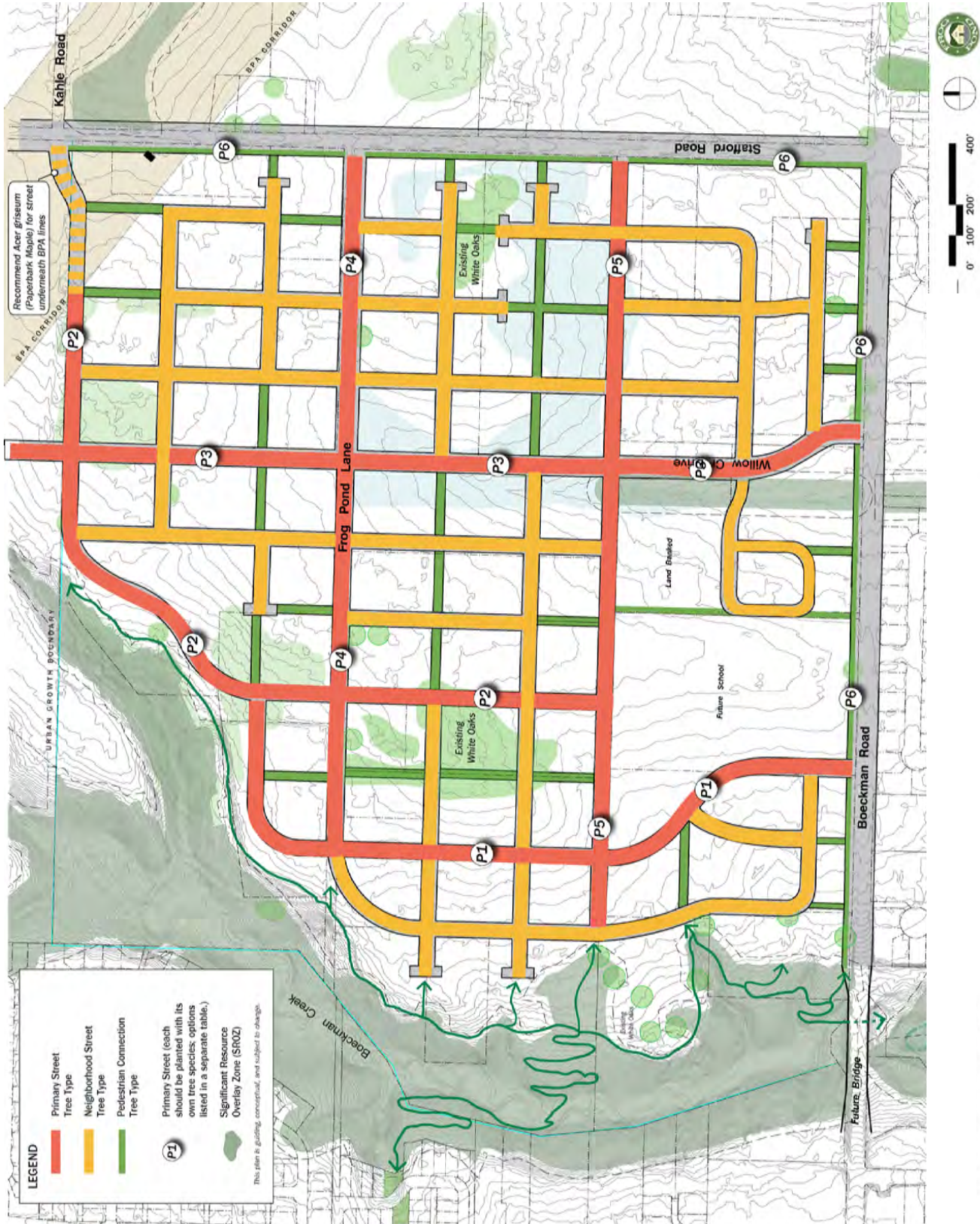


Table 2. Street Tree List

<p>Primary Street Trees (over 50' when mature)</p> <p>For both continuity and variety, select one tree from the following list and use for the entire length and both sides of a given street (P1, P2, P3, P4, P5 or P6 shown in Figure 34, Street Tree Plan)</p>	
<p><i>Acer nigrum</i> 'Green Column' <i>Liriodendron tulipifera</i> <i>Liriodendron tulipifera</i> 'Fastigiatum' <i>Platanus x acerifolia</i> 'Bloodgood' <i>Quercus coccinea</i> <i>Quercus rubra borealis</i> <i>Tilia americana</i> <i>Zelkova serrata</i> 'Green Vase'</p>	<p>Green Column Black Maple Tulip Tree Columnar Tulip Tree Bloodgood London Plane Scarlet Oak Northern Red Oak American Linden Green Vase Zelkova</p>
<p>Neighborhood Street Trees (under 50' mature)</p> <p>For both continuity and variety, select a tree from the following list and use for the entire length and both sides of a given street. Adjacent streets must use a different street tree type.</p>	
<p><i>Acer griseum</i> <i>Acer rubrum</i> 'Red Sunset' <i>Cercidiphyllum japonicum</i> <i>Cladrastis kentukea</i> <i>Gleditsia triacanthos</i> 'Halka' <i>Gleditsia triacanthos</i> 'Skycole' <i>Pistacia chinensis</i> <i>Tilia cordata</i> 'Glenleven' <i>Ulmus</i> 'Morton' <i>Accolade</i></p>	<p>Paperbark Maple Red Sunset Maple Katsura Tree Yellow Wood Halka Honeylocust Skycole Honeylocust Chinese Pistache Glenleven Little Leaf Linden Accolade Elm</p>
<p>Pedestrian Connection Tree (columnar)</p>	
<p><i>Quercus robur</i> 'Fastigiata' <i>Acer rubrum</i> 'Bowhall' <i>Carpinus betulus</i> 'Fastigiata' <i>Zelkova serrata</i> 'Musashino'</p>	<p>English Oak Bowhall Red Maple Common Hornbeam Musashino Zelkova</p>



GATEWAYS, MONUMENTS, AND SIGNAGE

Overall Intent

Development of the Frog Pond Area presents several opportunities and issues for gateways, monuments, and signage. The key issues and opportunities are:

- The entrance into Wilsonville along Stafford Road will “move” from the intersection of Stafford-Wilsonville-Advance-Boeckman Roads to Stafford Road at Kahle Road.
- The Boeckman Creek crossing, and particularly the future construction of a new bridge, presents an opportunity to mark this important natural resource as a primary gateway into East Wilsonville.
- Frog Pond Lane and Willow Creek Drive will be important entries into Frog Pond West and connections to adjacent neighborhoods.
- The internal developments in Frog Pond should not reflect a pattern of multiple subdivisions, but rather fit together seamlessly into a cohesive community.

The following recommendations for gateways, monuments, and signs are intended to address the issues listed above and help knit the Frog Pond area together with a clear identity.

Figure 44. Conceptual illustration of Neighborhood Gateway at Willow Creek Drive



Gateways

There are four types of Gateways planned for the Frog Pond Area:

1. City Gateway
2. Neighborhood Gateways
3. Boeckman Bridge Gateway
4. Boeckman-Stafford Gateway

The locations, roles, and design elements for each gateway type are described in Table 3 and illustrated in Figure 45 through Figure 47.

Table 3. Gateway Types, Roles, and Design Elements

Gateway Type	Location and Role	Design Elements
City Gateway	Stafford Road at Kahle Road Role: Mark entry to Wilsonville, facilitate transition from rural to urban setting	<ul style="list-style-type: none"> ▪ Landscaping and signage reflect the character of area ▪ Coordinate design with other City gateways in Wilsonville
Neighborhood Gateways	Willow Creek Drive at Boeckman Road; Frog Pond Lane at Stafford Road Role: To mark the primary entries into Frog Pond West Neighborhood	<ul style="list-style-type: none"> ▪ Use brick to blend with Boeckman property frontage wall ▪ Brick monument should be properly scaled, respectful of Boeckman frontage context ▪ Simple brick form, integrated with landscape ▪ Large lettering not as important as landscape and civic element
Boeckman Bridge	On or near Boeckman Bridge – See Figure 49 for potential locations	<ul style="list-style-type: none"> ▪ Include a strong vertical element ▪ Materials and design compatible with natural setting of Boeckman Creek Corridor ▪ Potential location and integration with access to Boeckman trail ▪ Emphasize Boeckman Creek, not Frog Pond, identity
Boeckman-Stafford Gateway	NW corner of the Boeckman-Stafford Road intersection Role: Enhancement of key corner	<ul style="list-style-type: none"> ▪ Trees and tall landscaping will mark the corner and de-emphasize powerlines ▪ Opportunity for public art ▪ Design should support the corner as an active pedestrian cross-road and safe route to Meridian Creek school



Figure 45. Gateway Locations

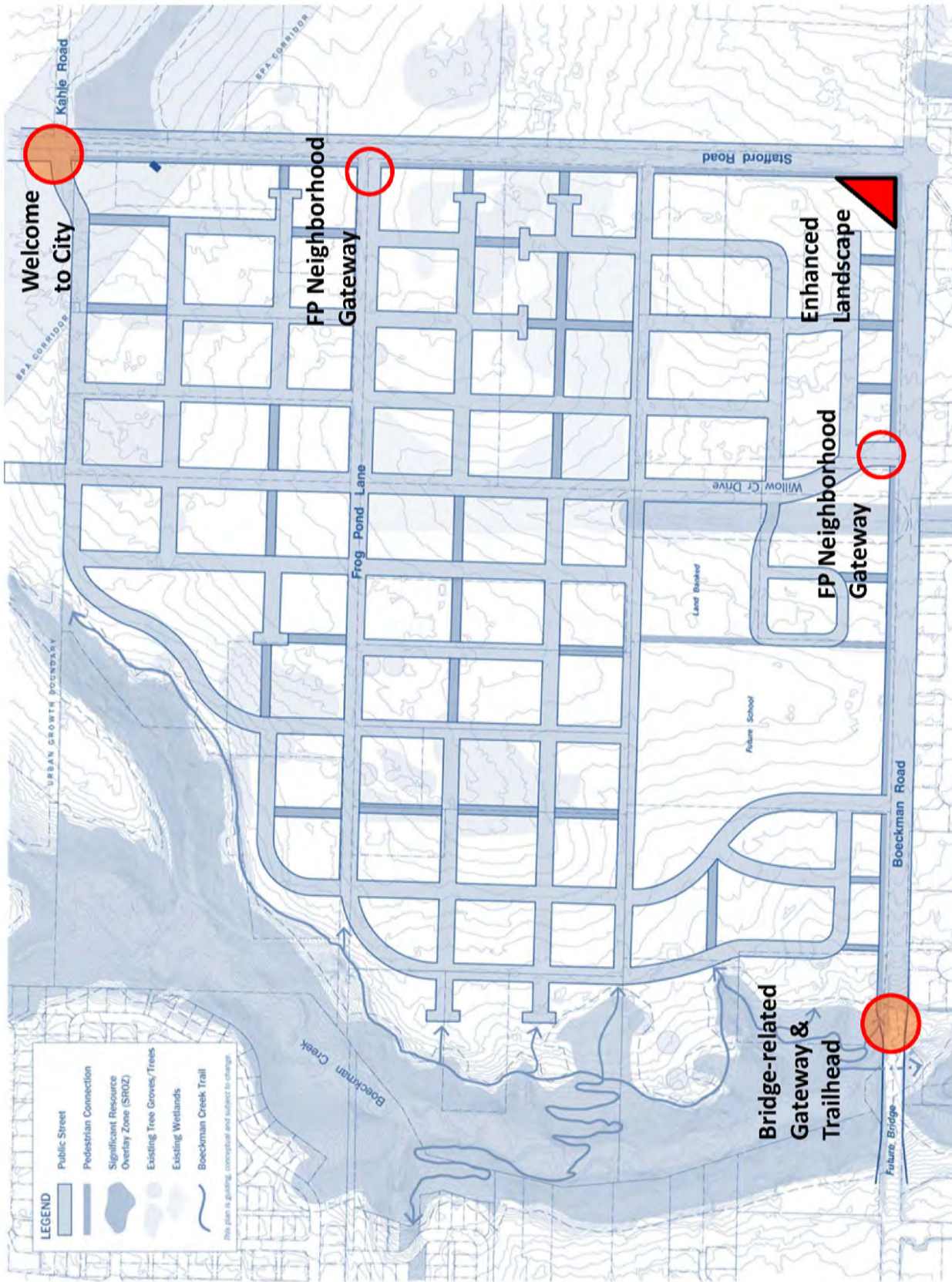
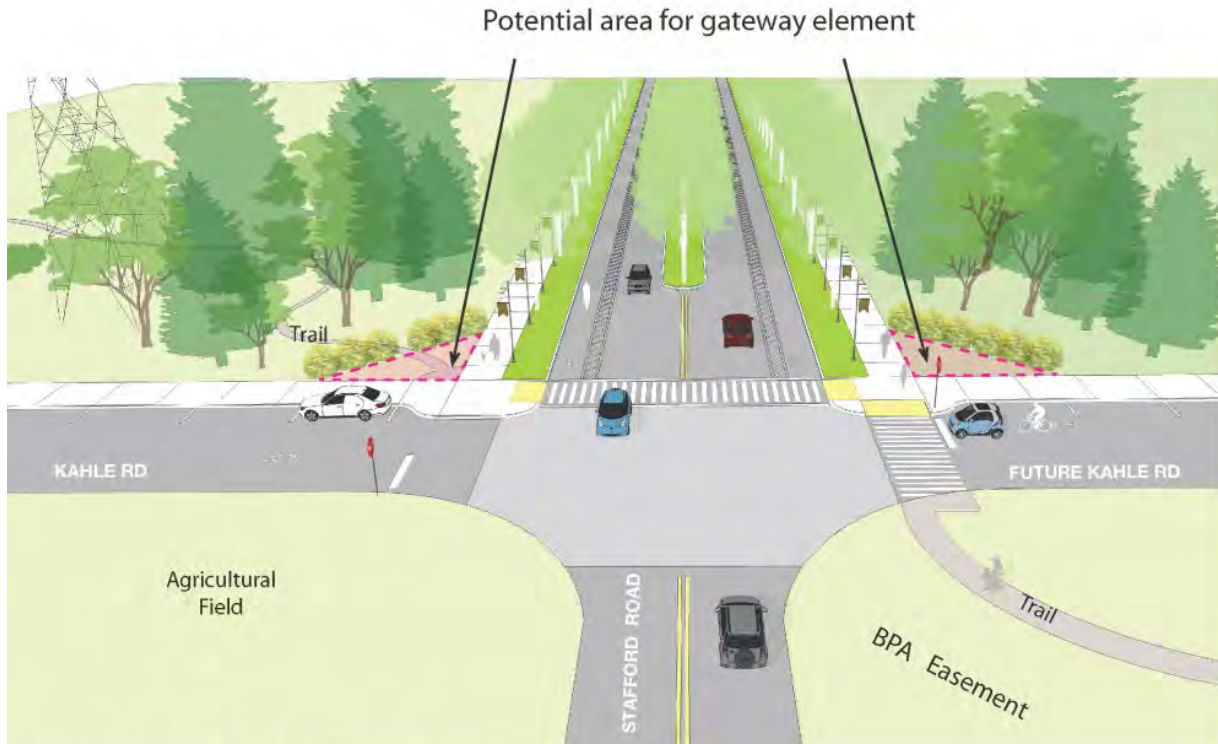


Figure 46. City Gateway - Stafford Road at Kahle Road



Conceptual Gateway Intersection (SW Stafford & SW Kahle, Looking South)

- Facilitates transition from rural to urban setting
- Landscape and signage design should reflect character of the neighborhood



Seasonal Landscapes



Landscapes as Gateway



Landforms and Tall Vegetation



Figure 47. Neighborhood Gateways



Use brick to blend with Boeckman property frontage wall



Brick monument should be property scaled, respectful of Boeckman frontage context and history



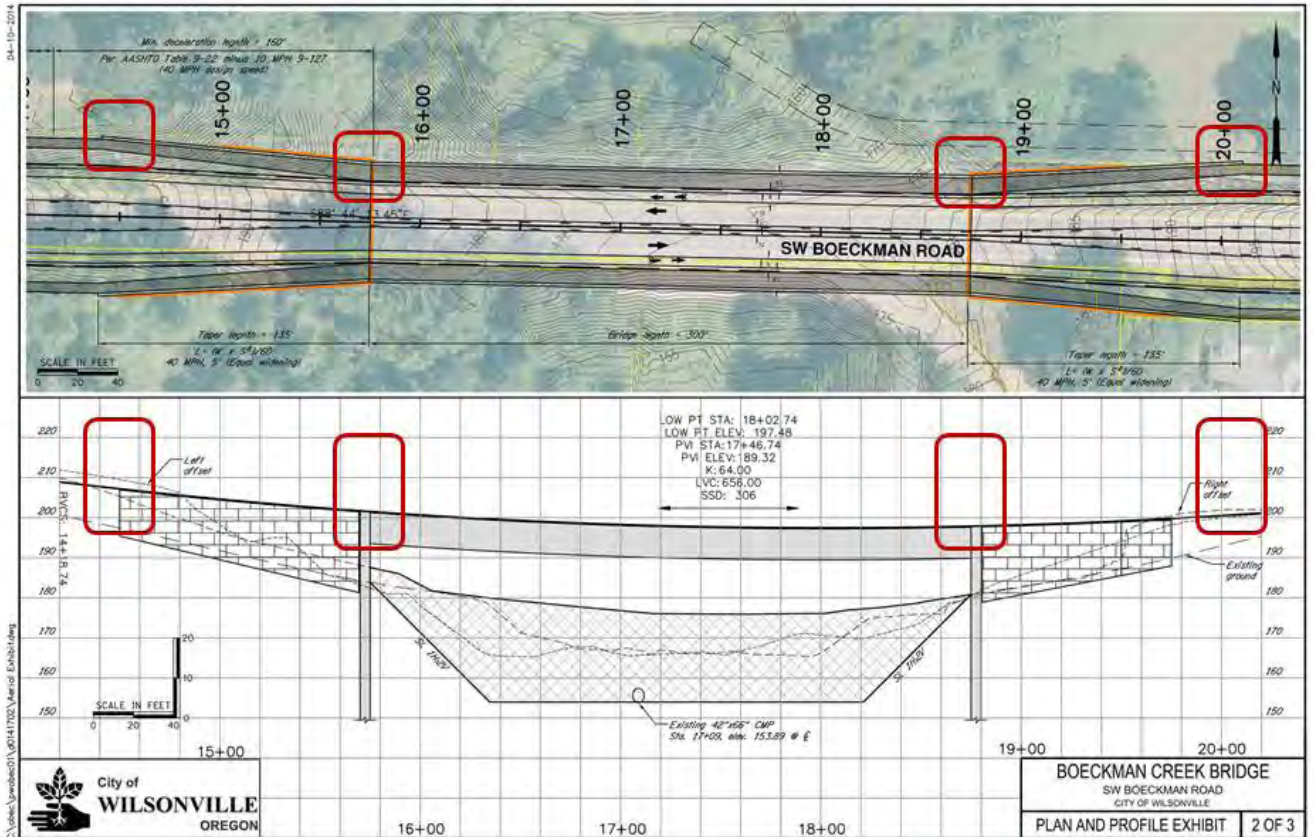
Simple brick form, integrated with landscape. Large lettering not as important as landscape and civic element.




Figure 48. Conceptual illustration of Boeckman-Stafford Gateway



Figure 49. Boeckman Bridge Gateway



 Potential locations for vertical elements to be added to bridge



MONUMENTS AND SIGNS

As noted throughout the Master Plan, it is likely that Frog Pond West will develop incrementally. The intent is to avoid a pattern of individual subdivisions with different names, monuments, and identities within the neighborhood. Rather, the vision is to knit each incremental project together to form a unified whole. Accordingly, the following principles and standards are required for monuments within Frog Pond West:

1. Frog Pond will continue as a unifying name for the neighborhood.
2. Monument signs will be limited to Neighborhood Gateway locations and emphasize the Frog Pond neighborhood identity.
3. Individual subdivision signs (except temporary real estate sales signage) and monuments will not be permitted.
4. "Sign caps" will be utilized on street signs.
5. Signage at non-residential developments (e.g. parks and schools) will be consistent with Neighborhood Gateway signage to further tie the area together.



Figure 50. Gateway features and park-school signs will be the key monuments in Frog Pond West.



Street sign 'caps' help with neighborhood identity



Implementation



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ANNEXATION, ZONING, AND DEVELOPMENT REVIEW

The City will take the first step in implementing and entitling Frog Pond West by adoption of amendments to the Comprehensive Plan and Development Code. The amendments include:

- **Comprehensive Plan Map.** Application of the Residential Neighborhood (RN) designation for residential properties and the Public Facilities (PF) designation for the future school and land banked sites.
- **Comprehensive Plan Policies and Text.** Updates of descriptive text to support and enable Frog Pond West's implementation.
- **Master Plan.** Adoption of the Frog Pond West Master Plan as a supporting document of the Comprehensive Plan.
- **Transportation System Plan (TSP).** Update of the TSP to implement the transportation element of the Frog Pond Area Plan and the Master Plan.
- **Development Code.** Amendment of the Development Code to include the new Residential Neighborhood Zone and selected minor amendments in other sections (e.g. definitions).

Subsequent steps will occur as annexations and developments are proposed by property owners. The plan is for annexation, zoning map amendments, and a Stage I and Stage II Planned Development Review and Site Design Review to be submitted as a package for each property, or group of properties if multiple sites are grouped as a combined subject property for annexation. The purpose of the combined review is to ensure each development is fully consistent with the Master Plan and Code before annexation is approved and zoning is applied. Upon approval of the packaged application, the city will amend the Zoning Map to designate the subject property RN or PF as applicable.

INFRASTRUCTURE FUNDING PLAN

Purpose

The Infrastructure Funding Plan for Frog Pond West is attached as Appendix D. The purpose of the Funding Plan is to:

- Describe strategies and options that provide adequate funding to complete infrastructure (transportation, water, sewer, parks, and storm water) requirements identified in the Master Plan in a timely manner;
- Increase the confidence for all parties regarding the projects, costs, resources, and timing required to make Frog Pond West a success;
- Provide flexibility by identifying both primary strategies and tools for funding, as well as additional alternatives, tools, and approaches that could be implemented over time; and



- Provide an equitable distribution throughout Frog Pond West of the costs and benefits of Master Plan infrastructure.

The Funding Plan focuses on the following projects called Master Plan Infrastructure. The projects include:

1. Boeckman Road, including sanitary sewer
2. Stafford Road, including sanitary sewer and water
3. Neighborhood Park
4. Trailhead Park
5. Boeckman Trail
6. Boeckman Bridge

Strategies

The Funding Plan describes the following policies, strategies, and tools related to funding infrastructure for Frog Pond West:

- Wilsonville's current policy is described regarding the typical obligation of developers and the City's role in funding infrastructure.
- The plan recommends an overall preferred strategy to establish a supplemental fee for selected projects that will provide needed revenue and distribute costs equitably across Frog Pond West. The fee is needed to generate funds for Boeckman Road (with utilities), Stafford Road (with utilities), and the Neighborhood Park. These projects have costs that exceed the ability of the relatively small developments in Frog Pond West to carry individually.
- The strategy for funding Boeckman Road includes:
 - The City will lead the construction of Boeckman Road improvements
 - A preference for as few phases as possible
 - City funding for the southern half of the road
 - Equitable distribution and reimbursement of costs
 - Coordination of the western portion of the road with the future Boeckman Bridge replacement
 - Funds may be sourced from all applicable fees
 - Phase 1 construction may be deferred to a time-certain date
 - Development agreements will be the implementing instruments and will be established at the time of annexation
- The preferred funding strategy for Stafford Road includes the same elements as Boeckman Road, except for the southern-half funding and coordination



with Boeckman Bridge. If Frog Pond's East and South neighborhoods are added to the Urban Growth Boundary, the Stafford Road improvements and funding will be coordinated with those additional areas.

- The preferred funding strategy for the Neighborhood Park includes funding from supplemental fees and acquisition of land as a first priority, working proactively with the School District.
- Optional strategies for funding Boeckman Bridge are described, including a supplemental fee that is based on the proportional share of traffic that Frog Pond West will contribute to the Bridge (about 9% of total traffic), and combining local funds from the supplemental fee with a citywide source such as Urban Renewal. The amount of the local share will vary depending on how much money is available from the city-wide share, so options are provided in the plan.
- Funding for the Trailhead Park and Boeckman Trail will come from Parks System Development Charges. These two projects are identified in the Wilsonville Park and Recreation Master Plan and are eligible for full funding through SDCs.





APPENDIX A - ACKNOWLEDGEMENTS

Planning Commission

- Jerry Greenfield, Chair
- Peter Hurley
- Al Levit
- Marta McGuire*
- Kamran Mesbah
- Phyllis Millan
- Eric Postma
- Simon Springall

City Council

- Kristin Akervall
- Julie Fitzgerald*
- Tim Knapp, Mayor
- Charlotte Lehan
- Scott Starr
- Susie Stevensl

City Staff

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- Tami Bergeron, Planning Administrative Assistant
- Amanda Guile-Hinman, Assistant City Attorney
- Barbara Jacobson, City Attorney
- Mike Kohlhoff, City Attorney**
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- Katie Mangle, Long-range Planning Manager**
- Mike McCarty, Parks and Recreation Director
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- Michael Zilis, Principal
- Saumya Kini, Urban Designer
- Martin Milward, Illustrator

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APPENDIX B - AREA PLAN FRAMEWORK PLANS

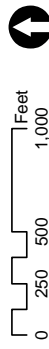
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FROG POND AREA PLAN
Creating a great community

LAND USE FRAMEWORK

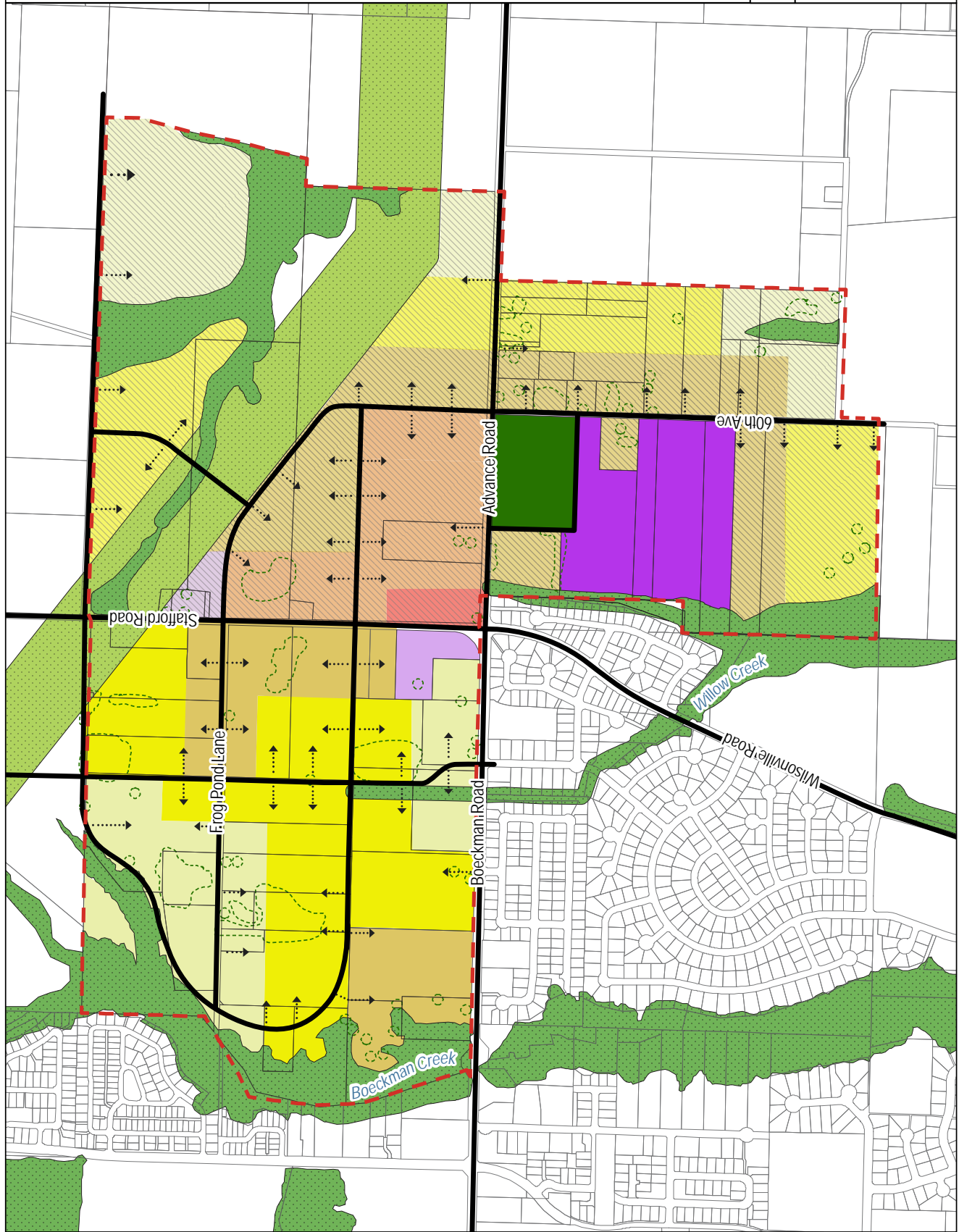
- Framework Street
- Local Connection
- Planning Area
- Planned School Site
- Community Park
- BPA Corridor
- Natural Resources Overlay
- Existing Trees and Groves
- Tax Lots
- R-10 Large Lot SF (8,000 - 12,000 SF)
- R-7 Medium Lot SF (6,000 - 8,000 SF)
- R-5 Small Lot SF (4,000 - 6,000 SF)
- Institutional/Civic
- Future R-8 Single Family (7,000 - 9,000 SF)
- Future R-6 Single Family (5,000 - 7,000 SF)
- Future R-4 Single Family (3,000 - 5,000 SF)
- Future R-2.5 Single Family Attached and Cottage (2,000 - 3,000 SF)
- Future Commercial
- Future Institutional/Civic



Prepared By: Angelo Planning Group
Date: 9/21/15

Coordinate System:
NAD 1983 HARN State Plane Oregon North FIPS 3601

Disclaimer:
This map is intended for informational purposes only. While this map represents the best data available at the time of publication, the City of Wilsonville makes no claims, representations, or warranties as to its accuracy or completeness. Metadata available upon request.





FROG POND AREA PLAN
Creating a great community

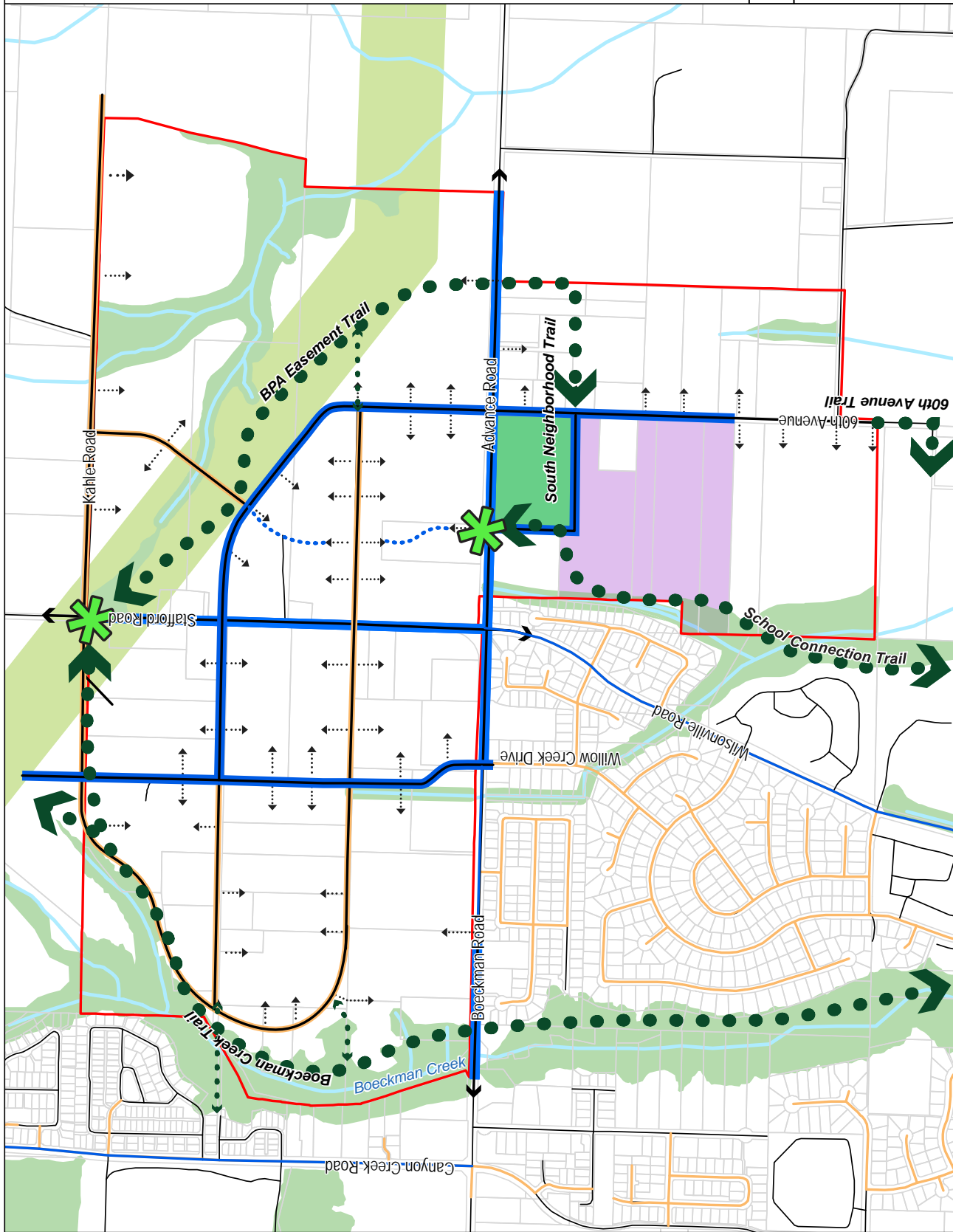
Bicycle / Pedestrian Framework
Updated for Frog Pond West Master Plan

- Framework Street
- ⋯ Local Connection
- Planning Area
- Planned School Site
- Community Park
- Stream
- BPA Corridor
- Natural Resources Overlay
- Tax Lots
- Existing Sidewalks
- Existing Roads
- Existing Bicycle Lane and Sidewalks
- Framework Street (All city streets will have sidewalks)
- Proposed Bicycle Lane and Sidewalks
- ⋯ Key Pedestrian Link
- ➔ Future Trail Connection
- ✱ Special Consideration Intersection



Prepared By: Angelo Planning Group
Date: 2/17/17



















Coordinate System: NAD 1983 HARN State Plane Oregon North FIPS 3601
Disclaimer: This map is intended for informational purposes only. While this map represents the best data available at the time of publication, the City of Wilsonville makes no claims, representations or warranties as to its accuracy or completeness. Metadata available upon request.



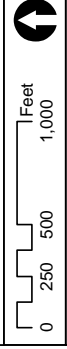


FROG POND AREA PLAN
Creating a great community

Transportation Framework
Updated for Frog Pond West Master Plan

-  Existing Major Arterial
-  Existing Minor Arterial
-  Existing Collector
-  New Collector*
-  Existing Local Street
-  New Local Framework Street
-  New Local Connection
-  Planning Area
-  Planned School Site
-  Community Park
-  Stream
-  BPA Corridor
-  Natural Resources Overlay
-  Tax Lots
-  Stop Signs (on side streets) or Roundabout
-  Traffic Signal
-  Stop Sign (on side streets)
-  Special Consideration Intersection

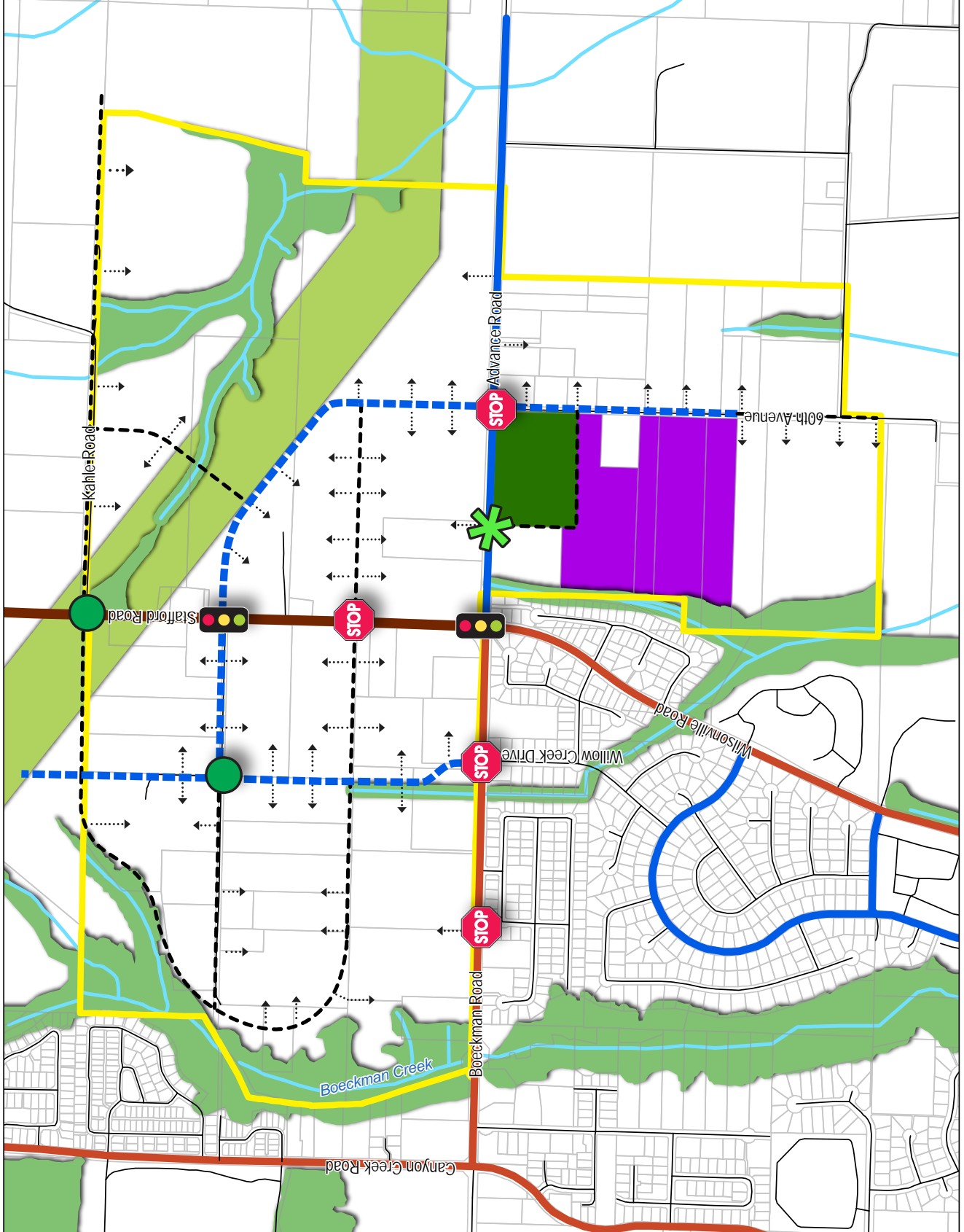
* Includes bike lanes and on-street parking where appropriate.

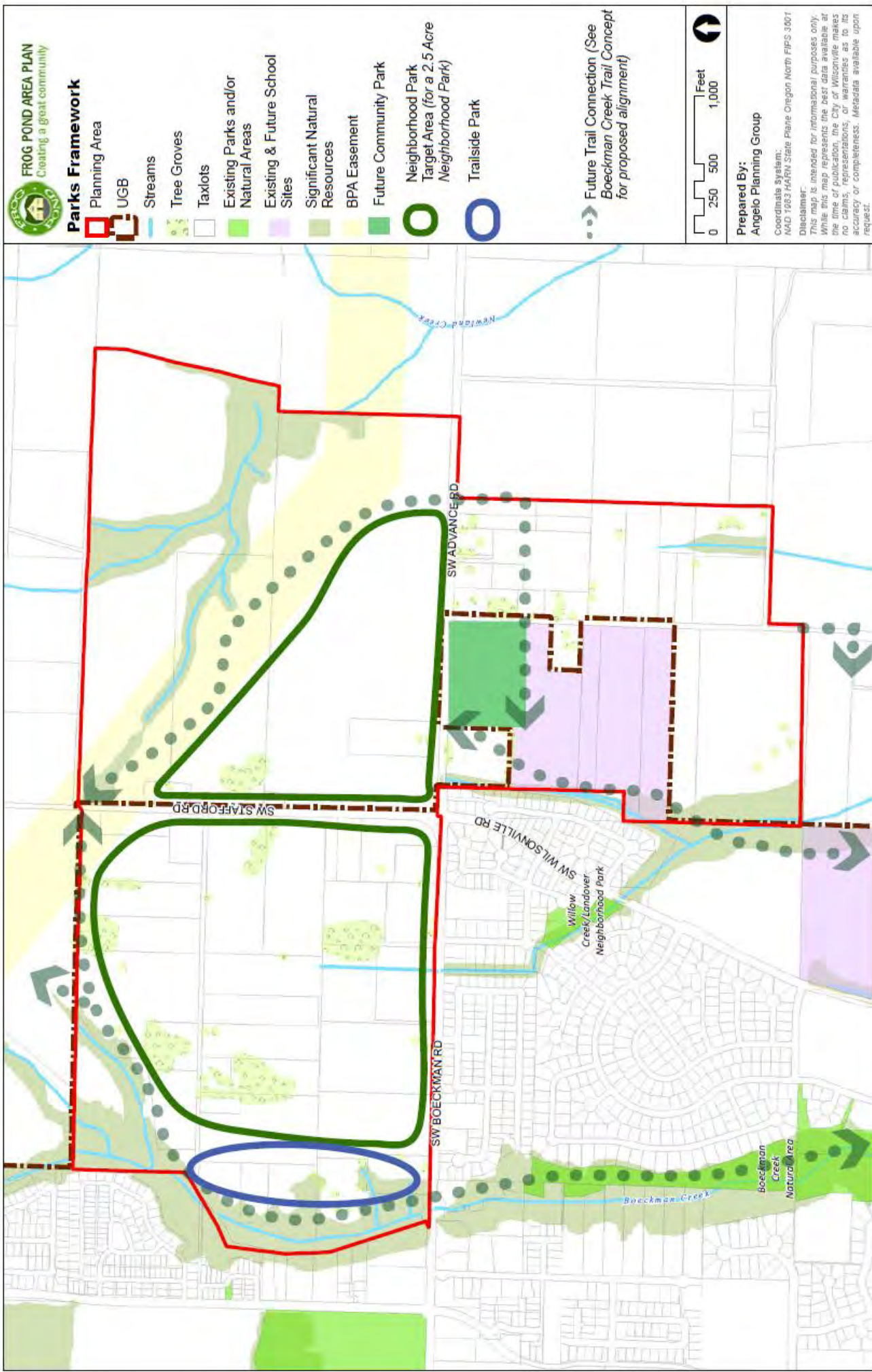


Prepared By: Angelo Planning Group
Date: 2/17/2017

Coordinate System: NAD 1983 HARN State Plane Oregon North FIPS 3601

Disclaimer:
This map is intended for informational purposes only. While this map represents the best data available at the time of publication, the City of Wilsonville makes no claims, representations, or warranties as to its accuracy or completeness. Meritdata available upon request.





APPENDIX C - ACREAGE AND DENSITY CALCULATIONS



MEMORANDUM

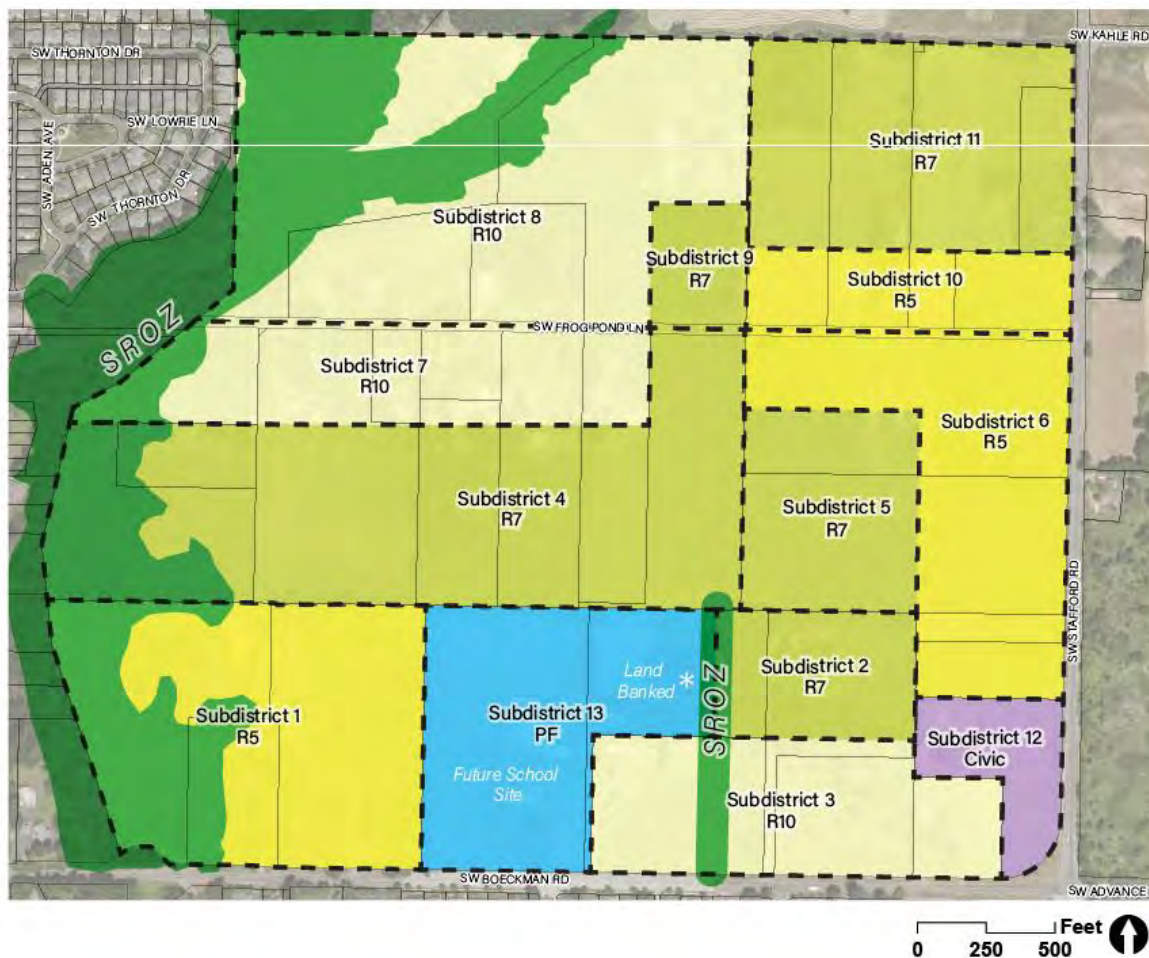
7/5/2017

To: Frog Pond West Master Plan Project Team
From: Joe Dills and Andrew Parish, Angelo Planning Group
Re: Density Calculations

INTRODUCTION AND PURPOSE

This memorandum describes the process by which density was calculated for the West Neighborhood in the Frog Pond Area Plan and for each subdistrict in the Frog Pond West Master plan Subdistricts are shown in Figure 1. The “Proportional Acreage” method of calculating the allowed density of a proposed development is also discussed.

Subdistricts were drawn to divide the land uses identified on the Land Use Framework of the Frog Pond Area Plan into workable units with only one land use designation, in order to provide clear direction to property owners and assist with the review of development applications. Subdistrict boundaries were drawn using major roadways and the boundaries of land use districts.





MEMORANDUM

DEVELOPMENT CAPACITY IN THE FROG POND AREA PLAN

Maximum development for the West Neighborhood was established by the Frog Pond Area Plan at 610 single family units (see Table 1 from the Area Plan included below.) This figure was calculated by:

- Calculating the gross acreage of each residential designation within the West Neighborhood
- Determining the amount of developable acreage, subtracting the following acreage from the gross:
 - Land within the Boeckman Creek SROZ
 - Land within 50' of Willow Creek
 - Land within the BPA Easement
 - 20% of wetlands identified during the PHS inventory
- A 2.5 acre neighborhood park and 1 acre trailhead park were assumed. The location of these parks was not known, so acreage for all residential districts in the West Neighborhood was reduced for the purposes of this calculation.

Table 1 - Land Use Metrics and Capacity (Option G)

Residential Designation		West Neighborhood Units	East Neighborhood Units	South Neighborhood Units	Frog Pond Total Units	East+ South Units	Average Lot Size (SF)	Max Units/ ac net
West Neighborhood	R-10 Single Family (8,000 - 12,000 SF)	124	-	-	124	-	10,000	4.4
	R-7 Single Family (6,000 - 8,000 SF)	281	-	-	281	-	7,000	6.2
	R-5 Single Family (4,000 - 6,000 SF)	205	-	-	205	-	5,000	8.7
East & South Neighborhood	Future R-8 Single Family (7,000 - 9,000 SF)	-	120	28	148	148	8,000	5.4
	Future R-6 Single Family (5,000 - 7,000 SF)	-	125	162	287	287	6,000	7.3
	Future R-4 Single Family (3,000 - 5,000 SF)	-	165	286	451	451	4,000	10.9
	Future R-2.5 (2,000 - 3,000 SF)	-	436	-	436	436	2,500	17.4
Total Units		610	846	476	1,932	1,322		
Overall net density		6.3	10.6	8.8	8.4	9.90		

DEVELOPMENT CAPACITY IN THE FROG POND WEST MASTER PLAN

In the preparation of the Frog Pond West Master Plan, the project team:

- Further broke down the units into Residential Subdistricts as shown on Figure 1.
- Addressed the Church property ("Civic" designation) specifically, requiring 0 units at minimum and 7 units at maximum.
- Removed the school district-owned properties north of Boeckman Road from the residential inventory after the West Linn-Wilsonville school district expressed its intent of placing a new school on the site.
- Minimum density was calculated at 80% of maximum density, in order to ensure that the intended amount of housing is achieved.

This resulted in Table X below, which is included in the Master Plan.

For an individual development, the minimum and maximum allowed units are calculated by determining the proportional acreage of a development in relation to the subdistrict it occupies. Land within the SROZ or existing rights-of-way are removed. For example:

“Development A encompasses” 50% of the developable land (outside SROZ, not in existing rights-of-way) of Subdistrict 3. The minimum number of units allowed in Development A would be 50% of the

MEMORANDUM



minimum allowed in Subdistrict 3, and its maximum would likewise be 50% of the maximum allowed in Subdistrict 3, rounding to the nearest whole unit.

A table of the gross and net acreages of subdistricts is provided in Table 3.

Table 2- Minimum and Maximum Dwelling Units Permitted in Each Subdistrict

Area Plan Designation	Frog Pond West Subdistrict	Minimum Dwelling Units in Subdistrict	Maximum Dwelling Units in Subdistrict
R-10 Large Lot Single Family (8,000 – 12,000 SF)	3	26	32
	7	24	30
	8	43	53
R-7 Medium Lot Single Family (6,000 – 8,000 SF)	2	20	25
	4	86	107
	5	27	33
	9	10	13
	11	46	58
R-5 Small Lot Single Family (4,000 – 6,000 SF)	1	66	82
	6	74	93
	10	30	38
Civic	12	0	7 ^a
Public Facilities (PF)	13	0	0
TOTAL		452	571

a These metrics apply to infill housing within the Community of Hope Church property, should the property owner choose to develop housing on the site. Housing in the Civic subdistrict is subject to the R-7 Medium Lot Single Family regulations.

MEMORANDUM



Table 3 Gross and Net Subdistrict Acres in Frog Pond West

Sub-district	Designation	Gross Acres	SROZ/BPA Acres	Existing ROW Acres	Net Subdistrict Acres
1	R5	20.1	6.6	0.0	13.5
2	R7	5.7	4.7	0.0	1.0
3	R10	11.9	0.0	0.0	11.9
4	R7	30.1	0.0	0.1	29.9
5	R7	8.0	0.0	0.0	8.0
6	R5	15.3	0.0	0.4	14.9
7	R10	11.7	1.2	0.6	9.9
8	R10	30.9	10.7	0.5	19.7
9	R7	2.7	0.0	0.1	2.6
10	R5	6.0	0.0	0.3	5.6
11	R7	12.7	2.5	0.0	10.2
12	Civic (R7)	3.8	0.0	0.0	3.8
13	PF	13.5	0.0	0.0	13.5
TOTAL		172.4	25.7	2	144.5

APPENDIX D - INFRASTRUCTURE FUNDING PLAN

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Frog Pond West: Infrastructure Funding Plan

Date July 19, 2017
To Chris Neamtzu, City of Wilsonville
From Andy Parks, GEL Oregon
Brian Vanneman, Leland Consulting Group
Joe Dills, Angelo Planning Group



Introduction

The City of Wilsonville has engaged GEL Oregon, Leland Consulting Group, and Angelo Planning Group to prepare an infrastructure funding plan for the Frog Pond West Master Plan ("Master Plan"). The purposes of the Frog Pond West Infrastructure Funding Plan ("Funding Plan") are to:

- Describe strategies and options that provide adequate funding to complete infrastructure (transportation, water, sewer, parks, and storm water) requirements identified in the Master Plan in a timely manner;
- Increase confidence for all parties regarding the projects, costs, resources, and timing required to make Frog Pond West a success;
- Provide flexibility by identifying both primary strategies and tools for funding, as well as additional alternatives, tools, and approaches that could be implemented over time; and
- Provide an equitable distribution throughout Frog Pond West of the costs and benefits of Master Plan infrastructure.

This plan is based on analysis of funding options and discussions with developers and property owners, and is intended to be adopted as part of the final Frog Pond West Master Plan.

Project Summary

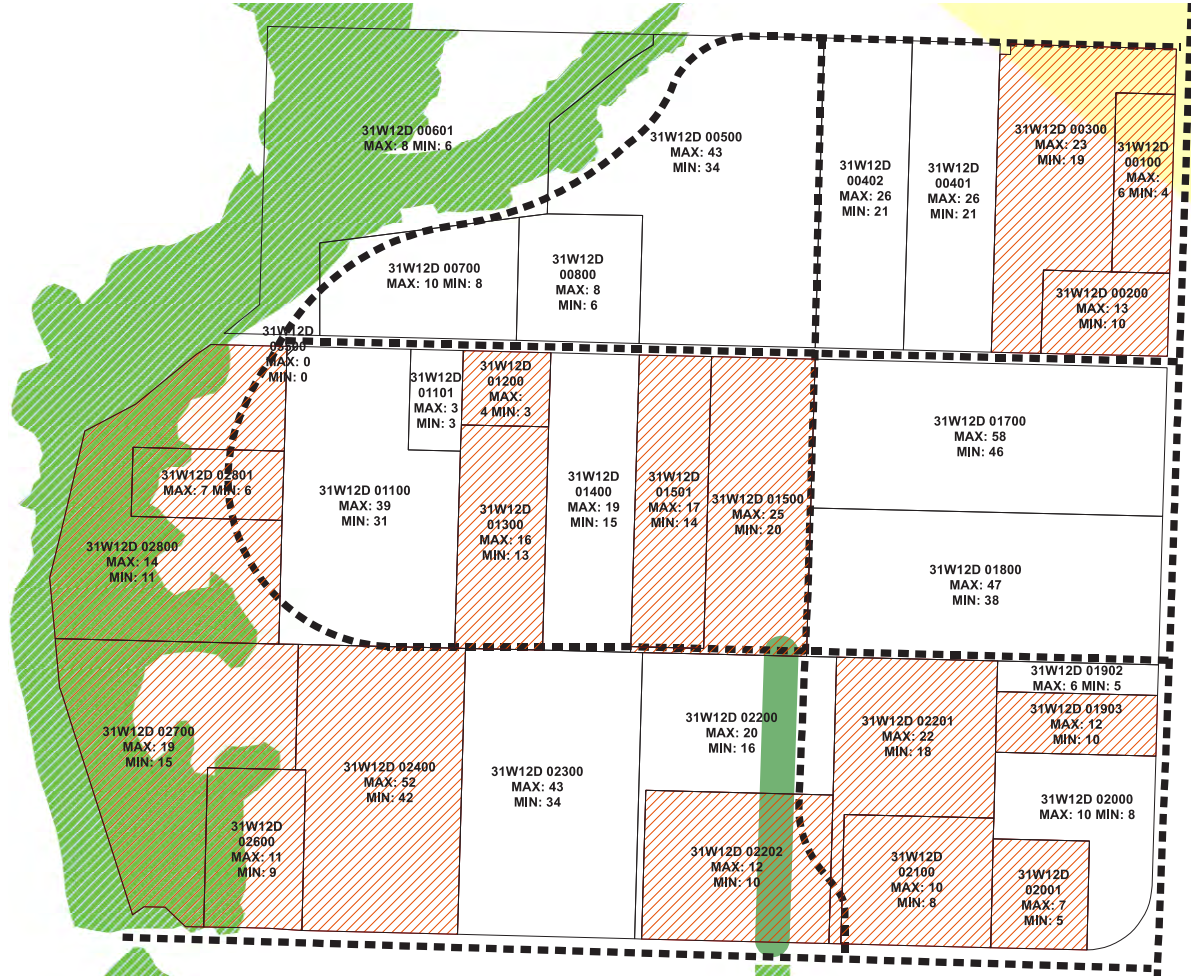
The Frog Pond West planning area, shown in Figure 1 below, is approximately 180 acres in total, with approximately 150 acres outside of the natural resource areas shown in green. The Master Plan area includes the following general attributes, which influence this funding plan:

- 571 housing lots would be allowed to be built under the Master Plan.
- The site is currently outside the city limits, but within the Urban Growth Boundary.
- 26 different property owners (as of 2015) control properties that vary widely in size. The largest single ownership is 25 acres (school district) and the smallest is 0.9 acres.
- The School District owns 25 acres, including a 10-acre future school site adjacent to Boeckman Road, a 5-acre land banked site adjacent to the future school site, and a 10-acre land banked site adjacent to Stafford Road.¹
- Owners of the parcels highlighted in Figure 1 have shown an interest in development. Property owner intent to develop has been taken into account in this Funding Plan since it is likely to drive the location and pace of development and the locations where infrastructure will be needed first.

¹ In this Funding Plan, a portion of the 5-acre land banked site is assumed to be used for a future neighborhood park and the 10-acre land banked site is assumed for future residential development. These assumptions are subject to change based on future decisions by the West Linn-Wilsonville School District and the City of Wilsonville.

Figure 1. Frog Pond West

This map shows the maximum and minimum number of housing units that can be built on each property, pursuant to the Frog Pond West Master Plan. Properties shaded in orange indicate that owners have contacted the City to express an interest in development.



Infrastructure Summary

For purposes of this Funding Plan, the infrastructure necessary to serve Frog Pond West has been put into three different categories, shown below. The emphasis of this Funding Plan is to identify strategies and tools appropriate to fund “Master Plan” infrastructure (the third bullet point below); the strategies and tools necessary to fund the other infrastructure categories are adequately addressed through the City’s existing methods.

- **Off-site Infrastructure** includes large projects that serve the broader community, are funded through Systems Development Charges (SDCs) generated by development throughout the City and through other City resources, and are generally located outside of the 180-acre boundary of Frog Pond West. Examples include:
 - Memorial Park pump station
 - Boeckman Creek sanitary sewer trunk line
 - West side water reservoir (funding pending)
 - Boeckman Bridge (the potential Frog Pond West contribution is summarized below)

- **On-site Infrastructure** includes local projects which serve individual properties. The costs of these projects are funded by individual developers. Examples include:
 - Local streets and sidewalks
 - Sanitary sewer lines
 - Water lines
 - Stormwater management
- **Master Plan Infrastructure** is the focus of this Funding Plan. Master Plan infrastructure differs from the above because it typically:
 - Crosses multiple property ownerships
 - May be too large and expensive for any single developer to complete
 - May have geographically concentrated costs (e.g. a park on a single property), but benefits all of Frog Pond West
 - May be adjacent to or within Frog Pond West development parcels

As stated, the focus of this Funding Plan is to identify the Master Plan infrastructure projects and to provide strategies and options for funding those Master Plan infrastructure projects that currently do not have any identified funding source or are not fully funded.

Master Plan Projects

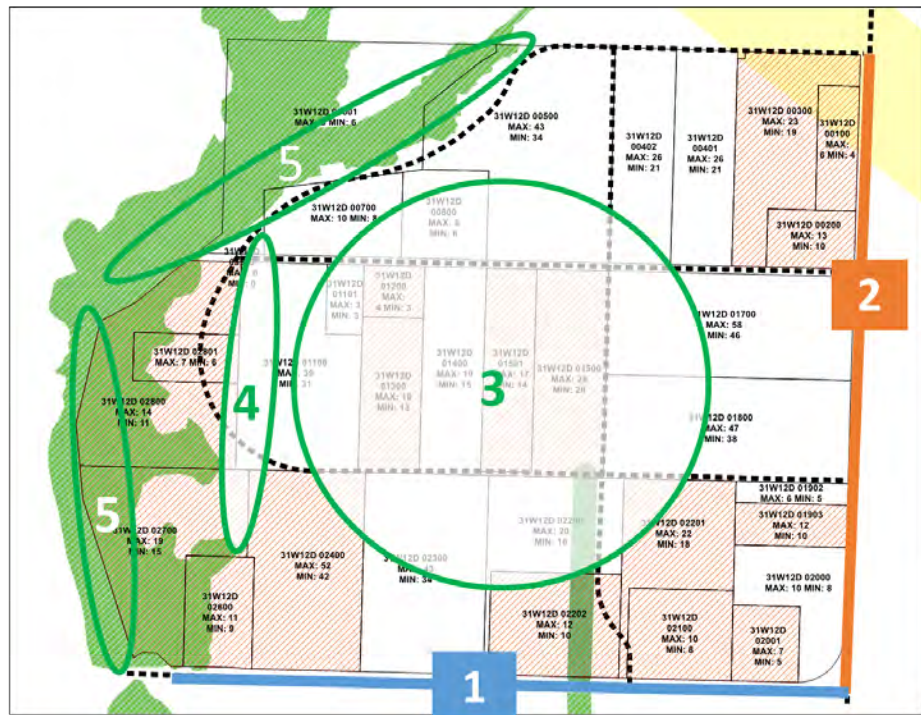
This Funding Plan focuses on funding strategies for the following five key Master Plan projects, which are conceptually represented in the adjacent figure:

1. Boeckman Road, including sanitary sewer
2. Stafford Road, including sanitary sewer and water
3. Neighborhood Park
4. Trailhead Park
5. Boeckman Trail

In addition, this Funding Plan specifically addresses one off-site infrastructure facility, due to its location adjacent to Frog Pond West:

- Boeckman Bridge

Figure 2. Map of Master Plan Projects



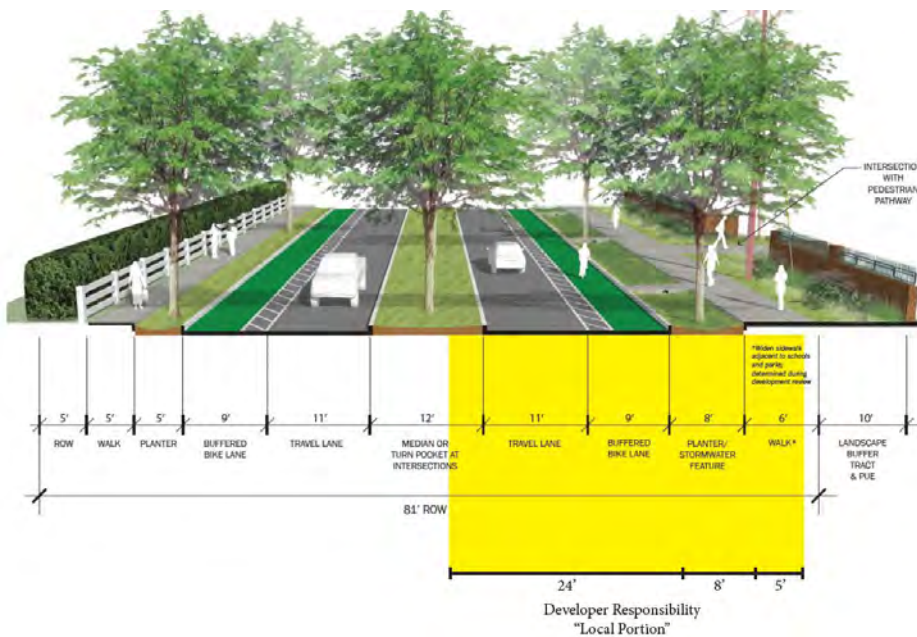
Current City Policy

This Funding Plan uses the City’s existing policy and practices as a starting point, summarized below:

- Developers pay for the “local portion” of infrastructure required to serve their developments. For example, the local portion of Boeckman Road is shown below in Figure 3 as the yellow highlighted portion of the road. Typically, this is the first 24 feet of roadway from face of curb, plus planter strips and sidewalks, and including the pavement and road base associated with the local street standard, and water and sewer lines up to 8” in size.
- Developers also pay for the “oversize portion” (infrastructure that exceeds the minimum required), and then receive credits against SDCs due (“SDC credits”).
- Where necessary, the City may pay for infrastructure elements that are:
 - Identified by existing adopted citywide infrastructure master plans (e.g. the Transportation System Plan or Parks and Recreation Master Plan) and included in the City’s five-year Capital Improvement Program (CIP); and
 - Abutting already-developed areas (e.g. the component of Boeckman Road that fronts the Arbor Crossing neighborhood to the south) and therefore not the responsibility of Frog Pond developers.
- The City may implement a variety of tools to facilitate and coordinate infrastructure delivery including SDCs and SDC credits, a supplemental fee, reimbursement districts/agreements, Local Improvement Districts (LIDs), development agreements, etc.

In addition to SDCs and SDC credits, a supplemental fee is the primary funding tool recommended for Frog Pond West and is described further below.

Figure 3. Boeckman Road, including developer responsibility/local portion



Note: Roadway may include other “oversize” elements that are not shown (e.g. additional structural section).

Infrastructure Cost Allocation-Current City Policy

The total cost of the five Master Plan infrastructure projects and the Boeckman Bridge is allocated to different parties under *current* City policy as follows. Recommendations for how these current policies should be adjusted to fit specific conditions in Frog Pond begin on page 6.

1. Boeckman Road (including sanitary sewer)
 - a. Southern Portion of Boeckman Road
 - i. The City will pay for the construction of the southern portion of Boeckman Road, which is identified in the City's Transportation System Plan (TSP) as a "higher priority project."
 - b. Northern Portion of Boeckman Road
 - i. Current City policy states developers along Boeckman Road are responsible to develop their "local portion" of Boeckman Road (see Figure 3 above). Since most of the relevant Boeckman Road frontage and in-street utilities serve Frog Pond West, developing the "local portion" of the north side of Boeckman Road is the responsibility of the adjacent developers.
 - ii. Also under current City policy, developers may receive SDC credits for constructing the remainder of the north side of Boeckman Road, which exceeds the "local portion" of the road.
 - iii. Any oversizing of sanitary sewers installed by the developers along the northern portion of Boeckman Road is also subject to SDC credits.
 - c. Alternative strategies for funding Boeckman Road are outlined on page 6.
2. Stafford Road (including sanitary sewer and water)
 - a. Western Portion of Stafford Road
 - i. As with the northern portion of Boeckman Road, developers in Frog Pond West developing adjacent to Stafford Road are responsible for the "local portion" of Stafford Road, including sanitary sewer and water. Any oversizing can be compensated through SDC credits.
 - b. Eastern Portion of Stafford Road
 - i. Under current City policy, the "local portion" of the east side of Stafford Road will be the responsibility of the developers of Frog Pond East adjacent to Stafford Road.
 - c. Alternative strategies for funding Stafford Road are outlined on page 10.
3. Neighborhood Park
 - a. The cost of the Neighborhood Park is the responsibility of developers within Frog Pond West because the City's Comprehensive Plan, the Parks and Recreation Master Plan, and the Parks SDC methodology require the cost of neighborhood parks to be the responsibility of the local neighborhood, and not borne by the entire City. Strategies for funding the Neighborhood Park Road are outlined on page 11.
4. Trailhead Park
 - a. The cost of the Trailhead Park is accounted for in the Parks SDC and is included in the Parks and Recreation Master Plan, and so does not require any contribution from developers beyond the standard Parks SDC.

5. Boeckman Trail
 - a. Along with the Trailhead Park, the Boeckman Trail is accounted for in the Parks SDC and is included in the Parks and Recreation Master Plan, and so does not require any contribution from developers beyond the standard Parks SDC.
6. Boeckman Bridge
 - a. Frog Pond West's costs for Boeckman Bridge are allocated based on the neighborhood's traffic demand (average daily trips or ADT). Strategies for funding Boeckman Bridge are outlined on page 12.

Master Plan Infrastructure Funding Strategies

Master Plan infrastructure such as Boeckman and Stafford Roads will need to be improved across many properties, and are likely too large and expensive for any single developer to complete alone. Therefore, in order to realize the goals of the Frog Pond Area Plan and the Master Plan, the City has a role to play in coordinating the provision and funding of that infrastructure. The sections below describe strategies for funding the four projects that either exceed the ability of an individual developer to fund, do not have any identified funding source, or would be only partially funded by known sources. Those four projects are: (1) the northern portion of Boeckman Road; (2) the western portion of Stafford Road; (3) the Neighborhood Park; and (4) Boeckman Bridge.

Overall Preferred Strategy: Establish a Supplemental Fee to Distribute Costs Equitably

As described above, existing City policy would require funding for Master Plan infrastructure to generally be borne by developers. This Funding Plan proposes a variation on that policy in which the funding for specified projects would be: (1) borne by all new development in Frog Pond West through an equitable distribution of the costs on an equivalent dwelling unit (EDU) basis; and (2) collected through a supplemental fee that applies to new development. The supplemental fee will generate funds for three projects: Boeckman Road (including sanitary sewer improvements); Stafford Road (including water and sanitary sewer improvements); and the Neighborhood Park. (The funding for Boeckman Bridge is described further below, and includes a separate, dedicated supplemental fee for the bridge.)

The supplemental fee will create revenue that is fungible for use across different Master Plan infrastructure projects so that the timing of project construction would be as flexible as possible. The supplemental fee is a different funding instrument than a supplemental SDC or reimbursement district fee; however, the City retains the option of using those tools if desired.

Figure 4 below summarizes the Frog Pond West supplemental fee, including associated projects, preliminary cost estimates, and allocation per equivalent dwelling unit (EDU). The City reserves the right to complete additional infrastructure design and engineering analysis, which may result in changes to the cost estimates below.

Figure 4. Frog Pond West Estimated Supplemental Fee: Preliminary Cost Estimates and Allocation

All costs shown assume that projects will be built by the City, and therefore public-sector construction cost estimates are used. Additional notes regarding EDUs and costs are below.

Projects	Total Project Cost Public Sector Construction	Oversize Components (City CIP)	City Share	Net Project Cost to Recover (rounded)	Number of EDUs	Allocation per EDU	Admin Overhead 12.0%	Total Allocation per EDU
Boeckman Rd	3,747,161	122,986	2,026,941	1,597,000	538	2,970	356	3,326
Boeckman Rd sanitary sewer	690,625	265,756	-	425,000	490	870	104	974
Stafford Rd	2,585,548	439,544	-	2,146,000	538	3,990	479	4,469
Stafford Rd sanitary sewer	213,281	20,312	-	193,000	490	390	47	437
Stafford Rd water	365,625	71,094	-	295,000	472	630	76	706
Neighborhood parks	2,407,221	-	-	2,407,000	457	5,270	632	5,902
Total	10,009,461	919,692	2,026,941	7,063,000		14,120	1,694	15,814

EDUs. An EDU is an approximation of the infrastructure demand generated by one dwelling unit, and is useful since EDUs can also be estimated for non-residential (e.g. school, commercial, or industrial) development. In the case of the Neighborhood Park, costs are allocated across 457 EDUs in Frog Pond West, which is 80 percent of the 571 total homes allowed in the Master Plan, and accounts for a potential 20 percent “underbuild.” Assuming that 80 percent or more of the allowed homes in Frog Pond West are built, they will generate adequate supplemental fees for the Neighborhood Park, along with the other Master Plan infrastructure projects. In the case of other infrastructure elements (roads, sewer, water), the proposed school will generate infrastructure demand in addition to demand from residential development. For that infrastructure, the City and project team have estimated school demand (in EDUs) based on comparable past projects, and added this to the housing demand. Therefore, the road, sanitary sewer, and water projects are allocated across a greater number of EDUs.

Notes regarding costs. The cost estimates in Figure 4 assume that projects will be funded via the supplemental fee and built by the City, in the year 2019. These fees may adjust for the time cost of money or other inflationary factors if the projects are built beyond that time horizon. Based on input from third-party engineers and City staff, public-sector construction costs are assumed to be approximately 25 percent higher than private-sector construction costs, and therefore, if any components were to be built by the private sector, it is possible that the costs and the associated fees could be reduced. Cost estimates in Figure 4 include hard (construction) costs, plus external engineering (25 percent of hard costs), contingency (30 percent of hard costs), and city overhead (12 percent of all costs, to account for internal City engineering, finance, and related services). The City’s review indicates that total Frog Pond West development fees (the above supplemental fees plus base City SDCs) are comparable to the total fees that developers are paying in comparable master-planned development areas such as South Cooper Mountain

in Beaverton, and River Terrace in Tigard. The City's current SDCs are \$25,388² for a single-family home (EDU), including streets, sanitary sewer, water, stormwater, and parks, and adjust each year to account for inflation.

Boeckman Road Preferred Funding Strategy

The following strategies were prepared after analysis of various options and coordination meetings with the three major property owners/developers on the north side of Boeckman Road. During these meetings, the City explored multiple options and strategies for funding Boeckman Road, working from the foundation of existing City policy and applying the principle of equitable distribution of costs. The Boeckman Road strategies are:

- The City will lead the construction of the Boeckman Road improvements. This strategy evolved out of meetings with property owners/developers during which they stated the following concerns and challenges about the private sector leading construction of Boeckman Road: (1) existing properties are small, so infrastructure costs (even if reimbursed over time) cannot be easily carried or offset against revenues; (2) borrowing money without certainty of repayment is not possible; and (3) they do not have experience working jointly with adjacent developers, which makes coordination difficult. The property owners/developers stated a preference to pay a higher fee and have the City build the improvements, as opposed to a lower fee and private sector construction.

From the City's perspective, a benefit of City-led construction is that the phasing and timing of the improvements can be determined by the City and is flexible. The City would also retain more control over the project to ensure it complies with the Frog Pond West Master Plan and City standards. In addition, City-led construction translates into greater risk for the City. If development does not take place at the pace expected and therefore revenue from the supplemental fee is less than the amount necessary to construct the projects, the City will carry the cost of construction and financing.

In summary, the preferred strategy is for the City to lead the Boeckman Road improvements. The City retains the option for a private sector lead if circumstances are conducive to it in the future. The additional strategies listed below reflect the City's consideration of the trade-offs described above and the crafting of an approach that will, on balance, work for all parties.

- A preference for fewer phases; the preferred approach is two phases; with options for how phasing occurs. The City prefers that Boeckman Road be built in as few phases as possible. This will minimize disruption and reduce costs. The City's specific preference is for a two-phase approach where two of the three major frontages are built simultaneously. The City realizes that individual projects may need to move ahead, and is open to proposals to improve a single frontage. The City will work with the School District to try to coordinate its frontage improvement with either of the adjacent frontages. The City will also work with the owner/developer of the western-most frontage to coordinate its improvements with the Boeckman Bridge replacement.

² Reflects adopted SDCs as of June 4, 2017. On June 5, 2017, the City Council adopted an updated Transportation SDC of \$11,772 per Single Family home (an increase of \$4077 above the previous SDC).

- City funding for the southern part of Boeckman Road. The City will contribute funds for completion of the southern portion of Boeckman Road, which abuts the Arbor Crossing neighborhood and, under current City policy, would not be the responsibility of Frog Pond West developers. An estimate of this cost is shown as the “City share” of Boeckman Road in Figure 4.
- Equitable distribution and reimbursement of costs. Boeckman Road costs will be distributed equitably to all development in Frog Pond West, as described above.
- Coordination of the western portion of Boeckman Road with the Boeckman Bridge replacement. When the Boeckman Bridge is replaced, the project will extend east to include part of the western-most frontage. The City will strive to coordinate the design for the bridge and the road improvement by whichever project is designed first.
- Funds may be sourced from all applicable fees. For City (or private sector) construction of Boeckman Road, funding will be available from supplemental fee revenue, plus applicable SDCs collected or credited. This will help reduce or eliminate carrying costs associated with the construction of Boeckman Road and sanitary sewer facilities.
- Phase 1 construction may be deferred to a time-certain date. At the discretion of the City, the construction of Boeckman Road may be deferred to a time-certain date or number of completed lots in order to accumulate supplemental fees needed to build the project. For the purposes of this Funding Plan, construction is preliminarily set for 2019. Developers will be required to construct interim improvements necessary to support safe pedestrian, bicycle, and motor vehicle movement prior to the full improvements being completed.
- Development agreements will be the implementing instruments and will be established at the time of annexation. The City plans to create an infrastructure supplemental fee, which will require developers to enter into development agreements as a condition of annexation. These development agreements will require developers to pay the supplemental fee at the time of issuance of a building permit. The development agreement template and infrastructure supplemental fee resolution should be approved by the City Council prior to processing any annexation applications.
- Options for Council Consideration. Based on discussions with the three major property owners on the north side of Boeckman Road and analysis by the City team, the strategies listed above are recommended. The key issues for which there are options are:
 - Option A – City leads construction, with improvements deferred to 2019 or a defined number of lots in order to build up funds. The project team estimates that an issuance of permits of 142 EDUs will be required in order to receive sufficient supplemental fees to cover the City’s costs associated with the north side of Boeckman Road.
 - Option B – City leads construction, with improvements not deferred; Boeckman Road would be constructed early and concurrent with development. This option is not recommended due to the risk of delayed pay-back to the City.

- Option C – Private sector leads construction, with improvements deferred to 2019 or a defined number of lots in order to build up funds. This option is not recommended, but is available to the Council for consideration.

Stafford Road Preferred Funding Strategy

There are several challenges associated with the construction of Stafford Road. There is no certainty that Frog Pond East will develop in the near future, and the road is currently under county jurisdiction. Frog Pond East is outside the Urban Growth Boundary and is designated “urban reserve,” defined by Metro as land that is suitable for development in the next 50 years. The developer’s portion of Stafford Road infrastructure on the east side would not be required until annexation and development. Likewise, Frog Pond West developers/property owners along Stafford Road are not as advanced in their planning for development as those along Boeckman Road; therefore, this funding strategy cannot be as specific in its recommendations for Stafford Road.

This Funding Plan recommends that Stafford Road be built and funded via a strategy similar to Boeckman Road:

- Preference for the fewest number of phases that are practicable, with interim improvements to be considered at the discretion of the City. Phasing may be tailored to improve the west side of the road prior to the east side. The specific timing of improvements and phasing is to be determined. The City generally intends to build up funds through the collection of the supplemental fee prior to making improvements to Stafford Road.
- Equitable distribution of costs: Stafford Road improvement costs will be included in the Frog Pond West supplemental fee, and supplemental fee revenues will be used to pay for Stafford Road improvements (roadway, sanitary sewer, water).
- Options for the construction of Stafford Road improvements by either the private sector or the City. Private developers who build segments of the road will be reimbursed via the supplemental fee and SDC credits.
- Development agreements will be the implementing instruments and executed at the time of annexation.

Timing of Stafford Road Improvements

Given that the east side of Stafford Road is not within the Urban Growth Boundary (UGB) it is challenging to provide a time certain, or even a target “threshold” of the number of equivalent dwelling units (EDUs) for required permanent improvements to Stafford Road. Decisions by the City that will impact the timing of Stafford Road improvements include but are not limited to the following:

- Completing Boeckman Road in its entirety prior to Stafford Road improvements.
- Acquiring park land for the Neighborhood Park prior to Stafford Road improvements.
- The timing of improvements to the Neighborhood Park.
- Completing Stafford Road improvements in one or possibly two phases.
- The availability of Transportation System Development Charges for the “oversize” portion of Stafford Road.

Decisions by others that will impact the timing and availability of funding for Stafford Road improvements include but are not limited to the following:

- School District siting and timing decision for a school, including the size and equivalent dwelling units determined.
- Location of and timing of development by property owners.
- Pace of development.
- Inclusion of Stafford Road along with the East and South Neighborhoods into the UGB.

Per the estimated development pace shown below, which reflects feedback received from property owners and developers, development of eighty percent (457 EDUs) of Frog Pond West’s homes plus development of a primary school (43 EDUs) is anticipated by year fifteen. The number of EDUs estimated to fully fund the west side of Stafford Road is 186, or 93 EDUs for two separate phases.

Figure 5. Projected number of Equivalent Dwelling Units to Fund Projects and Project Timing

	Estimated Total Project Cost (000s)	Less: City Portion (000s)	Net Project Cost paid with Supplemental Fee (000s)	Number of EDUs to Fully Fund	Cumulative EDUs to Fully Fund	Estimated Year to Construct
Boeckman Road/sewer	4,438	2,416	2,022	143	143	2-5
Neighborhood Park - land	980	-	980	69	212	2-5
Neighborhood Park – improvements	1,427	-	1,427	101	313	6-10
Stafford Road/water/sewer-phase I	1,582	265	1,317	93	406	11-15
Stafford Road/water/sewer-phase II	1,582	265	1,317	93	499	11-15
	10,009	2,946	7,063	499		

Figure 6. Estimated Development Pace

Years	Boeckman Rd frontage	Other	Total	Cumulative
0-5	138	36	174	174
6-10	43	150	193	367
11-15	0	135	135	502
16-20	0	0	0	502*

* Total lots on the two tables above vary due to rounding.

The City could choose to move forward sooner with Stafford Road improvements (west side) under various scenarios, for example: the project is funded from sources other than the infrastructure supplemental fee; the east side is brought within the UGB before year 15; the project is split into more than one phase; or, the Neighborhood Park improvements are deferred or phased.

Neighborhood Park Preferred Funding Strategies

As stated above, both the Trailhead Park and Boeckman Trail are eligible to use Park SDC funding, including SDC credits, because they are considered to be “regional” park facilities pursuant to the City’s

Parks & Recreation Master Plan and SDC methodology. However, the Neighborhood Park is not eligible to use Park SDCs or Park SDC credits as a funding resource.

It is very unlikely that any single developer or group of developers/property owners will have the financial wherewithal to complete the Neighborhood Park project. Moreover, without a funding strategy, the costs of this park—which would be located on one or several properties—would be concentrated, while the benefits would be throughout Frog Pond West. Therefore, as shown in Figure 4, this Funding Plan recommends including the Neighborhood Park acquisition and improvement costs in the Frog Pond West supplemental fee. This will enable the project to move forward while minimizing the impact on funding for parks projects elsewhere in the City. The priorities of acquisition and construction would be as follows:

- Acquire needed land first. Work proactively with the School District (and/or property owners as necessary) to acquire the land. This may require negotiations with the School District to secure the site via a memorandum of understanding (MOU), intergovernmental agreement (IGA), or other agreement.
- Design and complete park improvements next. Consider building the Neighborhood Park when residential build-out reaches a target, such as 50 percent. Work proactively with the School District, developers, and property owners willing and able to make park improvements in exchange for supplemental fee credits.

Development agreements addressing the supplemental fee (including a Neighborhood Park component) would be signed with each property owner at the time of annexation, as described above. Additional development agreements may be necessary in the event that property owners deed land for or make improvements to the Neighborhood Park that would be creditable against supplemental fee payments, or make other contributions to the Neighborhood Park.

Boeckman Bridge Preferred Funding Options

The proposed Boeckman Bridge is a major piece of transportation infrastructure—significantly greater in cost than the other elements discussed above. Frog Pond West should contribute a modest share of funding for the bridge, consistent with the fact that it is expected to generate a small percentage (less than 15 percent) of the transportation demand for the bridge, with the remainder of the demand generated by existing and new development elsewhere in the City. The majority of funding will be generated by citywide sources, possibly urban renewal funds or other sources.

This Frog Pond West share should be generated by a supplemental fee that would be similar to the fee described above, but likely separate and dedicated to the Boeckman Bridge only. The fee associated with Boeckman Bridge is recommended to be separate from the Frog Pond West supplemental fee (for Boeckman and Stafford Roads, and Neighborhood Park) because a funding strategy for Boeckman Bridge has not been finalized. The selected funding for Boeckman Bridge (e.g. Urban Renewal or CIP) may be comingled in ways that are different from the other Master Plan infrastructure, causing potential accounting challenges if there is just one supplemental fee. Citywide and local (Frog Pond West) funding recommendations are described below.

Citywide Funding Share

While the City's funding strategy for Boeckman Bridge is still being refined, the City is currently considering funding a significant share of Boeckman Bridge via urban renewal funds (tax increment financing), that

would be generated by substantially amending the Year 2000 urban renewal area plan (Year 2000 URA) to include the cost of Boeckman Bridge. The City estimates that the Year 2000 URA could generate enough funds to pay for either the entire cost of Boeckman Bridge, or that cost less the cost associated with Frog Pond West. Other funding mechanisms—primarily SDCs/CIP—could be used to supplement URA funds. The City recently updated the Transportation SDC (TSDC) methodology and rate and elected to exclude Boeckman Bridge from the TSDC project list at this time. While the City is pursuing the citywide component of Boeckman Bridge funds through the Year 2000 URA, the funding specifics will continue to be refined for this major piece of transportation infrastructure. This Funding Plan estimates a supplemental fee based on the portion of the cost to construct Boeckman Bridge that is not funded through other revenue sources (the “Unfunded Portion”).

Frog Pond West Share of Unfunded Portion: Boeckman Bridge Supplemental Fee Estimate

Traffic generated by Frog Pond West is expected to make up a modest portion of the total traffic carried by Boeckman Bridge. The average daily trips (ADT) forecast for Boeckman Bridge in 2035 is 12,750. Frog Pond West’s 571 housing units are expected to generate 1,170 ADT over Boeckman Bridge, or 9.2 percent of the total forecast ADT. At 80 percent development, or 457 units, the ADT is expected to amount to 7.3 percent of the total. The school is estimated to generate 645 ADT, or 5.0 percent of the total. In all, the estimated ADT generated by Frog Pond West, at full build out, is 1,815, or 14.3 percent of total forecasted trips.

The current cost estimate for Boeckman Bridge is \$14.0 million. If the City captures a proportional share of bridge funding from Frog Pond West, a separate supplemental fee appears to be the most appropriate tool. The amount to be raised by housing development in Frog Pond West would be 9.2 percent of the total Unfunded Portion, divided equally between 571 units.³ For each \$1 million of “net unfunded” bridge cost (not covered by URA or other citywide sources), the fee would be \$161 (9.2 percent times \$1,000,000 divided by 571 housing units). The actual fee will depend on the Unfunded Portion of Boeckman Bridge, for example:

- If \$2 million unfunded, the fee per EDU would be \$322
- If \$10 million unfunded, the fee per EDU would be \$1,610
- If \$14 million unfunded, the fee per EDU would be \$2,254

The estimated contribution by the School District is approximately five percent of the Unfunded Portion; however, details regarding the District’s precise share have yet to be worked out.

Summary of Strategies and Recommendations

As described above, this Funding Plan provides the following findings and recommendations:

- Frog Pond West will require that a variety of infrastructure—including transportation, sanitary sewer, water, and parks—be built at the local, Master Plan, and off-site levels. Master Plan improvements are the primary focus of this Funding Plan, as they affect multiple property ownerships, are costly, and require a coordinated plan. Such a coordinated strategy will increase all parties’ confidence that the

³ These calculations, including supplemental fee amount, are the same if both development and ADT are reduced to 80 percent of the full build-out values (i.e., 457 units and 7.3 percent of ADT) since a smaller share of traffic impact would be divided among a proportionately smaller number of units. Since transportation analysis was completed assuming full build out, the figure 571 housing units is used here.

Master Plan will be implemented in a timely manner, and equitably allocate major costs across numerous different development sites.

- The primary funding tool recommended for three key Master Plan infrastructure elements—Boeckman Road (including sanitary sewer improvements), Stafford Road (including sanitary sewer and water improvements), and the Neighborhood Park—is a supplemental fee. This fee would be equitably distributed across all residential and school development in Frog Pond West, commensurate with each development's demand for the infrastructure. The total costs are allocated on the basis of equivalent dwelling units (EDUs) and summarized in Figure 4 above.
- This Funding Plan recommends and assumes that the City will collect supplemental fees and lead the construction of the Boeckman Road and Stafford Road projects. However, it is also possible that developers could build those projects in exchange for credits against supplemental fees and City SDCs; this would also likely result in lower construction costs.
- Boeckman Bridge is considered to be an "off-site" infrastructure element. Frog Pond West will generate a modest share of demand (15 percent or less) for Boeckman Bridge, with other demand coming from elsewhere in the City, and it is costlier than the Master Plan transportation infrastructure described above. The City is continuing to refine the design and funding strategy for Boeckman Bridge, with most of the funding expected to come from a substantial amendment to the Year 2000 URA. The City is also considering other funding mechanisms (primarily SDCs/CIP). This Funding Plan recommends that an additional and separate supplemental fee be charged to Frog Pond West development for the Boeckman Bridge. This supplemental fee amount will depend on the final design and cost of the bridge, and the amount generated by the URA and/or other sources. Based on Frog Pond West's transportation demand, the estimated supplemental fee is approximately \$161 per \$1 million of cost that is not provided by the URA and/or other sources.

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