



# Frog Pond Overlook Subdivision (Ross Property)

Wilsonville, Oregon

**Request for**

**Annexation**

**Zone Map Amendment**

**Stage I Master Plan**

**Stage II Final Plan**

**Site Design Review of Parks & Open Space**

**Tentative Subdivision Plat**

**Type C Tree Removal and Plan**

**SROZ Map Verification**

Prepared for:  
West Hills Land Development  
3330 NW Yeon Ave, Suite 200  
Portland, OR 97210

May 24, 2022

Prepared By:  
Otak, Inc.  
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Portland, OR 97204

Project No. 20015.100



City of Wilsonville  
Exhibit B1 DB22-0002 et al





Planning Division
Development Permit Application

Final action on development application or zone change is required within 120 days in accordance with provisions of ORS 227.175

A pre application conference is normally required prior to submittal of an application. Please visit the City's website for submittal requirements

Pre-Application Meeting Date: September 16, 2021

Incomplete applications will not be scheduled for public hearing until all of the required materials are submitted.

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Property Owner:

Name: Debra & Daniel Ross
Company: NA
Mailing Address: 7315 SW Frog Pond Ln
City, State, Zip: Wilsonville, OR 97070
Phone: Fax:
E-mail:

Property Owner's Signature:

Handwritten signatures of Daniel & Debra Ross
Printed Name: Debra & Daniel Ross Date: 12/16/2021

Applicant's Signature: (if different from Property Owner)

Printed Name: Dan Grimberg Date:

Site Location and Description:

Project Address if Available: 7315 SW Frog Pond Ln Suite/Unit
Project Location:
Tax Map #(s): 31W12D Tax Lot #(s): 700 County: Washington Clackamas

Request:

Residential subdivision (Frog Pond Overlook) of 12 lots, one tract, and associated infrastructure in Frog Pond West.

Project Type: Class I Class II Class III

Residential Commercial Industrial Other:

Application Type(s):

- Annexation, Final Plat, Plan Amendment, Request for Special Meeting, SROZ/SRIR Review, Type C Tree Removal Plan, Villebois SAP, Zone Map Amendment, Appeal, Major Partition, Planned Development, Request for Time Extension, Staff Interpretation, Tree Permit (B or C), Villebois PDP, Waiver(s), Comp Plan Map Amend, Minor Partition, Preliminary Plat, Signs, Stage I Master Plan, Temporary Use, Villebois FDP, Conditional Use, Parks Plan Review, Request to Modify Conditions, Site Design Review, Stage II Final Plan, Variance, Other (describe)



# REQUESTS

**Annexation, Zoning Map Amendment, Site Development Review, Stage I Master Plan, Stage II Final Plan, Type C Tree Plan, Subdivision, and SROZ Map Verification approvals** are requested for the 3.96-acre property. The site is located within the West Neighborhood of the Frog Pond Area Plan boundaries. The site is a rural residential use and is located at 7315 SW Frog Pond Lane. The site is comprised of one tax lot and there is one existing single-family home located on the site, with multiple outbuildings and accessory structures. See Sheets P1.00 and P1.10.

## SITE INFORMATION

SUBJECT SITE: 7315 SW Frog Pond Lane  
TLID 31W12D 700

SITE AREA: 3.96 acres

COMPREHENSIVE PLAN DESIGNATION: *Current: Clackamas County RRF5*  
Proposed: Residential Neighborhood RN

ZONING DESIGNATION: *Current: Clackamas County RRF5*  
Proposed: Residential Neighborhood RN

## APPLICANT/PROPERTY OWNER

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OWNER: Debra and Daniel Ross  
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## PROJECT DEVELOPMENT TEAM

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NATURAL RESOURCES  
CONSULTANT:

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## Reduced Size Plan Set

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Sheet P1.10	Existing Conditions – Survey Mapping
Sheet P2.00	Preliminary Site Plan
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Sheet P5.00	Preliminary Grading Plan
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Sheet L3.00	Landscape Notes and Details
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# I. Requests

**Annexation, Zoning Map Amendment, Planned Development – Stage I Preliminary Plan, Stage II - Final Plan, Site Development Review, Type C Tree Plan, Subdivision, and SROZ Map Verification approvals** are requested for the 3.96-acre site consisting of one tax lot abutting SW Frog Pond Lane. The site is located within the West Neighborhood of the Frog Pond Area Plan boundaries and is subject to Planned Development (PD) review. The proposed development consists of an annexation and zone map amendment, a 12-lot subdivision, and infrastructure improvements for the Ross property.

The site is in rural agricultural and residential use and located at 7315 SW Frog Pond Lane. It contains one existing single-family home, outbuildings and accessory structures. See Sheets P1.00 and P1.10.

**Annexation** approval is required to annex the property into City limits and connect to public utilities.

**Zoning Map Amendment** approval is required to apply the RN zoning to the property. The property is currently zoned Clackamas County RRFF 5.

**Stage I Master Plan and Stage II Final Plan** approvals are required because all development of 2 acres or greater in the RN Zone requires approval as a Planned Development, which requires approval of Stage I and Stage II applications. As shown on Sheet P0.00, the Frog Pond Overlook development is 3.96 acres in area, which exceeds the 2-acre threshold.

**Site Design Review** approval is required for review of tracts and their landscaping, and landscaping in the public right-of-way.

**Tentative Subdivision Plat** approval is required to divide the property into 12 lots and one tract. Land divisions of four lots or more are defined as subdivisions.

**Type C Tree Plan** approval is required to remove trees on site for development.

**SROZ Map Verification** approval is required to verify the SROZ boundary on site.

# II. Project Description

The subject site is located within the Frog Pond West Master Plan area of the City of Wilsonville. It is the applicant's seventh development in Frog Pond West. Previous developments are Frog Pond Terrace, to the southwest; Frog Pond Oaks, to the east; Frog Pond Estates, to the southwest; Stafford Meadows, to the south; Frog Pond Meadows, to the south; and Frog Pond Ridge, to the southeast.

The applicant, West Hills Land Development LLC, proposes to divide the subject site into 12 lots and two tracts and develop the public infrastructure required to serve those lots. The 3.96-acre site consists of one tax lot located in unincorporated Clackamas County, within the City of Wilsonville Urban Growth Boundary (UGB). The site is currently zoned Clackamas County Rural Residential Farm Forest 5-Acre (RRFF5). This application will annex the site to the City of Wilsonville and apply the Residential Neighborhood RN zone to the site.

The site is currently residential use. It is adjacent to properties zoned Clackamas County RRFF5 to the north, west, east, and across SW Frog Pond Lane, to the south. A portion at the northeast corner of the site is mapped as part of the Special Resource Overlay Zone (SROZ), which requires a SROZ review, an application and findings for which is included in this application submittal.

Per Figure 6 of the Frog Pond West Master Plan, the project site is located within the Frog Pond West Subdistricts 8/R10.

### III. Comprehensive Plan Policies

#### A. Urban Growth Management

**Response:** Annexation of the site is subject to the provisions of the Urban Growth Management chapter of the Comprehensive Plan, specifically Goal 2.1 and Policy 2.2.1.

**Policy 2.2.1**

*The City of Wilsonville shall plan for the eventual urbanization of land within the local planning area, beginning with land within the Urban Growth Boundary.*

**Implementation Measure 2.2.1.a**

*Allow annexation when it is consistent with future planned public services and when a need is clearly demonstrated for immediate urban growth.*

**Response:** The Comprehensive Plan states:

*“Based on Metro’s (1981) regional growth allocation statistics, Wilsonville’s population was projected to grow to 15,600 by the year 2000. In the same time period, the City’s economic growth is expected to generate a total of 14,400 jobs. Those projections proved to be surprisingly accurate. In fact, Wilsonville’s population in 2000 approached the 15,600 figure, and the number of jobs exceeded the 14,400 figure.”*

The subject site is located within the West Neighborhood of the Frog Pond planning area. The Frog Pond Area Plan was adopted in 2015 and the Frog Pond West Master Plan was adopted in 2017 and provides for single-family residential uses to meet the needs of Wilsonville’s growing population. The Frog Pond Area Plan includes a transportation framework, parks and open space framework, and infrastructure framework to support development within the Frog Pond area and assure adequate public services.

This criterion is met.

**Implementation Measure 2.2.1.e**

*Changes in the City boundary will require adherence to the annexation procedures prescribed by State law and Metro standards. Amendments to the City limits shall be based on consideration of:*

- 1. Orderly, economic provision of public facilities and services, i.e., primary urban services are available and adequate to serve additional development or improvements are scheduled through the City’s approved Capital Improvements Plan.*

**Response:** The Frog Pond Area Plan includes implementation measures to ensure the orderly and economic provision of public facilities and services for the Frog Pond Area, including Frog Pond West. Site development is proposed with concurrent applications for Stage I and Stage II Master Plans and Preliminary Subdivision, which proposes the extension of public facilities and services to the Frog Pond Overlook site. These proposed services are generally consistent with the Frog Pond Area Plan and Frog Pond West Master Plan, and the City’s Finance Plan and Capital Improvements Plan.

This criterion is met.

- 2. Availability of sufficient land for the various uses to insure choices in the marketplace for a 3 to 5 year period.*

**Response:** The inclusion of the Frog Pond area within the UGB and the adoption of the Frog Pond Area Plan demonstrate the need for residential development in the Frog Pond Area. Annexation of the subject site will allow development of the uses envisioned by the adopted Frog Pond West Master Plan.

- 3. Statewide Planning Goals.*

**Response:** The Statewide Planning Goals provide direction to local jurisdictions regarding the State’s policies on land use. These goals are implemented at the local level through Comprehensive Plans, which are required and reviewed by the Department of Land Conservation and Development (DLCD) for conformance with the Statewide Planning Goals. It is assumed that the City’s adopted Comprehensive



Plan (which includes the adopted Frog Pond Area Plan and Frog Pond West Master Plan) is in compliance with the Statewide Planning Goals (specifically Goal 2: Land Use Planning), and that compliance with the Wilsonville Comprehensive Plan also demonstrates compliance with the Statewide Planning Goals.

Relevant Statewide Planning Goals include:

- Goal 10: Housing
- Goal 12: Transportation
- Goal 14: Urbanization

Responses to each are addressed below.

*Goal 10: Housing*

This goal identifies a need for “needed housing,” which is defined (for cities having populations larger than 2,500) as attached and detached single-family housing, multiple-family housing, and manufactured homes. Annexation of the subject site into the Wilsonville city limits will provide attached and detached single-family housing, which is defined as “needed housing” and will serve an identified need in the city.

*Goal 12: Transportation*

This goal identifies the importance of a safe, convenient, and economic transportation system, and requires local jurisdictions to adopt a Transportation System Plan (TSP). The proposed annexation area will comply with the Wilsonville Transportation System Plan, which has been updated to include the Frog Pond West area. Annexation of the subject site will allow for development of the site, including new street connections included in the TSP.

*Goal 14: Urbanization*

This goal identifies the need for orderly and efficient growth, the need to accommodate housing and employment within the urban growth boundary, and the importance of livable communities. The orderly annexation of this site, which is located within the Frog Pond West area, will provide additional housing within the UGB.

*4. Applicable Metro Plans;*

**Response:** The Metro Code contains applicable requirements. Section 3.07 Urban Growth Management Functional Plan (Functional Plan) provides direction to communities within Metro’s jurisdiction regarding the region’s land use and transportation policies, and Chapter 3.09 Local Government Boundary Changes identifies requirements for annexations.

Wilsonville is located within the jurisdiction of Metro, and its local plans and land use ordinances are subject to review by Metro. It is assumed that the City’s adopted Comprehensive Plan (which includes the adopted Frog Pond West Master Plan) is in compliance with the Functional Plan, and that compliance with the Wilsonville Comprehensive Plan also demonstrates compliance with the Functional Plan.

***Metro Code 3.07 Urban Growth Management Functional Plan***

Applicable Titles of the Functional Plan are addressed below.

*Title 1: Housing Capacity*

Annexation of the subject site will increase the housing capacity of the city, as described and confirmed through adoption of the Frog Pond West Master Plan.

*Title 11: Planning for New Urban Areas*

The City of Wilsonville’s adopted Frog Pond Area Plan and Frog Pond West Master Plan include a comprehensive overview of future development in the Frog Pond planning area. The proposed annexation will expand the boundaries of the city and allow for orderly development of the Frog Pond West Area.

### **Metro Code 3.09 Local Government Boundary Changes**

#### **3.09.040 Requirements for Petitions**

- A. A petition for a boundary change must contain the following information:
  - 1. The jurisdiction of the reviewing entity to act on the petition;
  - 2. A map and a legal description of the affected territory in the form prescribed by the reviewing entity;
  - 3. For minor boundary changes, the names and mailing addresses of all persons owning property and all electors within the affected territory as shown in the records of the tax assessor and county clerk; and
  - 4. For boundary changes under ORS 198.855(3), 198.857, 222.125 or 222.170, statements of consent to the annexation signed by the requisite number of owners or electors.
- B. A city, county and Metro may charge a fee to recover its reasonable costs to carry out its duties and responsibilities under this chapter.

**Response:** The petition included as Appendix A includes the information required by this section.

- 5. Encouragement of development within the City limits before conversion of urbanizable (UGB) areas.

**Response:** The subject site is located within the Frog Pond West planning area, which has been the subject of a great deal of local planning efforts. Expansion of the city's UGB to include this area was completed due to a determination that there was inadequate development area within the existing city limits. Annexation of this site will allow development that implements the vision of the Frog Pond West Master Plan.

## **B. Land Use and Development**

**Response:** The requested zone change to RN is subject to compliance with Comprehensive Plan map designation and applicable goals, policies and objectives as well as compliance with the Land Use and Development chapter of the Comprehensive Plan, specifically Policy 4.1.4 and implementation measures 4.1.4.b, d, e, q, and x.

### **Policy 4.1.4**

*The City of Wilsonville shall provide opportunities for a wide range of housing types, sizes, and densities at prices and rent levels to accommodate people who are employed in Wilsonville.*

#### **Implementation Measure 4.1.4.b**

*Plan for and permit a variety of housing types consistent with the objectives and policies set forth under this section of the Comprehensive Plan, while maintaining a reasonable balance between the economics of building and the cost of supplying public services. It is the City's desire to provide a variety of housing types needed to meet a wide range of personal preferences and income levels. The City also recognizes the fact that adequate public facilities and services must be available in order to build and maintain a decent, safe, and healthful living environment.*

**Response:** The proposed zone change to Residential Neighborhood RN implements the adopted Frog Pond West Master Plan and allows for development of single-family detached housing. The proposed development permitted by the zone change will provide adequate public facilities and services to serve the new dwellings.

#### **Implementation Measure 4.1.4.d**

*Encourage the construction and development of diverse housing types, but maintain a general balance according to housing type and geographic distribution, both presently and in the future. Such housing types may include, but shall not be limited to: Apartments, single-family detached, single-family common wall, manufactured homes, mobile homes, modular homes, and condominiums in various structural forms.*

**Response:** The Frog Pond West Master Plan anticipates single-family detached and attached development. The proposed zone change, with the recently adopted middle housing ordinance, implements the adopted Frog Pond West Master Plan and allows for development of single-family detached and attached housing.

**Implementation Measure 4.1.4.e**

*Targets are to be set in order to meet the City’s Goals for housing and assure compliance with State and regional standards.*

**Response:** The Frog Pond Area Plan and Frog Pond West Master Plan, as amended by the recently adopted middle housing ordinance, establish minimum and maximum residential densities for this area in compliance with state and regional standards. The proposed zone change will allow development of the subject site in conformance with those densities.

**Implementation Measure 4.1.4.q**

*The City will continue to allow for mobile homes and manufactured dwellings, subject to development review processes that are similar to those used for other forms of housing. Individual units will continue to be allowed on individual lots, subject to design standards. Mobile home parks and subdivisions shall be subject to the same procedures as other forms of planned developments.*

**Response:** No mobile homes or manufactured dwellings are proposed, but the applicant acknowledges that they are allowed.

**Implementation Measure 4.1.4.x**

*Apartments and mobile homes are to be located to produce an optimum living environment for the occupants and surrounding residential areas. Development criteria includes:*

- 1. Buffering by means of landscaping, fencing, and distance from conflicting uses.*
- 2. Compatibility of design, recognizing the architectural differences between apartment buildings and houses.*
- 3. On-site recreation space as well as pedestrian and bicycle access to parks, schools, mass transit stops and convenience shopping.*
- 4. The siting of buildings to minimize the visual effects of parking areas and to increase the availability of privacy and natural surveillance for security.*

**Response:** No apartments or mobile homes are proposed or permitted by the requested zoning.

**RESIDENTIAL PLANNING DISTRICTS SHOWN ON THE LAND USE MAP OF THE COMPREHENSIVE PLAN**

**Response:** The Frog Pond West Master Plan and the RN zone identify minimum density targets for the Frog Pond West subdistricts. As shown in Table 1 below, the proposed development will consist of 12 lots within Subdistrict 8/R10.

**Table 1 Proposed Residential Units**

Land Use Designation	Sub-district	Gross Site Area (ac)	% of Subdistrict	Minimum du	Maximum du	Proposed du	Comment
R10	8	3.96	20.7%	9	11	12	Exceeds Max Density by 1 du*

*\*See Section IV.E of this narrative for density justification*

The Frog Pond West Master Plan establishes that the Subdistrict 8/R10 zone have a minimum density of 43 dwelling units and a maximum density of 53 dwelling units applicable to the entirety of the subdistrict. The subject property’s portion of Subdistrict 8 is 20.7%. As a result, the required density for the site is 20.7% of total require minimum and maximum standards. The project proposes 12 residential lots, which is exceeds the maximum density standard by one. However, as will be described is Section IV.E below, an allowance to exceed maximum density standard by 10% is permitted based on an adjustment to an SROZ boundary consistent with 4.139.06.

These densities are not specifically addressed in Comprehensive Plan policies.



## C. Areas of Special Interest

### AREA L

*This area is located north of Boeckman Road, south of Frog Pond Lane, west of Wilsonville (Stafford) Road, and east of Boeckman Creek. It contains a mixture of rural-residential and small agricultural uses. Eventual redevelopment of the area is expected to be primarily residential. The West Linn – Wilsonville School District and a church have acquired property in the area, causing speculation that redevelopment with full urban services could occur prior to 2010. In fact, construction of a new church has already commenced at the corner of Boeckman Road and Wilsonville/Stafford Road.*

*The existing development patterns, and values of the existing homes in the Frog Pond neighborhood are expected to slow the redevelopment process. Most of the landowners in the area have expressed little or no interest in urban density redevelopment. The Metro standard for urbanizing residential land is an average residential density of at least 10 units/acre. Those densities may not appeal to many of the current residents of the area who live in large homes on lots with acreage. In view of the School District's plans to construct a school within the neighborhood, the City must prepare plans to serve the new school and the surrounding area.*

**Response:** The site is located within Area L, now known as the Frog Pond Plan Area. The Frog Pond West Master Plan was adopted in 2017 and provides land use and infrastructure plans for urban density redevelopment. The proposed zone change to RN implements the provisions of the Frog Pond West Master Plan.

## IV. Zoning Regulations

### A. Section 4.035 Site Development Permits

[...]

#### **(.04) Site Development Permit Application.**

- A. *An application for a Site Development Permit shall consist of the materials specified as follows, plus any other materials required by this Code.*
- 1. A completed Permit application form, including identification of the project coordinator, or professional design team.*

**Response:** Completed application forms have been submitted.

- 2. An explanation of intent, stating the nature of the proposed development, reasons for the Permit request, pertinent background information, information required by the development standards and other information specified by the Director as required by other sections of this Code because of the type of development proposal or the area involved or that may have a bearing in determining the action to be taken. As noted in Section 4.014, the applicant bears the burden of proving that the application meets all requirements of this Code.*

**Response:** This narrative includes a description of the nature of the proposed development, reasons for the request, pertinent background information, and responses to applicable criteria.

- 3. Proof that the property affected by the application is in the exclusive ownership of the applicant, or that the applicant has the consent of all individuals or partners in ownership of the affected property.*

**Response:** The submittal includes application forms signed by the property owners and the applicant, verifying that all owners consent to the application.

- 4. Legal description of the property affected by the application.*

**Response:** A legal description of the property is included in Appendix A.

5. *The application shall include conceptual and quantitatively accurate representations of the entire development sufficient to judge the scope, size and impact of the development on the community, public facilities and adjacent properties; and except as otherwise specified in this Code, shall be accompanied by the following information,*

**Response:** The exhibits and reports included with this submittal provide this information.

6. *Unless specifically waived by the Director, the submittal shall include: ten (10) copies folded to 9" x 12" or (one (1) set of full-sized scaled drawings and nine (9) 8 1/2" x 11" reductions of larger drawings) of the proposed Site Development Plan, including a small scale vicinity map and showing:*
  - a. *Streets, private drives, driveways, sidewalks, pedestrian ways, off-street parking, loading areas, garbage and recycling storage areas, power lines and railroad tracks, and shall indicate the direction of traffic flow into and out of off-street parking and loading areas, the location of each parking space and each loading berth and areas of turning and maneuvering vehicles.*
  - b. *The Site Plan shall indicate how utility service, including sanitary sewer, water and storm drainage, are to be provided. The Site Plan shall also show the following off-site features: distances from the subject property to any structures on adjacent properties and the locations and uses of streets, private drives, or driveways on adjacent properties.*
  - c. *Location and dimensions of structures, utilization of structures, including activities and the number of living units.*
  - d. *Major existing landscaping features including trees to be saved, and existing and proposed contours.*
  - e. *Relevant operational data, drawings and/or elevations clearly establishing the scale, character and relationship of buildings, streets, private drives, and open space.*
  - f. *Topographic information sufficient to determine direction and percentage of slopes, drainage patterns, and in environmentally sensitive areas, e.g., flood plain, forested areas, steep slopes or adjacent to stream banks, the elevations of all points used to determine contours shall be indicated and said points shall be given to true elevation above mean sea level as determined by the City Engineer. The base data shall be clearly indicated and shall be compatible to City datum if bench marks are not adjacent. The following intervals shall be shown:*
    - i. *One (1) foot contours for slopes of up to five percent (5%);*
    - ii. *Two (2) foot contours for slopes of from six percent (6%) to twelve percent (12%);*
    - iii. *Five (5) foot contours for slopes of from twelve percent (12%) to twenty percent (20%). These slopes shall be clearly identified, and*
    - iv. *Ten (10) foot contours for slopes exceeding twenty percent (20%).*
  - g. *A tabulation of land area, in square feet, devoted to various uses such as building area (gross and net rentable), parking and paving coverage, landscaped area coverage and average residential density per net acre.*
  - h. *An application fee as set by the City Council.*
  - i. *If there are trees in the development area, an arborist's report, as required in Section 4.600. This report shall also show the impacts of grading on the trees.*
  - j. *A list of all owners of property within 250 feet of the subject property, printed on label format. The list is to be based on the latest available information from the County Assessor.*

**Response:** A site circulation plan is included as Sheet P8.00; utility plans are included as Sheet P4.00; existing conditions plans, including contours and trees, are included as Sheets P1.00 and P1.10; operational data is included in Sheets P2.00, P3.00, L2.00, and P8.00; topographic information is shown on Sheet P1.00; a tabulation of land area and uses is included in Sheet P10.00; the application fee has been submitted with this application; an arborist report will be included, once available, as Appendix E; and a list of property owners within 250 ft. of the subject property is included with this application.

## B. Section 4.113. Standards Applying to Residential Developments In Any Zone

### **(.01) Open Space[...]**

**Response:** The site is located within the Frog Pond West master plan area, and the provisions of Section 4.127 supersede these standards and are addressed below.

### **(.02) Building Setbacks**

*(for Fence Setbacks, see subsection .08). The following provisions apply unless otherwise provided for by the Code or a legislative master plan. [Section .03 Building Setbacks amended by Ord. 806, /17/2017]*

A. For lots over 10,000 square feet:

1. *Minimum front yard setback: 20 feet.*
2. *Minimum side yard setback: Ten feet. In the case of a corner lot less than 100 feet in width, abutting more than one street or tract with a private drive, the side yard on the street or private drive side of such lot shall be not less than 20% of the width of the lot, but not less than ten feet.*
3. *In the case of a key lot, the front setback shall equal one-half the sum of depth of the required yard on the adjacent corner lot along the street or tract with a private drive upon which the key lot faces and the setback required on the adjacent interior lot.*
4. *No structure shall be erected within the required setback for any future street shown within the City's adopted Transportation Master Plan or Transportation Systems Plan.*
5. *Minimum setback to garage door or carport entry: 20 feet. Except, however, in the case of an alley where garages or carports may be located no less than four feet from the property line adjoining the alley.*
6. *Minimum rear yard setback: 20 feet. Accessory buildings on corner lots must observe the same rear setbacks as the required side yard of the abutting lot.*
7. *Cottage Cluster Setbacks: Setbacks in 1.—3. and 6. above do not apply to cottage clusters. For cottage clusters, minimum front, rear, and side setbacks are ten (10) feet.*
8. *Townhouse Setbacks: No setback is required along property lines where townhouses are attached.*

**Response:** The site is within the Frog Pond West Master Plan Area and the RN zone is being applied through this application. The site is subject to the setback requirements of Section 4.127, which are addressed in the responses to that section.

B. For lots not exceeding 10,000 square feet:

1. *Minimum front yard setback: 15 feet, with open porches allowed to extend to within ten feet of the property line.*
2. *Minimum side yard setback: One story: five feet; Two or more stories: seven feet. In the case of a corner lot, abutting more than one street or tract with a private drive, the side yard on the street side of such lot shall be not less than ten feet.*
3. *In the case of a key lot, the front setback shall equal one-half the sum of depth of the required yard on the adjacent corner lot along the street or tract with a private drive upon which the key lot faces and the setback required on the adjacent interior lot.*
4. *No structure shall be erected within the required setback for any future street shown within the City's adopted Transportation Master Plan or Transportation Systems Plan.*
5. *Minimum setback to garage door or carport entry: 20 feet. Wall above the garage door may project to within 15 feet of property line, provided that clearance to garage door is maintained. Where access is taken from an alley, garages or carports may be located no less than four feet from the property line adjoining the alley.*
6. *Minimum rear yard setback: One story: 15 feet. Two or more stories: 20 feet. Accessory buildings on corner lots must observe the same rear setbacks as the required side yard of the abutting lot.*
7. *Cottage Cluster Setbacks: Any minimum setback in 1.—3. or 6. above that would exceed ten feet for a cottage cluster shall be ten feet.*
8. *Townhouse Setbacks: No setback is required along property lines where townhouses are attached.*



**Response:** The site is within the Frog Pond West Master Plan Area and the RN zone is being applied through this application. The site is subject to the setback requirements of Section 4.127, which are addressed in the responses to that section.

**(.03) Height Guidelines.** *The Development Review Board may regulate heights as follows:*

- A. *Restrict or regulate the height or building design consistent with adequate provision of fire protection and fire-fighting apparatus height limitations.*
- B. *To provide buffering of low density developments by requiring the placement of buildings more than two stories in height away from the property lines abutting a low density zone.*
- C. *To regulate building height or design to protect scenic vistas of Mt. Hood or the Willamette River from greater encroachments than would occur if developed conventionally.*

**Response:** No low-density developments are adjacent to the site and no scenic vistas have been identified on the site. No height regulation is needed.

**(.04) Residential uses for treatment or training**

- A. *Residential Homes, as defined in Section 4.001, shall be permitted in any location where a single-family dwelling is permitted.*
- B. *Residential Facilities, as defined in Section 4.001, shall be permitted in any location where multiple-family dwelling units are permitted.*

**Response:** No residential homes or facilities are proposed. These standards are not applicable.

**(.05) Off Street Parking**

*Off-street parking shall be provided as specified in Section 4.155.*

**Response:** The provisions of Section 4.155 are addressed in Section V.B of this narrative.

**(.06) Signs**

*Signs shall be governed by the provisions of Sections 4.156.01 – 4.156.11.*

**Response:** The provisions of Sections 4.156.01-11 are addressed in Section V.C of this narrative.

**(.07) Fences**

- A. *The maximum height of a sight-obscuring fence located in the required front yard of a residential development shall not exceed four feet.*
- B. *The maximum height of a sight-obscuring fence located in the side yard of a residential lot shall not exceed four feet forward of the building line and shall not exceed six feet in height in the rear yard, except as approved by the Development Review Board. Except, however, that a fence in the side yard of residential corner lot may be up to six feet in height, unless a greater restriction is imposed by the Development Review Board acting on an application. A fence of up to six feet in height may be constructed with no setback along the side, the rear, and in the front yard of a residential lot adjoining the rear of a corner lot as shown in the attached Figure.*
- C. *Notwithstanding the provisions of Section 4.122(10)(a) and (b), the Development Review Board may require such fencing as shall be deemed necessary to promote and provide traffic safety, noise mitigation, and nuisance abatement, and the compatibility of different uses permitted on adjacent lots of the same zone and on adjacent lots of different zones.*
- D. *Fences in residential zones shall not include barbed wire, razor wire, electrically charged wire, or be constructed of sheathing material such as plywood or flakeboard.*

**Response:** The site is located within Frog Pond West and is subject to these standards except for the standards of 4.127(0.17) related to the Boeckman Road and Stafford Road frontages. Because the property does not have frontage on Boeckman Road or Stafford Road, the provisions of 4.127(0.17) are not applicable to this proposal. Fences on residential lots are not proposed with this application. There is a small fence at the lookout platform/deck proposed in Tract B. This fence will be constructed from wood and decorative metal steel, and be no higher than 4 ft. in height.

**(.08) Corner Vision**

*Vision clearance shall be provided as specified in Section 4.177, or such additional requirements as specified by the City Engineer.*

**Response:** The provisions of Section 4.177 are addressed in Section V.I of this narrative.

**(.09) Prohibited Uses**

- A. *Uses of structures and land not specifically permitted in the applicable zoning districts.*
- B. *The use of a trailer, travel trailer or mobile coach as a residence, except as specifically permitted in an approved RV park.*
- C. *Outdoor advertising displays, advertising signs, or advertising structures except as provided in Sections 4.156.05, 4.156.07, 4.156.09, and 4.156.10.*

**Response:** No prohibited uses are proposed. These provisions are not applicable.

**(.10) Accessory Dwelling Units**

*Accessory Dwelling Units, are permitted subject to standards and requirements of this Subsection.  
[...]*

**Response:** No accessory dwelling units are proposed. These standards are not applicable.

**(.11) Reduced Setback Agreements**

*The following procedure has been created to allow the owners of contiguous residential properties to reduce the building setbacks that would typically be required between those properties, or to allow for neighbors to voluntarily waive the solar access provisions of Section 4.137. Setbacks can be reduced to zero through the procedures outlined in this subsection.[...]*

**Response:** No reduced setbacks are requested through these provisions.

**(.12) Bed and Breakfasts**

*[...]*

**Response:** No bed and breakfasts are proposed. These standards are not applicable.

**(.13)** *The Planning Director and Development Review Board shall, in making their determination of compliance in attaching conditions, consider the effects of this action on the availability and cost of needed housing. The provisions of this section shall not be used in such a manner that additional conditions, either singularly or cumulatively, have the effect of unnecessarily increasing the cost of housing or effectively excluding a needed housing type. However, consideration of these factors shall not prevent the Board or Planning Director from imposing conditions of approval necessary to meet the minimum requirements of the Comprehensive Plan and Code.*

**Response:** Acknowledged.

**C. Section 4.118 Standards Applying in all Planned Development Zones.**

**(.01) Height Guidelines:** *In “S” overlay zones, the solar access provisions of Section 4.137 shall be used to determine maximum building heights. In cases that are subject to review by the Development Review Board, the Board may further regulate heights as follows: [...]*

**Response:** The subject site is not located within the “S” overlay zone. These standards are not applicable.

**(.02)** *Underground Utilities shall be governed by Sections 4.300 to 4.320. All utilities above ground shall be located so as to minimize adverse impacts on the site and neighboring properties.*

**Response:** The provisions of Sections 4.300 to 4.320 are addressed in Section VII of this narrative.

**(.03)** *Notwithstanding the provisions of Section 4.140 to the contrary, the Development Review Board, in order to implement the purposes and objectives of Section 4.140, and based on findings of fact supported by the record may:*

- A. *Waive the following typical development standards:*
  - 1. *Minimum lot area;*
  - 2. *Lot width and frontage;*

3. Height and yard requirements;
4. Lot coverage;
5. Lot depth;
6. Street widths;
7. Sidewalk requirements;
8. Height of buildings other than signs;
9. Parking space configuration and drive aisle design;
10. Minimum number of parking or loading spaces;
11. Shade tree islands in parking lots, provided that alternative shading is provided;
12. Fence height;
13. Architectural design standards;
14. Transit facilities;
15. On-site pedestrian access and circulation standards;
16. Solar access standards, as provided in section 4.137;
17. Open space in the Residential Neighborhood zone; and
18. Lot orientation.

**Response:** There are no waivers requested to these standards.

- B. The following shall not be waived by the Board, unless there is substantial evidence in the whole record to support a finding that the intent and purpose of the standards will be met in alternative ways:
1. Open space requirements in residential areas, except that the Board may waive or reduce open space requirements in the Residential Neighborhood zone. Waivers in compliance with [Section] 4.127(.08)(B)(2)(d);
  2. Minimum density standards of residential zones. The required minimum density may be reduced by the Board in the Residential Neighborhood zone in compliance with [Section] 4.127(.06) B; and
  3. Minimum landscape, buffering, and screening standards.

**Response:** There are no open space requirements in the large lot subdivisions of R10 zones and the applicant is not requesting to waive minimum density standards. This section is not applicable.

- C. The following shall not be waived by the Board, unless there is substantial evidence in the whole record to support a finding that the intent and purpose of the standards will be met in alternative ways, and the action taken will not violate any applicable federal, state, or regional standards:
1. Maximum number of parking spaces;
  2. Standards for mitigation of trees that are removed;
  3. Standards for mitigation of wetlands that are filled or damaged; and
  4. Trails or pathways shown in the Parks and Recreation Master Plan.

**Response:** There are no request for waivers for these items. This section is not applicable.

[...]

#### D. Section 4.124. Standards applying to all Planned Development Residential Zones.

##### (.01) Permitted Uses:

- A. Open Space.
- B. Single-Family Dwelling Units.
- C. Duplexes, triplexes, quadplexes, townhouses.
- D. Cluster housing, including cottage clusters.
- E. Multiple-Family Dwelling Units.
- F. Public parks, playgrounds, recreational and community buildings and grounds, tennis courts, and similar recreational uses, all of a non-commercial nature, provided that any principal building or public swimming pool shall be located not less than 45 feet from any other lot.
- G. Manufactured homes.

**Response:** The proposed development includes open space and single-family lots for future development. These uses are permitted uses in the PDR zones.

**(.02) Permitted accessory uses to single family and middle housing:**

- A. Accessory uses, buildings and structures customarily incidental to any of the principal permitted uses listed above, and located on the same lot.
- B. Living quarters without kitchen facilities for persons employed on the premises or for guests. Such facilities shall not be rented or otherwise used as a separate dwelling unless approved as an accessory dwelling unit or duplex.
- C. Accessory dwelling units, subject to the standards of Section 4.113 (.10).
- D. Home occupations.
- E. A private garage or parking area.
- G. Temporary real estate signs, small announcement or professional signs, and subdivision signs, as provided in the provisions of Sections 4.156.05, 4.156.07, 4.156.09, and 4.156.10.
- H. Temporary buildings for uses incidental to construction work, which buildings shall be removed upon completion or abandonment of the construction work.
- I. Accessory buildings and uses shall conform to front and side yard setback requirements. If the accessory buildings and uses do not exceed 120 square feet or ten feet in height, and they are detached and located behind the rear-most line of the main buildings, the side and rear yard setbacks may be reduced to three feet.
- J. Livestock and farm animals, subject to the provisions of Section 4.162.

**Response:** No accessory uses to the proposed detached single-family lots are requested at this time. It is possible that future homes may include accessory buildings, which would be reviewed at the time of building permit.

**(.03) Permitted accessory uses for multiple-family dwelling units: [...]**

**Response:** There are no multiple-family dwelling units proposed under this application. The criterion is not applicable.

[...]

**(.05) Appropriate PDR zone based on Comprehensive Plan Density:**

**Table 2 Density Requirements for PDR Zones**

Zoning Designation	Comprehensive Plan Map Density Range District <sup>a</sup>	Max. Density per Acre <sup>b, c</sup>	Min. Density per Acre <sup>d</sup>
PDR-1	0-1	1	.8
PDR-2	2-3	3	2.4
PDR-3	4-5	5	4
PDR-4	6-7	7.5	6
PDR-5	10-12	12	9.6
PDR-6	16-20	20	16
PDR-7	Over 20	As approved by Zoning Order/Stage 1 Master Plan, at least 25	80% of Max Density

**Response:** The Comprehensive Plan Designation of Residential Neighborhood is implemented by the Residential Neighborhood RN zone. The RN zoning district is not included in the table above.

**(.06) Unit Count Limitations. Unit count limitations are calculated as follows:**

- A. *Maximum Unit Count. Maximum unit count at build out of Stage I Master Plan area: is calculated by taking the Gross Development Area multiplied by Maximum Density per Acre stated in Table 1 of this Code section, plus any density transferred from SROZ areas pursuant to Subsection 4.139.11(.02). For example, any number greater than four and less than five shall be rounded down to four.*

- B. *Minimum Unit Count. Minimum unit count at build out of Stage I Master Plan area: 80% of maximum unit count described in A. above.*
- C. *If the Stage I Master Plan area is subject to more than one Comprehensive Plan Map Density Range District and Zoning Designation, calculations for areas of differing densities shall be done separately and then summed together, and the final summed number rounded down to the nearest whole number.*

**Response:** The Comprehensive Plan Designation of Residential Neighborhood is implemented by the Residential Neighborhood RN zone and the density standards of the Frog Pond West Master Plan and Section 4.127.

**(.07) Lot Standards**

- A. *For townhouses the minimum lot size in PDR-1 through PDR-5 zones is 1,500 square feet.*
- B. *For the PDR 3 through PDR 7 zones, the minimum lot size for triplexes and three-unit cluster housing is 5,000 square feet; the minimum lot size for quadplexes, four-unit cluster housing, and cottage clusters is 7,000 square feet.*
- C. *A building must be completely detached from the largest building to be considered a separate building for the purpose of lot coverage calculations. Cottage clusters are exempt from maximum lot coverage standards.*
- D. *Lot frontage may be on a public street or approved, platted private drive.*
- E. *For townhouses the minimum lot width at building line and minimum street frontage is 20 feet in all PDR zones.*
- F. *Lot frontage may be reduced to 24 feet when the lot fronts a cul-de-sac.*

**Response:** The Comprehensive Plan Designation of Residential Neighborhood is implemented by the Residential Neighborhood RN zone and the lot size requirements of 4.127.

**(.08) Adjustments to Ensure Minimum Density is Met. In development not involving Multi-Family**

*Dwelling Units, if demonstrated by the applicant that it is not physically possible to accommodate the minimum number of units at the required minimum lot size and the minimum open space, the following adjustments, A.—B., shall be made to the minimum extent necessary to enable minimum density to be met. To prioritize the provision of required open space, adjustments to minimum lot size, width, and depth shall be used to the extent allowed, as described in A. below, prior to any adjustment to open space requirements as described in B. below.*

- A. *Adjustments to Minimum Lot Size, Width, and Depth: Reduce minimum lot size of up to 20% of the residential lots, rounded consistent with Subsection (.06) above or one lot for a four-lot subdivision, by up to 20%. For example, the potential adjustment, if determined necessary, for a 100-lot subdivision in the PDR-4 zone would be to reduce 20 lots to as low as 2,400 square feet (a 20% reduction of the 3,000 square foot minimum lot size). Also reduce the minimum lot width and minimum lot depth by up to 20% as necessary to allow the reduction of lot size.*
- B. *Adjustment to Open Space Area. Reduce the amount of open space area required pursuant to Subsection 4.113(.01). Reduce non-usable open space to the extent possible prior to usable open space required by Subsection 4.113(.01)C.3. After any adjustment to open space, all subdivisions with ten or more units must still include a minimum of one usable, programmed open space of at least 2,000 square feet meeting the requirements of Subsection 4.113(.01)C.3. Subdivisions less than ten units shall require one usable open space of at least 1,000 square feet meeting the same requirements.*

**Response:** The Comprehensive Plan Designation of Residential Neighborhood is implemented by the Residential Neighborhood RN zone and the density standards of 4.127.

**(.09) Block and access standards:**

- 1. *Maximum block perimeter in new land divisions: 1,800 feet.*
- 2. *Maximum spacing between streets or private drives for local access: 530 feet, unless waived by the Development Review Board upon finding that barriers such as railroads, freeways, existing buildings, topographic variations, or designated Significant Resource Overlay Zone areas will prevent street extensions meeting this standard.*

3. *Maximum block length without pedestrian and bicycle crossing: 330 feet, unless waived by the Development Review Board upon finding that barriers such as railroads, freeways, existing buildings, topographic variations, or designated Significant Resource Overlay Zone areas will prevent pedestrian and bicycle facility extensions meeting this standard.*

**Response:** As shown in Sheet P3.00 and P9.00, the proposed Street A, which is the only proposed street, is placed to directly meet the Street Demonstration Plan in the Frog Pond West Master Plan. Its placement is located approximately 462 ft. from the Street Demonstration Plan's future street located on the property to the east. The block length is well below the maximum 1,800 ft. required by this section. This standard is met. Street A is a local street with pedestrian crossing where it connects to Frog Pond Lane.

- (.10) Signs.** *Per the requirements of Sections 4.156.01 through 4.156.11.*

**Response:** No signs are currently proposed with this application.

- (.11) Parking.** *Per the requirements of Section 4.155.*

**Response:** The standards of 4.155 are addressed in Section V.B of this narrative.

- (.12) Corner Vision Clearance.** *Per the requirements of Section 4.177.*

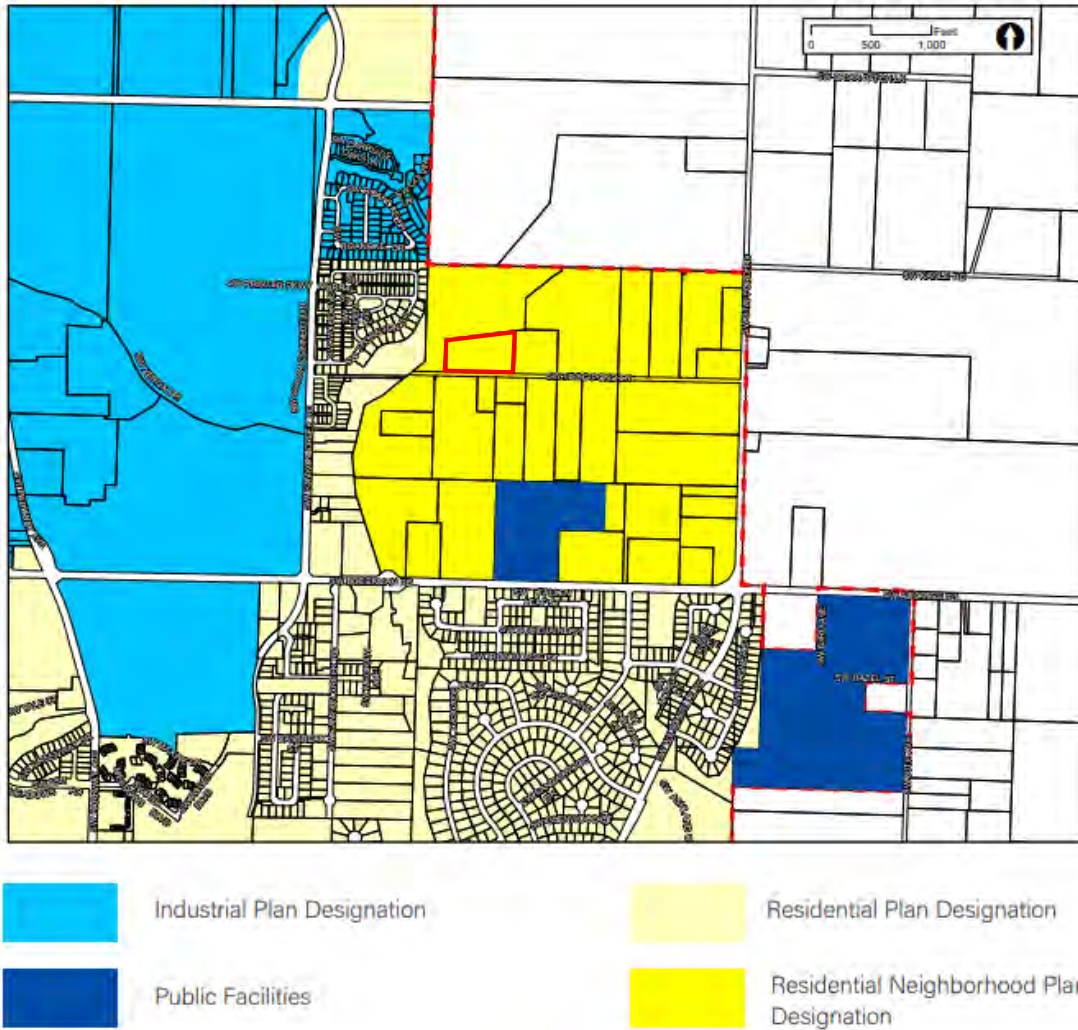
**Response:** The standards of 4.177 are addressed in Section V.I of this narrative.

#### **E. Section 4.127. Residential Neighborhood (RN) Zone.**

- (.01) Purpose.** *The Residential Neighborhood (RN) zone applies to lands within Residential Neighborhood Comprehensive Plan Map designation. The RN zone is a Planned Development zone, subject to applicable Planned Development regulations, except as superseded by this section or in legislative master plans. The purposes of the RN Zone are to:*
- A. *Implement the Residential Neighborhood policies and implementation measures of the Comprehensive Plan.*
  - B. *Implement legislative master plans for areas within the Residential Neighborhood Comprehensive Plan Map designation.*
  - C. *Create attractive and connected neighborhoods in Wilsonville.*
  - D. *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.*
  - E. *Encourage and require quality architectural and community design as defined by the Comprehensive Plan and applicable legislative master plans.*
  - F. *Provide transportation choices, including active transportation options.*
  - G. *Preserve and enhance natural resources so that they are an asset to the neighborhoods, and there is visual and physical access to nature.*
  - H. *Create housing opportunities for a variety of households, including housing types that implement the Wilsonville Equitable Housing Strategic Plan and housing affordability provisions of legislative master plans.*

**Response:** Per Figure 5 of the Frog Pond West Master Plan (below), the Frog Pond Overlook site is located within the RN Comprehensive Plan Map designation and is subject to these provisions and to applicable Planned Development regulations of Section 4.118.

**Figure 5.** Comprehensive Plan Designations



**(.02) Permitted uses:**

- A. Open Space.
- B. Single-Family Dwelling Unit.
- C. Attached Single-Family Dwelling Unit. In the Frog Pond West Neighborhood, a maximum of 2 dwelling units, not including ADU's [sic], may be attached.
- D. Duplex.
- E. Multiple-Family Dwelling Units, except when not permitted in a legislative master plan, subject to the density standards of the zone. Multi-family dwelling units are not permitted within the Frog Pond West Master Plan area.
- F. Cohousing.
- G. Cluster Housing.
- H. Public or private parks, playgrounds, recreational and community buildings and grounds, tennis courts, and similar recreational uses, all of a non-commercial nature, provided that any principal building or public swimming pool shall be located not less than forty-five (45) feet from any other lot.
- I. Manufactured homes.
- J. Public or private parks, playgrounds, recreational and community buildings and grounds, tennis courts, and similar recreational uses, all of a non-commercial nature, provided that any principal building or public swimming pool shall be located not less than 45 feet from any other lot.
- K. Manufactured homes.



**Response:** As shown on Sheet P2.00, the proposed development includes 12 single-family lots, a 45,604 sq. ft. recreational area/open space in Tract A, a 1,597 sq. ft. open space area west of lot 7 in Tract B, and an extension of the Boeckman Creek Trail. None of the proposed lots are anticipated to exceed one dwelling unit and single-family uses are permitted outright in the RN zone.

**(.03) Permitted accessory uses to single family dwellings:**

- A. *Accessory uses, buildings and structures customarily incidental to any of the principal permitted uses listed above and located on the same lot.*
- B. *Living quarters without kitchen facilities for persons employed on the premises or for guests. Such facilities shall not be rented or otherwise used as a separate dwelling unless approved as an accessory dwelling unit or duplex.*
- C. *Accessory Dwelling Units, subject to the standards of Section 4.113 (.10).*
- D. *Home occupations.*
- E. *A private garage or parking area.*
- F. *Keeping of not more than two (2) roomers or boarders by a resident family.*
- G. *Temporary buildings for uses incidental to construction work, which buildings shall be removed upon completion or abandonment of the construction work.*
- H. *Accessory buildings and uses shall conform to front and side yard setback requirements. If the accessory buildings and uses do not exceed 120 square feet or ten (10) feet in height, and they are detached and located behind the rear-most line of the main buildings, the side and rear yard setbacks may be reduced to three (3) feet.*
- I. *Livestock and farm animals, subject to the provisions of Section 4.162.*

**Response:** No accessory uses are proposed at this time.

**(.04) Uses permitted subject to Conditional Use Permit requirements:**

- A. *Public and semi-public buildings and/or structures essential to the physical and economic welfare of an area, such as fire stations, sub-stations and pump stations.*
- B. *Commercial Recreation, including public or private clubs, lodges or meeting halls, golf courses, driving ranges, tennis clubs, community centers and similar commercial recreational uses. Commercial Recreation will be permitted upon a finding that it is compatible with the surrounding residential uses and promotes the creation of an attractive, healthful, efficient and stable environment for living, shopping or working. All such uses except golf courses and tennis courts shall conform to the requirements of Section 4.124(.04)(D) (Neighborhood Commercial Centers).*
- C. *Churches; public, private and parochial schools; public libraries and public museums.*
- D. *Neighborhood Commercial Centers limited to the provisions of goods and services primarily for the convenience of and supported by local residents. Neighborhood Commercial Centers are only permitted where designated on an approved legislative master plan.*

**Response:** No Conditional Uses are proposed.

**(.05) Residential Neighborhood Zone Sub-districts:**

- A. *RN Zone sub-districts may be established to provide area-specific regulations that implement legislative master plans.*
  - 1. *For the Frog Pond West Neighborhood, the sub-districts are listed in Table 1 of this code and mapped on Figure 6 of the Frog Pond West Master Plan. The Frog Pond West Master Plan Sub-District Map serves as the official sub-district map for the Frog Pond West Neighborhood.*

**Response:** The Frog Pond Overlook site is located within the Frog Pond West neighborhood and includes properties within Subdistrict 8 as shown in Figure 6 of the Frog Pond West Master Plan (below) and in Table 1 above. The site contains a small area of SROZ.





The Frog Pond Overlook subdivision proposes 12 residential lots. The proportional density allocation of Subsection 4.127.06 does not account for site-specific characteristics that influence the ability of a specific property to accommodate residential lots that meet minimum dimensional standards. The portion of the subject property within Subdistrict 8 able to accommodate lot area (90.9 percent) is much greater than in other subareas. Minimal right-of-way dedication is required because the section of SW Frog Pond Lane adjacent to the site is a local street, which allows driveway access, and proposed Street A is a local street, designed in accordance with the Frog Pond Master Plan Street Demonstration Plan. Therefore, the proposed site area within Subdistrict 8 easily accommodates 12 lots that exceed all minimum dimensional standards, including minimum lot size requirements.

The proposed development of 12 lots in this portion of Subdistrict 8 exceeds minimum lot development standards while preserving open space and the natural area adjacent to the SROZ located to the west of the property. In addition to meeting all dimensional lot standards, the proposed development offers a public trail connection and two open space tracts for recreation totaling 1.1 acres in size. The configuration of lots as proposed will allow for buildout of these Subdistrict 8 consistent with the Master Plan recommendations.

*B. The City may allow a reduction in the minimum density for a sub-district 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 and similar physical conditions.*

**Response:** No reduction to density standards is requested.

**(.07) Development Standards Generally**

*A. Unless otherwise specified by this the regulations in this Residential Development Zone chapter, all development must comply with Section 4.113, Standards Applying to Residential Development in Any Zone.*

**Response:** Compliance with applicable regulations of Section 4.113 is addressed in Section IV.B of this narrative. Some regulations of 4.127 supersede the regulations of 4.113.

**(.08) Lot Development Standards:**

*A. Lot development shall be consistent with this Code and applicable provisions of an approved legislative master plan.*

*B. Lot Standards Generally. For the Frog Pond West Neighborhood, Table 2 establishes the lot development standards unless superseded or supplemented by other provisions of the Development Code.*

*C. Lot Standards for Small Lot Sub-districts. The purpose of these standards is to ensure that development in the Small Lot Sub-districts includes varied design that avoids homogenous street frontages, creates active pedestrian street frontages and has open space that is integrated into the development pattern.*

*Standards. Planned developments in the Small Lot Sub-districts shall include one or more of the following elements on each block:*

- 1. Alleys.*
- 2. Residential main entries grouped around a common green or entry courtyard (e.g. cluster housing).*
- 3. Four or more residential main entries facing a pedestrian connection allowed by an applicable legislative master plan.*
- 4. Garages recessed at least four feet from the front façade or six feet from the front of a front porch.*

**Response:** Table 3 of the Frog Pond Master Plan establishes the following lot development standards for the Frog Pond West neighborhood. These standards supersede the setback standards of 4.113(.03). Lot dimensional standards are applied at the time of subdivision approval, while site development standards (setbacks, height, etc.) are applied at the time of building permit review. This proposal does not include the development of single-family homes or accessory structures. As shown in Table 3 below, the proposed lots meet the applicable standards.

**Table 3 Compliance with Frog Pond West Neighborhood Lot Standards**

Standard	Required	Proposed	Comments
	R-10 Large Lot		
Min Lot Size (Detached SF)	8,000 sf	8,007-10,078 sf	Meets standards.
Min Lot Size (Duplex)	NA	NA	NA
Min Lot Depth	60 ft.	71.1–149.7 ft.	Meets standards.
Min Lot Width	40 ft	63.9 – 121.7	Meets standards

*D. Lot Standards Specific to the Frog Pond West Neighborhood.*

1. *Lots adjacent to Boeckman Road and Stafford Road shall meet the following standards:*

- a. *Rear or side yards adjacent to Boeckman Road and Stafford Road shall provide a wall and landscaping consistent with the standards in Figure 10 of the Frog Pond West Master Plan.*

**Response:** The subject property does not abut Stafford Road or Boeckman Road. This standard is not applicable.

2. *Lots adjacent to the collector-designated portions of Willow Creek Drive and Frog Pond Lane shall not have driveways accessing lots from these streets, unless no practical alternative exists for access. Lots in Large Lot Sub-districts are exempt from this standard.*

**Response:** The proposed lots are large lots, and no portions of the subject properties abut SW Willow Creek Drive and no portions of the property abut Collector-designated portions of SW Frog Pond Lane. SW Frog Pond Lane abuts the property adjacent to proposed Lots 1-3, and 10-12, where it is designated as a Local street. This standard is not applicable.

**(.09) Open Space:**

A. *Purpose. The purposes of these standards for the Residential Neighborhood Zone are to:*

- 1. *Provide light, air, open space, and useable recreation facilities to occupants of each residential development.*
- 2. *Retain and incorporate natural resources and trees as part of developments.*
- 3. *Provide access and connections to trails and adjacent open space areas.*  
*For Neighborhood Zones which are subject to adopted legislative master plans, the standards work in combination with, and as a supplement to, the park and open space recommendations of those legislative master plans. These standards supersede the Open Space requirements in WC Section 4.113(.01).*

B. *Within the Frog Pond West Neighborhood, the following standards apply:*

- 1. *Properties within the R-10 Large Lot sub-districts and R-7 Medium Lot sub-districts are exempt from the requirements of this section. If the Development Review Board finds, based upon substantial evidence in the record, that there is a need for open space, they may waive this exemption and require open space proportional to the need.*

**Response:** As shown in Figure 6 of the Frog Pond West Master Plan, the site is in Subdistrict 8 (R10) and is therefore exempt from open space requirements of this section.

2. *For properties within the R-5 Small Lot Single Family sub-districts, Open Space Area shall be provided in the following manner:*

[...]

**Response:** As shown in Figure 6 of the Frog Pond West Master Plan, the site is in the Subdistrict 8 (R10). Small lot open space provisions are not applicable.

**(.10) Block, access and connectivity standards:**

- A. *Purpose. These standards are intended to regulate and guide development to create: a cohesive and connected pattern of streets, pedestrian connections and bicycle routes; safe, direct and convenient routes to schools and other community destinations; and, neighborhoods that support active transportation and Safe Routes to Schools.*
- B. *Blocks, access and connectivity shall comply with adopted legislative master plans.*
  - 1. *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.*

**Response:** The Street Demonstration Plan is an illustrative layout of the desired level of connectivity in the Frog Pond West neighborhood and is intended to be guiding, not binding, allowing for flexibility provided that overall connectivity goals are met.

The development proposes Street A to be constructed north from Frog Pond Lane before curving east where it stubs for future development of the site to the east. Street A conforms directly with the Frog Pond West Master Plan Street Demonstration Plan.

This proposal also includes an extension of the Boeckman Creek Trail, which extends through the recreational area of Tract A, adjacent to or behind Lots 7-12, and extends east to the boundary of the subject site. A spur trail, connecting the Boeckman Creek Trail with Street A, is proposed between Lots 7 and 8, which provides pedestrian connections to residential development throughout the Frog Pond West region, as well as access to natural resource areas and pedestrian connections.

The proposed modified grid pattern provides an efficient street connection to SW Frog Pond Lane and SW Stafford Road. The desired extension of Sherman Drive north from Boeckman Road through the Morgan Farm development to Frog Pond Lane replaces the pedestrian connection in that alignment illustrated on the Street Demonstration Plan. The portion of pedestrian connection north of Frog Pond Lane has been shifted farther east in order to make a logical connection with the Boeckman Creek Trail as it runs out of the Frog Pond Vista development before it turns to the west. This relocated connection is equidistant between the proposed Street A and the future extension of the approved SW Vista Ridge Lane to Frog Pond Lane.

The offset grid pattern of future north-south streets is occasioned by the need to maintain the desired number of north-south street connections and block spacing between Frog Pond Lane and Brisband Street as shown on the Street Demonstration Plan while accommodating the approved northern street connection to Frog Pond Lane from the approved Frog Pond Vista development and the desired extension of existing Sherman Drive north to Frog Pond Lane. Existing slopes and SROZ preclude extending Frog Pond Lane farther to the west in a broad radius as anticipated by the Street Demonstration Plan. Frog Pond Lane is proposed to terminate in an “eyebrow” allowing for a turn to the south that aligns with a future extension of Painter Drive from the Morgan Farm development. The proposed modifications do not require out-of-direction pedestrian or vehicular travel nor do they result in greater distances for pedestrian access to the proposed subdivision from the surrounding future streets than would otherwise be the case if the Street Demonstration Plan were adhered to.

- 2. *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.*

**Response:** Figure 18 of the Frog Pond West Master Plan provides guidance for block length, access, and connectivity. Additionally, Section 4.124 is addressed in Section IV of this narrative.

[...]

**(.011) Signs.** *Per the requirements of Sections 4.156.01 through 4.156.11 and applicable provisions from adopted legislative master plans.*

**Response:** The requirements of Sections 4.156.01 through 4.156.11 are addressed in Section V.C of this narrative.

**(.012) Parking.** *Per the requirements of Section 4.155 and applicable provisions from adopted legislative master plans.*

**Response:** The requirements of Section 4.155 are addressed in Section V.B of this narrative. The adopted legislative master plan applicable to this site is the Frog Pond West Master Plan, which has been codified in the zoning ordinance.

**(.013) Corner Vision Clearance.** *Per the requirements of Section 4.177.*

**Response:** The requirements of Section 4.177 are addressed in Section V of this narrative.

**(.014) Main Entrance Standards**

A. *Purpose. These standards:*

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.*

B. *Location. At least one main entrance for each structure must:*

1. *Be within 12 feet of the longest street-facing front wall of the dwelling unit; and*
2. *Either:*
  - a. *Face the street*
  - b. *Be at an angle of up to 45 degrees from the street; or*
  - c. *Open onto a porch. The porch must:*
    - (i) *Be at least 6 feet deep*
    - (ii) *Have at least one entrance facing the street; and*
    - (iii) *Be covered with a roof or trellis*

C. *Distance from grade. Main entrances meeting the standards in subsection B., above, must be within four feet of grade. For the purposes of this Subsection, grade is the average grade measured along the foundation of the longest street-facing wall of the dwelling unit.*

**Response:** The individual dwelling designs will be reviewed at the time of building permit submittal. As shown in Appendix H, all example dwellings will include a main entrance that meets the standards of this section.

**(.015) Garage Standards**

A. *Purpose. These standards:*

1. *Ensure that there is a physical and visual connection between the living area of the residences 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 garages;*
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 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.*

B. *Street-Facing Garage Walls*

1. *Where these regulations apply. Unless exempted, the regulations of this subsection apply to garages accessory to residential units.*
2. *Exemptions:*
  - a. *Garages on flag lots.*

- b. *Development on lots which slope up or down from the street with an average slope of 20% or more.*
- 3. *Standards.*
  - a. *The length of the garage wall facing the street may be up to 50% of the length of the street-facing building façade. For middle housing, this standard applies to the total length of the street-facing façades. For detached single-family and accessory structures, the standards apply to the street-facing façade of each unit. For corner lots, this standard applies to only one street side of the lot. For lots less than 50 feet wide at the front lot line, the standard in (b) below applies.*
  - b. *For lots less than 50 wide at the front lot line, the following standards apply:*
    - (i) *The width of the garage door may be up to 50% of the length of the street-facing façade.*
    - (ii) *The garage door must be recessed at least four feet from the front façade or six feet from the front of a front porch.*
    - (iii) *The maximum driveway width is 18 feet.*
  - c. *Where a dwelling abuts a rear or side alley or a shared driveway, the garage shall orient to the alley or shared drive.*
  - d. *Where three or more contiguous garage parking bays are proposed facing the same street, the garage opening closest to a side property line shall be recessed at least two feet behind the adjacent opening(s) to break up the street facing elevation and diminish the appearance of the garage from the street. Side-loaded garages, i.e., where the garage openings are turned away from the street, are exempt from this requirement.*
  - e. *A garage entry that faces a street may be no closer to the street than the longest street facing wall of the dwelling unit. There must be at least 20 feet between the garage door and the sidewalk. This standard does not apply to garage entries that do not face the street.*

**Response:** As shown on Sheet P2.00, there are no proposed alleys. All proposed lots will be accessed from local streets.

The individual dwelling designs will be reviewed at the time of building permit submittal. As shown on the plan sheets in Appendix H, all example dwellings will include garages that meet the standards of this section.

**(0.16) Residential Design Standards**

- A. *Purpose. These standards:*
  - 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 structures, 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.*
- B. *Applicability. These standards apply to all façades facing streets, pedestrian connections, parks, open space tracts, the Boeckman Trail, or elsewhere as required by this Code or the Development Review Board. Exemptions from these standards include: (1) Additions or alterations adding less than 50% to the existing floor area of the structure; and, (2) Additions or alterations not facing a street, pedestrian connection, park, or open space tract.*

**Response:** All proposed dwelling façades will face streets or pedestrian connections and are subject to these standards.

- C. *Windows. The standards for minimum percentage of façade surface area in windows are below. These standards apply only to facades facing streets, pedestrian connections, parks, and open space tracts.*
  - 1. *For two-story structures:*
    - a. *15% front facades.*
    - b. *12.5%—front facades if a minimum of six design elements are provided per Section 4.127(0.15)E., Design Menu.*
    - c. *10%—front facades facing streets if a minimum of seven design elements are provided per Section 4.127(0.15)E., Design Menu.*
  - 2. *For one-story structures:*
    - a. *12.5%—front facades.*



- b. 10%—front facades if a minimum of six design elements are provided per Section 4.127(0.15)E., Design Menu.
3. For all structures: Five percent for street-side facades.
4. Windows used to meet this standard must provide views from the building to the street. Glass block does not meet this standard. Windows in garage doors and other doors count toward this standard.
5. Street-facing facades along Boeckman Road and Stafford Road must meet the standards for front facades.

**Response:** The individual dwelling designs will be reviewed at the time of building permit submittal. As shown in Appendix H, all example dwellings will include windows that meet the standards of this section.

- D. *Articulation.* Plans for residential buildings shall incorporate design features such as varying rooflines, offsets, balconies, projections (e.g., overhangs, porches, or similar features), recessed or covered entrances, window reveals, or similar elements that break up otherwise long, uninterrupted elevations. Such elements shall occur at a minimum interval of 30 feet on façades facing streets, pedestrian connections, parks, open space tracts, or elsewhere as required by this Code or the Development Review Board. Where a façade governed by this standard is less than 30 feet in length, at least one of the above-cited features shall be provided.

**Response:** The individual dwelling designs will be reviewed at the time of building permit submittal. As shown in Appendix H, all example dwellings will include articulation design features that meet the standards of this section.

- E. *Residential Design Menu.* Residential structures shall provide a minimum of five of the design elements listed below for front façades and façades facing Boeckman Road and Stafford Road, unless otherwise specified by the code. For side façades facing streets, pedestrian connections, parks, open space tracts, a minimum of three of the design elements must be provided. Where a design feature includes more than one element, it is counted as only one of the five required elements.
1. Dormers at least three feet wide.
  2. Covered porch entry—minimum 48 square foot covered front porch, minimum six feet deep and minimum of a six foot deep cover. A covered front stoop with minimum 24 square foot area, four foot depth and hand rails meets this standard.
  3. Front porch railing around at least two sides of the porch.
  4. Front facing second story balcony - projecting from the wall of the building a minimum of four feet and enclosed by a railing or parapet wall.
  5. Roof overhang of 16 inches or greater.
  6. Columns, pillars or posts at least four inches wide and containing larger base materials.
  7. Decorative gables - cross or diagonal bracing, shingles, trim, corbels, exposed rafter ends or brackets (does not include a garage gable if garage projects beyond dwelling unit portion of street façade).
  8. Decorative molding above windows and doors.
  9. Decorative pilaster or chimneys.
  10. Shakes, shingles, brick, stone or other similar decorative materials occupying at least 60 square feet of the street façade.
  11. Bay or bow windows - extending a minimum of 12 inches outward from the main wall of a building and forming a bay or alcove in a room within the building.
  12. Sidelight and/or transom windows associated with the front door or windows in the front door.
  13. Window grids on all façade windows (excluding any windows in the garage door or front door).
  14. Maximum nine foot wide garage doors or a garage door designed to resemble two smaller garage doors and/or windows in the garage door (only applicable to street facing garages).
  15. Decorative base materials such as natural stone, cultured stone or brick extending at least 36 inches above adjacent finished grade occupying a minimum of 10% of the overall primary street facing façade.
  16. Entry courtyards which are visible from, and connected directly to, the street. Courtyards shall have a minimum depth of ten feet and minimum width of 80% of the non-garage/driveway building width to be counted as a design element.

**Response:** Each of the proposed detached residential structures will include at least five of the listed elements on the front-facing elevations and three of the listed elements on façades facing sidewalks illustrated in Appendix H.

*F. House Plan Variety. No two directly adjacent or opposite residential structures may possess the same front or street-facing elevation. A structure containing multiple middle housing units shall be considered a single residential structure for the purpose of house plan variety. This standard is met when front or street-facing elevations differ from one another due to different materials, articulation, roof type, inclusion of a porch, fenestration, and/or number of stories. Where façades repeat on the same block face, they must have at least three intervening residential structures between them that meet the above standard. Small Lot developments over ten acres shall include duplexes and/or two-unit townhouses comprising 10% of the homes—corner locations are preferred.*

**Response:** Appendix H illustrates examples of home designs. Multiple detached dwelling types are provided, and they will not be repeated on adjacent or opposite lots along the same street frontage. This standard will be verified at the time of building permit submittal.

*G. Prohibited Building Materials. The following construction materials may not be used as an exterior finish:*

- 1. Vinyl siding.*
- 2. Wood fiber hardboard siding.*
- 3. Oriented strand board siding.*
- 4. Corrugated or ribbed metal.*
- 5. Fiberglass panels.*

**Response:** As shown in Appendix H, no prohibited building materials are proposed. Conformance with these standards will be verified at the time of building permit submittal.

**(0.17) Fences**

- A. Within Frog Pond West, fences shall comply with standards in 4.113 (.08) except as follows:*
- 1. Columns for the brick wall along Boeckman Road and Stafford Road shall be placed at lot corners where possible.*
  - 2. A solid fence taller than 4 feet in height is not permitted within 8 feet of the brick wall along Boeckman Road and Stafford Road, except for fences placed on the side lot line that are perpendicular to the brick wall and end at a column of the brick wall.*
  - 3. Height transitions for fences shall occur at fence posts.*

**Response:** The site is not located along Boeckman Rd or Stafford Rd, and no fences subject to these standards are proposed with this development.

**(0.18) Residential Structures Adjacent to Schools, Parks and Public Open Spaces**

- A. Purpose. The purpose of these standards is to ensure that development adjacent to schools and parks is designed to enhance those public spaces with quality design that emphasizes active and safe use by people and is not dominated by driveways, fences, garages, and parking.*
- B. Applicability. These standards apply to development that is adjacent to or faces schools and parks. As used here, the term adjacent includes development that is across a street or pedestrian connection from a school or park.*

**Response:** Lots 8-12 are adjacent to private open space Tract A, and lots 7 and 8 are adjacent to private open space, Tract B. These lots are not subject to these standards. However, the applicant intends to create an attractive appearance for open space users.

*C. Development must utilize one or more of the following design elements:*

- 1. Alley loaded garage access.*
- 2. On corner lots, placement of the garage and driveway on the side street that does not face the school, park, or public open space.*
- 3. Recess of the garage a minimum of four feet from the front façade of the home. A second story above the garage, with windows, is encouraged for this option.*



**Response:** As noted above, the subject lots are adjacent to private, rather than public, open space. These standards are not applicable but will be considered during home plan selection.

*D. Development must be oriented so that the fronts or sides of residential structures face adjacent schools or parks. Rear yards and rear fences may generally not face the schools or parks, unless approved through the waiver process of 4.118 upon a finding that there is no practicable alternative due to the size, shape or other physical constraint of the subject property.*

**Response:** None of the proposed lots face schools or public parks. As noted above, the subject lots are adjacent to private, rather than public, open space. These standards are not applicable but will be considered during home plan selection.

## F. Section 4.139. Significant Resource Overlay Zone (SROZ) Ordinance.

[...]

### **Section 4.139.02 Where these Regulations Apply**

*The regulations of this Section apply to the portion of any lot or development site, which is within a Significant Resource Overlay Zone and its associated "Impact Areas". The text provisions of the Significant Resource Overlay Zone ordinance take precedence over the Significant Resource Overlay Zone maps. The Significant Resource Overlay Zone is described by boundary lines shown on the City of Wilsonville Significant Resource Overlay Zone Map. For the purpose of implementing the provisions of this Section, the Wilsonville Significant Resource Overlay Zone Map is used to determine whether a Significant Resource Impact Report (SRIR) is required. Through the development of an SRIR, a more specific determination can be made of possible impacts on the significant resources.*

[...]

**Response:** Per the City's SROZ Map and Figure 6 of the Frog Pond West Master Plan, this site contains land that is within the SROZ overlay; therefore, this section applies.

### **Section 4.139.03 Administration**

[...]

**(.02) Impact Area.** *The "Impact Area" is the area adjacent to the outer boundary of a Significant Resource within which development or other alteration activities may be permitted through the review of an SRIR (Significant Resource Impact Report). Where it can be clearly determined by the Planning Director that development is only in the Impact Area and there is no impact to the Significant Resource, development may be permitted without SRIR review. The impact area is 25 feet wide unless otherwise specified in this ordinance or by the decision making body. Designation of an Impact Area is required by Statewide Planning Goal 5. The primary purpose of the Impact Area is to ensure that development does not encroach into the SROZ.*

**Response:** The proposed SROZ and impact area is shown in Appendix D. As shown, future development on the proposed residential lots will not occur within the Impact Area or the SROZ.

**(.03) Significant Resource Impact Report (SRIR).** *For proposed non-exempt development within the SROZ, the applicant shall submit a Significant Resource Impact Report (SRIR) as part of any application for a development permit.*

**Response:** There is no development proposed within the SROZ or Impact Area. Appendix D verifies the location of the SROZ and Impact Area, therefore a SRIR is not required for the proposed development.

**(.04) Prohibited Activities.** *New structures, development and construction activities shall not be permitted within the SROZ if they will negatively impact significant natural resources. Gardens, lawns, application of chemicals, uncontained areas of hazardous materials as defined by DEQ, domestic animal waste, dumping of materials of any kind, or other activities shall not be permitted within the SROZ if they will negatively impact water quality. Unauthorized land clearing or grading of a site to alter site conditions is not allowed, and may result in the maximum requirement of mitigation/enhancement regardless of pre-existing conditions.*

**Response:** There is no development proposed within the SROZ or Impact Area. Appendix D verifies the location of the SROZ and Impact Area. No prohibited activity is proposed.

**(.05) Habitat-Friendly Development Practices.** *To the extent practicable, development and construction activities that encroach within the Significant Resource Overlay Zone and/or Impact Area shall be designed, located and constructed to:*

- A. *Minimize grading, removal of native vegetation, disturbance and removal of native soils, and impervious area;*
- B. *Minimize adverse hydrological impacts on water resources, such as using the practices described in Part (a) of Table NR-2, unless their use is prohibited by an applicable and required state or federal permit, such as a permit required under the federal Clean Water Act, 33 U.S.C. §§1251 et seq., or the federal Safe Drinking Water Act, 42 U.S.C. §§300f et seq., and including conditions or plans required by such permit;*
- C. *Minimize impacts on wildlife corridors and fish passage, such as by using the practices described in Part (b) of Table NR-2; and*
- D. *Consider using the practices described in Part (c) of Table NR-2.*

**Response:** No development is proposed within the SROZ. Improving Frog Pond Lane and the construction of the Boeckman Creek Trail are outside of the SROZ and Impact Area.

#### **Section 4.139.04 Uses and Activities Exempt from These Regulations**

*A request for exemption shall be consistent with the submittal requirements listed under Section 4.139.06(.01)(B – I), as applicable to the exempt use and activity. [Added by Ord. # 674 11/16/09]*  
[...]

**(.02)** *Maintenance and repair of buildings, structures, yards, gardens or other activities or uses that were in existence prior to the effective date of these regulations.*

**(.03)** *Alterations of buildings or accessory structures which do not increase building coverage.*  
[...]

**(.05)** *Operation, maintenance, and repair of irrigation and drainage ditches, constructed ponds, wastewater facilities, stormwater detention or retention facilities, and water facilities consistent with the Stormwater Master Plan or the Comprehensive Plan.*

**(.06)** *Maintenance and repair of streets and utility services within rights-of way, easements, access drives or other previously improved areas. [Amended by Ord. 682, 9/9/10]*

**(.07)** *Normal and routine maintenance and repair of any public improvement or public recreational area regardless of its location.*

**(.08)** *The construction of new roads, pedestrian or bike paths into the SROZ in order to provide access to the sensitive area or across the sensitive area, provided the location of the crossing is consistent with the intent of the Wilsonville Comprehensive Plan. Roads and paths shall be constructed so as to minimize and repair disturbance to existing vegetation and slope stability.*

[...]

**(.10)** *The removal of invasive vegetation such as Himalayan Blackberry, English Ivy, Poison Oak, Scots (Scotch) Broom or as defined as invasive in the Metro Native Plant List.*

**(.11)** *The planting or propagation of any plant identified as native on the Metro Native Plant List. See Wilsonville Planning Division to obtain a copy of this list.*

**(.12)** *Grading for the purpose of enhancing the Significant Resource as approved by the City.*

**(.13)** *Enhancement of the riparian corridor or wetlands for water quality or quantity benefits, fish, or wildlife habitat as approved by the City and other appropriate regulatory authorities.*

**(.14)** *Flood control activities pursuant to the Stormwater Master Plan, save and except those stormwater facilities subject to Class II Administrative Review, as determined by the Planning Director, to ensure such facilities meet applicable standards under federal, state and local laws, rules and regulations.*

**(.15)** *Developments that propose a minor encroachment into the Significant Resource Overlay Zone. The purpose of this adjustment would be to allow for minor encroachments of impervious surfaces such as accessory buildings, eave overhangs, building appurtenances, building access and exiting requirements or other similar feature. The total adjustment shall not exceed 120 square feet in cumulative area.*

[...]

**(.18)** *Private or public service connection laterals and service utility extensions.*

**(.19)** *A Stage II development permit or other development permits issued by the City and approved prior to the effective date of this ordinance.*

*(.20) The installation of public streets and utilities specifically mapped within a municipal utility master plan, the Transportation Systems Plan or a capital improvement plan.*

**Response:** There is no development proposed within the SROZ or Impact Area. Appendix D verifies the location of the SROZ and Impact Area.

**Section 4.139.05 Significant Resource Overlay Zone Map Verification**

*The map verification requirements described in this Section shall be met at the time an applicant requests a building permit, grading permit, tree removal permit, land division approval, or other land use decision. Map verification shall not be used to dispute whether the mapped Significant Resource Overlay Zone boundary is a significant natural resource. Map refinements are subject to the requirements of Section 4.139.10(.01)(D).*

- (.01) In order to confirm the location of the Significant Resource Overlay Zone, map verification shall be required or allowed as follows:*
- A. Development that is proposed to be either in the Significant Resource Overlay Zone or less than 100 feet outside of the boundary of the Significant Resource Overlay Zone, as shown on the Significant Resource Overlay Zone Map.*
  - B. A lot or parcel that:*
    - 1. Either contains the Significant Resource Overlay Zone, or any part of which is less than 100 feet outside the boundary of the Significant Resource Overlay Zone, as shown on the Significant Resource Overlay Zone Map; and*
    - 2. Is the subject of a land use application for a partition, subdivision, or any land use application that the approval of which would authorize new development on the subject lot or parcel.*

**Response:** This application includes a land division request that will create new lots that are within 100 feet of the SROZ boundary. Therefore, SROZ map verification is required and is included in this submittal.

*(.02) An application for Significant Resource Overlay Zone Map Verification may be submitted even if one is not required pursuant to Section 4.139.05(.01).*

*(.03) If a lot or parcel or parcel is subject to Section 4.139.05(.01), an application for Significant Resource Overlay Zone Map Verification shall be filed concurrently with the other land use applications referenced in Section 4.139.05(.01)(B)(2) unless a previously approved Significant Resource Overlay Zone Map Verification for the subject property remains valid.*

**Response:** The site is subject to Section 4.139.05(.01) as noted above. Application for SROZ map verification is being submitted concurrently with the other required land use applications.

- (.04) An applicant for Significant Resource Overlay Zone Map Verification shall use one or more of the following methods to verify the Significant Resource Overlay Zone boundary:*
- A. The applicant may concur with the accuracy of the Significant Resource Overlay Zone Map of the subject property;*
  - B. The applicant may demonstrate a mapping error was made in the creation of the Significant Resource Overlay Zone Map;*
  - C. The applicant may demonstrate that the subject property was developed lawfully prior to June 7, 2001.*

**Response:** Findings presented in the Map Verification report (Appendix D) demonstrate that the SROZ is slightly different than shown on existing City maps. The SROZ report is included as Appendix D and provides additional detail.

*[...]*

*(.06) For applications filed pursuant to Section 4.139.05(.04)(A) and (C), a Significant Resource Overlay Zone Map Verification shall be consistent with the submittal requirements listed under Section 4.139.06(.01)(B-H).*

**Response:** All required submittals established in 4.139.06(.01)(B-H) have been submitted.

*(.07) For applications filed pursuant to Section 4.139.05(.04)(B), a Significant Resource Overlay Zone Map Verification shall be consistent with the submittal requirements listed under Section 4.139.06(.02)(D)(1).*

**Response:** This application is filed pursuant to Section 4.139.05(.04)(A) and must be consistent with the submittal requirements listed under Section 4.139.06(.02)(D)(1) below.

**Section 4.139.06 Significant Resource Impact Report (SRIR) and Review Criteria**

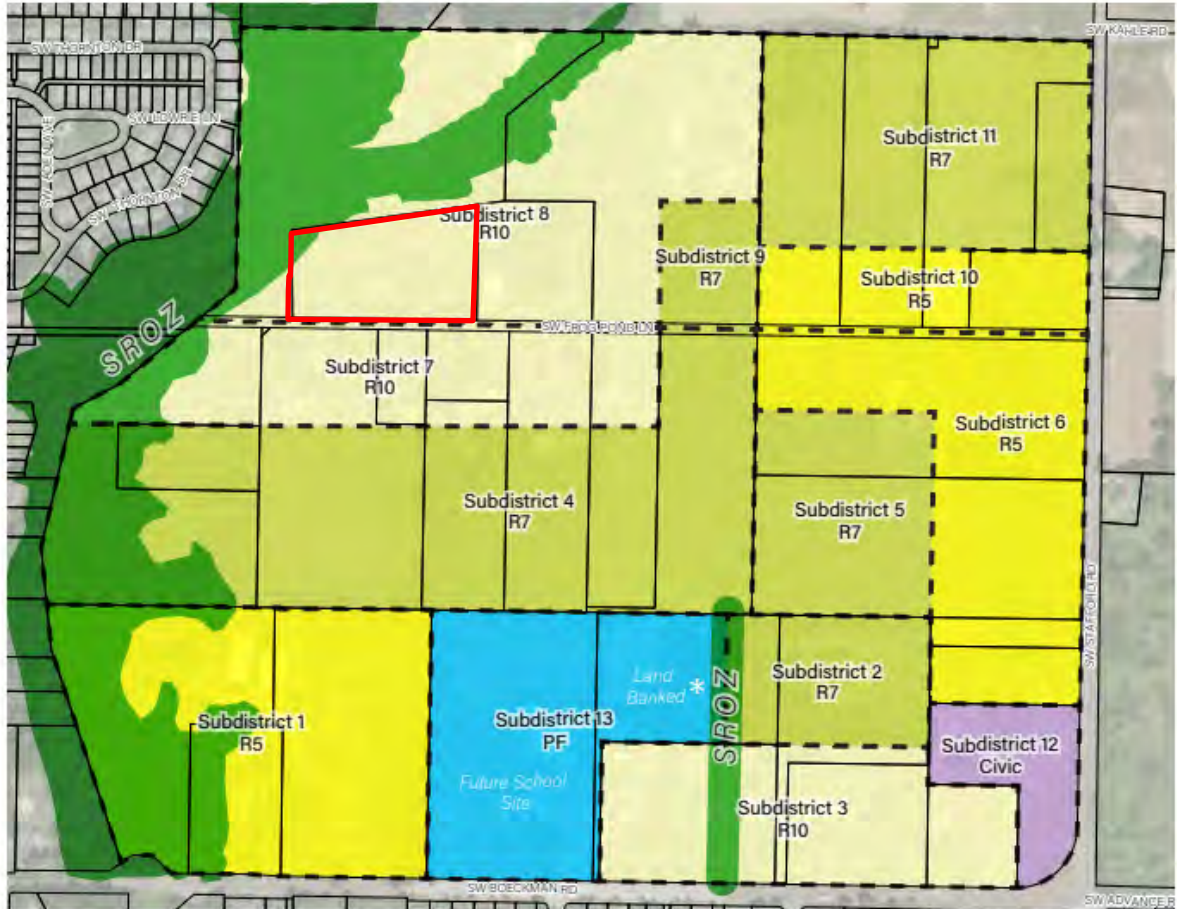
*A Significant Resource Impact Report (SRIR) is a report that delineates specific resource boundaries and analyzes the impacts of development within mapped significant resource areas based upon the requirements of this Section. An SRIR is only required for non-exempt development that is located within the Significant Resource Overlay Zone and/or its associated 25 foot Impact Area.*

- (.01) Abbreviated SRIR Requirements.** *It is the intent of this subsection to provide a user-friendly process for the applicant. Only the materials necessary for the application review are required. At the discretion of the Planning Director, an abbreviated SRIR may be submitted for certain small-scale developments such as single family dwellings, additions to single family dwellings, minor additions and accessory structures. The following requirements shall be prepared and submitted as part of the abbreviated SRIR evaluation:*
- A. A Site Development Permit Application must be submitted in compliance with the Planning and Land Development Ordinance;*
  - B. Outline of any existing features including, but not limited to, structures, decks, areas previously disturbed and existing utility locations\*;*
  - C. Location of any wetlands or water bodies on the site and the location of the stream centerline and top-of-bank;*
  - D. Within the area proposed to be disturbed, the location, size and species of all trees that are more than six (6) inches in diameter at breast height (DBH). Trees outside the area proposed to be disturbed may be individually shown or shown as drip line with an indication of species type or types;*
  - E. The location of the SROZ and Impact Area boundaries\*;*
  - F. A minimum of three slope cross-section measurements transecting the site, equally spaced at no more than 100-foot increments. The measurements should be made perpendicular to the stream\*;*
  - G. A map that delineates the Metro UGMFP Title 3 Water Quality Resource Area boundary (using Metro Title 3 field observed standards)\*;*
  - H. Current photos of site conditions shall be provided to supplement the above information\*.*
  - I. A narrative describing the possible and probable impacts to natural resources and a plan to mitigate for such impacts\*.*

*\*Indicates information that City Staff may have readily available to assist an applicant.*

**Response:** As shown in Figure 6 below, the site contains mapped SROZ. No development is occurring in the SROZ or Impact Area, however, Appendix D is an Abbreviated Significant Resource Impact Report prepared by AKS Engineering & Forestry (referred to below as AKS report). Included in the report is a verification of the SROZ boundary, Area of Limited Conflicting Use, and Impact Area. The location of these areas differs slightly from the mapped SROZ boundary in City of Wilsonville records.

**Figure 6. Frog Pond West Land Use and Subdistricts**



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

**Section 4.139.07 Mitigation Standards**

The following mitigation standards apply to significant wildlife habitat resource areas for encroachments within the Area of Limited Conflicting Uses, and shall be followed by those proposing such encroachments. Wetland mitigation shall be conducted as per permit conditions from the US Army Corps of Engineers and Oregon Division of State Lands. While impacts are generally not allowed in the riparian corridor resource area, permitted impacts shall be mitigated by: using these mitigation standards if the impacts are to wildlife habitat values; and using state and federal processes if the impacts are to wetland resources in the riparian corridor. Mitigation is not required for trees lost to a natural event such as wind or floods.[...]

**Response:** No development is occurring in the SROZ, Impact Area or Area of Limited Conflicting Uses.

[...]

#### **Section 4.139.10 Development Review Board (DRB) Process**

[...]

- (.02) Adding Wetlands.** *Except for water quality or storm water detention facilities, the City shall initiate amendments to the Significant Resource Overlay Zone maps to add wetlands when the City receives significant evidence that a wetland meets any one of the following criteria:*
- A. *The wetland is fed by surface flows, sheet flows or precipitation, and has evidence of flooding during the growing season, and has 60% or greater vegetated cover, and is over one-half acre in size; or the wetland qualifies as having intact water quality function under the 1996 Oregon Freshwater Wetland Assessment Methodology; or*

**Response:** As shown in the AKS report, which is included as Appendix D, no wetlands are proposed to be added to the SROZ.

- B. *The wetland is in the Metro Title 3 Flood Management Area as corrected by the most current FEMA Flood Insurance Rate Maps, and has evidence of flooding during the growing season, and is five acres or more in size, and has a restricted outlet or no outlet; or the wetland qualifies as having intact hydrologic control function under the 1996 Oregon Freshwater Wetland Assessment Methodology; or*

**Response:** As shown in the AKS report, which is included as Appendix D, no wetlands are proposed to be added to the SROZ.

- C. *The wetland or a portion of the wetland is within a horizontal distance of less than one - fourth mile from a water body which meets the Department of Environmental Quality definition of water quality limited water body in OAR Chapter 340, Division 41 (1996).*

**Response:** As shown in the AKS report, which is included as Appendix D, no wetlands are proposed to be added to the SROZ.

- D. *Created or restored wetlands that meet the requirements of Section 4.139.10(.02) shall be added to the Significant Resource Overlay Zone. [Added by Ord. # 674 11/16/09].*

**Response:** As shown in the AKS report, which is included as Appendix D, no wetlands are proposed to be added to the SROZ.

- (.03) Development of structures, additions and improvements that relate to uses other than single family residential.**

**Response:** No development of structures, additions and improvements for uses other than single family residential are proposed. This standard is not applicable.

- (.04) Variances.** *A variance may be taken to any of the provisions of this Section per the standards of Section 4.196 of the Planning and Land Development Ordinance.*

**Response:** No variances are being requested.

#### **Section 4.139.11 Special Provisions**

- (.01) Reduced front, rear and side yard setback.** *Applications on properties containing the SROZ may reduce the front, rear and side yard setback for developments or additions to protect the significant resource, as approved by the Development Review Board.*

- (.02) Density Transfer.** *For residential development proposals on lands which contain the SROZ, a transfer of density shall be permitted within the development proposal site. The following formula shall be used to calculate the density that shall be permitted for allowed residential use on the property:*
- A. *Step 1. Calculate Expected Maximum Density. The Expected Maximum Density (EMD) is calculated by multiplying the acreage of the property by the maximum density permitted in the Wilsonville Comprehensive Plan.*
  - B. *Step 2. The density that shall be permitted on the property shall be equal to the EMD obtained in Step 1, provided:*
    1. *The density credit can only be transferred to that portion of the development site that is not located within the designated Significant Resource; and*
    2. *50% of the maximum number of dwelling units that are within the SROZ are allowed to be transferred to the buildable portion of the proposed development site provided that the standards for outdoor living area, landscaping, building height and parking shall still be met.*

*Applicants proposing a density transfer must demonstrate compatibility between adjacent properties as well as satisfy the setback requirements of the zone in which the development is proposed or meet Section 4.139.10 A. above; and*

3. *The types of residential uses and other applicable standards permitted in the zone shall remain the same; and*
4. *Land area within the Significant Resource Overlay Zone may be used to satisfy the requirements for outdoor recreation/open space area consistent with the provisions found in Section 4.113 of the Planning and Land Development Ordinance.*

**Response:** No setback reductions or density transfers are proposed per these special provisions.

**(.03) Alteration of constructed drainageways.** *Alteration of constructed drainageways may be allowed provided that such alterations do not adversely impact stream flows, flood storage capacity and in stream water quality and provide more efficient use of the land as well as provide improved habitat value through mitigation, enhancement and/or restoration. Such alterations must be evaluated through an SRIR and approved by the City Engineer and Development Review Board.*

**Response:** No alteration of constructed drainageways is proposed.

## **G. Section 4.140. Planned Development Regulations.**

### **(.01) Purpose.**

- A. *The provisions of Section 4.140 shall be known as the Planned Development Regulations. The purposes of these regulations are to encourage the development of tracts of land sufficiently large to allow for comprehensive master planning, and to provide flexibility in the application of certain regulations in a manner consistent with the intent of the Comprehensive Plan and general provisions of the zoning regulations and to encourage a harmonious variety of uses through mixed use design within specific developments thereby promoting the economy of shared public services and facilities and a variety of complimentary activities consistent with the land use designation on the Comprehensive Plan and the creation of an attractive, healthful, efficient and stable environment for living, shopping or working.*
- B. *It is the further purpose of the following Section:*
  1. *To take advantage of advances in technology, architectural design, and functional land use design;*
  2. *To recognize the problems of population density, distribution and circulation and to allow a deviation from rigid established patterns of land uses, but controlled by defined policies and objectives detailed in the comprehensive plan;*
  3. *To produce a comprehensive development equal to or better than that resulting from traditional lot land use development.*
  4. *To permit flexibility of design in the placement and uses of buildings and open spaces, circulation facilities and off-street parking areas, and to more efficiently utilize potentials of sites characterized by special features of geography, topography, size or shape or characterized by problems of flood hazard, severe soil limitations, or other hazards;*
  5. *To permit flexibility in the height of buildings while maintaining a ratio of site area to dwelling units that is consistent with the densities established by the Comprehensive Plan and the intent of the Plan to provide open space, outdoor living area and buffering of low-density development.*
  6. *To allow development only where necessary and adequate services and facilities are available or provisions have been made to provide these services and facilities.*
  7. *To permit mixed uses where it can clearly be demonstrated to be of benefit to the users and can be shown to be consistent with the intent of the Comprehensive Plan.*
  8. *To allow flexibility and innovation in adapting to changes in the economic and technological climate.*

**Response:** As shown in Table 1 of this report, this proposal includes the development of 12 detached residential lots within the Frog Pond West Master Plan area. The proposed development meets the standards established in the Frog Pond West Master Plan and the standards of this section.

### **(.02) Lot Qualification.**

- A. *Planned Development may be established on lots which are suitable for and of a size to be planned and developed in a manner consistent with the purposes and objectives of Section 4.140.*



- B. Any site designated for development in the Comprehensive Plan may be developed as a Planned Development, provided that it is zoned "PD" or specifically defined as a PD zone by this Code. All sites which are greater than two acres in size, and designated in the Comprehensive Plan for commercial, residential, or industrial use shall be developed as Planned Developments, unless approved for other uses permitted by the Development Code. Smaller sites may also be developed through the City's PD procedures, provided that the location, size, lot configuration, topography, open space and natural vegetation of the site warrant such development.

**Response:** The subject site is 3.96 acres in area and is designated in the Comprehensive Plan for residential use. The proposed development will be developed as a residential Planned Development per the provisions of this section.

**(.03) Ownership.**

- A. The tract or tracts of land included in a proposed Planned Development must be in one (1) ownership or control or the subject of a joint application by the owners of all the property included. The holder of a written option to purchase, with written authorization by the owner to make applications, shall be deemed the owner of such land for the purposes of Section 4.140.
- B. Unless otherwise provided as a condition for approval of a Planned Development permit, the permittee may divide and transfer units or parcels of any development. The transferee shall use and maintain each such unit or parcel in strict conformance with the approval permit and development plan.

**Response:** The properties included in the proposed PD are under joint ownership. The owners have signed the application forms required for this development proposal.

**(.04) Professional Design.**

- A. The applicant for all proposed Planned Developments shall certify that the professional services of the appropriate professionals have been utilized in the planning process for development.
- B. Appropriate professionals shall include, but not be limited to the following to provide the elements of the planning process set out in Section 4.139:
1. An architect licensed by the State of Oregon;
  2. A landscape architect registered by the State of Oregon;
  3. An urban planner holding full membership in the American Institute of Certified Planners, or a professional planner with prior experience representing clients before the Development Review Board, Planning Commission, or City Council; or
  4. A registered engineer or a land surveyor licensed by the State of Oregon.
- C. One of the professional consultants chosen by the applicant from either 1, 2, or 3, above, shall be designated to be responsible for conferring with the planning staff with respect to the concept and details of the plan.
- D. The selection of the professional coordinator of the design team will not limit the owner or the developer in consulting with the planning staff.

**Response:** The development team includes Mike Peebles, PE; Keith Buisman, PE; Rose Horton, PE; Steve Dixon, PLA; Gabriel Kruse, PLA; and Li Alligood, AICP. Li Alligood has been designated as the applicant's representative and party responsible for conferring with the planning staff.

**(.05) Planned Development Permit Process.**

- A. All parcels of land exceeding two (2) acres in size that are to be used for residential, commercial or industrial development, shall, prior to the issuance of any building permit:
1. Be zoned for planned development;
  2. Obtain a planned development permit; and
  3. Obtain Development Review Board, or, on appeal, City Council approval.

**Response:** The subject site exceeds 2 acres in size and is proposed for residential development. This application includes a zoning map amendment to apply the RN zone to the site; Planned Development Stage I application; and Planned Development Stage II application.

- B. Zone change and amendment to the zoning map are governed by the applicable provisions of the Zoning Sections, inclusive of Section 4.197.



**Response:** The requested zoning map amendment is subject to the applicable provisions of the Zoning Sections and 4.197. These provisions are addressed in Sections IV and V of this narrative.

C. *Development Review Board approval is governed by Sections 4.400 to 4.450*

D. *All planned developments require a planned development permit. The planned development permit review and approval process consists of the following multiple stages, the last two or three of which can be combined at the request of the applicant:*

1. *Pre-application conference with Planning Department;*
2. *Preliminary (Stage I) review by the Development Review Board. When a zone change is necessary, application for such change shall be made simultaneously with an application for preliminary approval to the Board; and*
3. *Final (Stage II) review by the Development Review Board*
4. *In the case of a zone change and zone boundary amendment, City Council approval is required to authorize a Stage I preliminary plan.*

**Response:** A pre-application conference was held with the Planning Department on September 16, 2021. Concurrent zoning map amendment, Stage I, and Stage II applications (and a number of additional concurrent applications) have been submitted for review by the DRB.

[...]

**(.07) Preliminary Approval (Stage One):**

A. *Applications for preliminary approval for planned developments shall:*

1. *Be made by the owner of all affected property or the owner's authorized agent; and*
2. *Be filed on a form prescribed by the City Planning Department and filed with said Department.*
3. *Set forth the professional coordinator and professional design team as provided in subsection (.04), above.*
4. *State whether the development will include mixed land uses, and if so, what uses and in what proportions and locations.*

**Response:** This submittal includes all the above information.

B. *The application shall include conceptual and quantitatively accurate representations of the entire development sufficient to judge the scope, size, and impact of the development on the community; and, in addition to the requirements set forth in Section 4.035, shall be accompanied by the following information:*

1. *A boundary survey or a certified boundary description by a registered engineer or licensed surveyor.*
2. *Topographic information as set forth in Section 4.035.*
3. *A tabulation of the land area to be devoted to various uses, and a calculation of the average residential density per net acre. Developments within the RN zone shall show how the proposed number of units complies with the applicable maximum and minimum provisions of the RN zone.*
4. *A stage development schedule demonstrating that the developer intends receive Stage II approval within two years of receiving Stage I approval, and to commence construction within two years after the approval of the final development plan, and will proceed diligently to completion; unless a phased development schedule has been approved; in which case adherence to that schedule shall be considered to constitute diligent pursuit of project completion.*
5. *A commitment by the applicant to provide in the Final Approval (Stage II) a performance bond or other acceptable security for the capital improvements required by the project.*
6. *If it is proposed that the final development plan will be executed in stages, a schedule thereof shall be provided.*
7. *Statement of anticipated waivers from any of the applicable site development standards.*

**Response:** A boundary survey including topographic information is included as Sheet P1.10. A tabulation of land area and residential density is included in Table 1 within this narrative and on Sheet P10.00.

Stage I and Stage II approvals are being requested concurrently, and a stage development schedule is not proposed. The applicant is requesting waivers to some density and open space requirements, which are described elsewhere in this narrative.

[...]

**(.09) Final Approval (Stage Two):**

[Note: Outline Number is incorrect.]

- A. *Unless an extension has been granted by the Development Review Board or Planning Director, as applicable, within two years after the approval or modified approval of a preliminary development plan (Stage I), the applicant shall file with the City Planning Department a final plan for the entire development or when submission in stages has been authorized pursuant to Section 4.035 for the first unit of the development, a public hearing shall be held on each such application as provided in Section 4.013. As provided in Section 4.134, an application for a Stage II approval within the Coffee Creek Industrial Design Overlay District may be considered by the Planning Director without a public hearing as a Class II Administrative Review as provided in Section 4.035(.03).*

**Response:** A Stage II application has been submitted concurrent with the Stage I application.

- B. *The Development Review Board or Planning Director, as applicable, shall determine whether the proposal conforms to the permit criteria set forth in this Code, and shall approve, conditionally approve, or disapprove the application.*
- C. *The final plan shall conform in all major respects with the approved preliminary development plan, and shall include all information included in the preliminary plan plus the following:*
1. *The location of water, sewerage and drainage facilities;*
  2. *Preliminary building and landscaping plans and elevations, sufficient to indicate the general character of the development;*
  3. *The general type and location of signs;*
  4. *Topographic information as set forth in Section 4.035;*
  5. *A map indicating the types and locations of all proposed uses; and*
  6. *A grading plan.*

**Response:** A Preliminary Utility Plan is included as Sheet P4.00. Preliminary building elevations are included as Appendix H. Preliminary landscaping plans are included as Sheets L2.00-L2.30. A Preliminary Grading Plan is included as Sheet P5.00. Sign locations and permits will be provided under a separate application.

- D. *The final plan shall be sufficiently detailed to indicate fully the ultimate operation and appearance of the development or phase of development. However, Site Design Review is a separate and more detailed review of proposed design features, subject to the standards of Section 4.400.*

**Response:** A concurrent Site Design Review application has been submitted. Section 4.400 Site Design Review criteria are addressed in Section VIII of this narrative.

- E. *Copies of legal documents required by the Development Review Board or Planning Director, as applicable, for dedication or reservation of public facilities, or for the creation of a non-profit homeowner's association, shall also be submitted.*

**Response:** The recorded Declaration of Protective Covenants, Conditions, Restrictions and Easements is included as Appendix G. Frog Pond Overlook will be annexed into the existing Homeowners Association (HOA).

[...]

- J. *A planned development permit may be granted by the Development Review Board or Planning Director, as applicable, only if it is found that the development conforms to all the following criteria, as well as to the Planned Development Regulations in Section 4.140:*
1. *The location, design, size and uses, both separately and as a whole, are consistent with the Comprehensive Plan, and with any other applicable plan, development map or Ordinance adopted by the City Council.*

**Response:** The site is located within the Frog Pond West neighborhood of the Frog Pond planning area. The Frog Pond West Master Plan has been incorporated into the Comprehensive Plan and designates the site for single-family residential development. Consistency with the Comprehensive Plan is addressed in Section III of this narrative. The RN zone is identified as the implementing zone for the Residential Neighborhood RN Comprehensive Plan designation; this zone requires that all development within it be approved as a Planned Development.

2. *That the location, design, size and uses are such that traffic generated by the development at the most probable used intersection(s) can be accommodated safely and without congestion in excess of Level of Service D, as defined in the Highway Capacity Manual published by the National Highway Research Board, on existing or immediately planned arterial or collector streets and will, in the case of commercial or industrial developments, avoid traversing local streets. Immediately planned arterial and collector streets are those listed in the City's adopted Capital Improvement Program, for which funding has been approved or committed, and that are scheduled for completion within two years of occupancy of the development or four year if they are an associated crossing, interchange, or approach street improvement to Interstate 5.*
  - a. *In determining levels of Service D, the City shall hire a traffic engineer at the applicant's expense who shall prepare a written report containing the following minimum information for consideration by the Development Review Board:*
    - i. *An estimate of the amount of traffic generated by the proposed development, the likely routes of travel of the estimated generated traffic, and the source(s) of information of the estimate of the traffic generated and the likely routes of travel;*
    - ii. *What impact the estimate generated traffic will have on existing level of service including traffic generated by (1) the development itself, (2) all existing developments, (3) Stage II developments approved but not yet built, and (4) all developments that have vested traffic generation rights under section 4.140(.10), through the most probable used intersection(s), including state and county intersections, at the time of peak level of traffic. This analysis shall be conducted for each direction of travel if backup from other intersections will interfere with intersection operations.*
  - b. *The following are exempt from meeting the Level of Service D criteria standard:*
    - i. *A planned development or expansion thereof which generates three (3) new p.m. peak hour traffic trips or less;*
    - ii. *A planned development or expansion thereof which provides an essential governmental service.*
  - c. *Traffic generated by development exempted under this subsection on or after Ordinance No. 463 was enacted shall not be counted in determining levels of service for any future applicant.*
  - d. *Exemptions under 'b' of this subsection shall not exempt the development or expansion from payment of system development charges or other applicable regulations.*
  - e. *In no case will development be permitted that creates an aggregate level of traffic at LOS "F".*

**Response:** DKS & Associates, the City's traffic engineer, has provided a Transportation Evaluation which is included as Appendix C. The report indicates that the proposed development is in substantial conformance with the above provisions.

3. *That the location, design, size and uses are such that the residents or establishments to be accommodated will be adequately served by existing or immediately planned facilities and services.*

**Response:** The proposal will construct transportation infrastructure with site development and will dedicate public right-of-way to Frog Pond Lane and future Street A. The site will be adequately served.

[...]

**(.10) Adherence to Approved Plans, Modification.**

- A. *Adherence to Approved Plan and Modification Thereof: The applicant shall agree in writing to be bound, for her/himself and her/his successors in interest, by the conditions prescribed for approval of a development. The approved final plan and stage development schedule shall control the issuance of all building permits and shall restrict the nature, location and design of all uses. Minor changes in an approved preliminary or final development plan may be approved by the Director of Planning if such changes are consistent with the purposes and general character of the development plan. All other modifications, including extension or revision of the stage development schedule, shall be processed in the same manner as the original application and shall be subject to the same procedural requirements.*
- B. *In the event of a failure to comply with the approved plan or any prescribed condition of approval, including failure to comply with the stage development schedule, the Development Review Board may, after notice and hearing, revoke a Planned Development permit. General economic conditions*

that affect all in a similar manner may be considered as a basis for an extension of a development schedule. The determination of the Board shall become final 30 days after the date of decision unless appealed to the City Council.

- C. *Approved plans and non-conforming status with updated zoning and development standards.*
  - 1. *Approved plans are the basis of legal conforming status of development except where one of the following occurs, at which point, the approved planned development becomes legally non-conforming:*
    - a. *the zoning of land within the plan area has been changed since adoption of the plan; or*
    - b. *the zoning standards for the zone under which it was approved have been substantially modified (50% or more of the regulatory standards have been modified as determined by the Planning Director); or*
    - c. *the City Council declared all planned developments in a certain zone or zones to be legal non-conforming as part of an ordinance to update or replace zoning standards; or*
    - d. *the City Council declared, by a stand-alone ordinance, planned developments in a certain zone not complying with current standards to be legal non-conforming. The City Council may, in an ordinance establishing non-conforming status of a planned development, declare the entire planned development to be non-conforming or declare certain standards established in the planned development to be non-conforming (i.e., lot coverage, setbacks, stormwater standards).*
  - 2. *If one of the conditions of subsection 1. is met, development that is consistent with the approved plan, but not complying with current zoning standards, shall be considered legal non-conforming and subject to the standards of Sections 4.189 thru 4.192.*
  - 3. *In no case shall a planned development approved within the previous 24 months, or under a time-extension under WC Section 4.023, be considered non-conforming; but automatically will become non-conforming after 24-months, and the end of any extensions, if it otherwise would qualify as legally non-conforming or is so declared pursuant to this subsection.*
- D. *The following are exempt from established residential density requirements beyond one unit per lot.*
  - 1. *Accessory Dwelling Units.*
  - 2. *Duplexes.*
  - 3. *Triplexes.*
  - 4. *Quadplexes.*
  - 5. *Cluster housing.*
- E. *For new townhouses in existing residential planned developments in residential zones, the allowed density shall be the lesser of: (1) Four times the maximum net density for the lot(s) or parcel(s) established in the approved plan, or (2) 25 units per acre.*
- F. *Notwithstanding Subsection C. above, single-family residential development built consistent with an approved master plan in the Planned Development Commercial or Planned Development Industrial zones prior to November 18, 2021 shall continue to be legal conforming uses. However, all lots within these master plans that allow for detached single-family must also allow all middle housing types with density exemptions and allowances consistent with D. and E. above. In addition, any lot coverage maximums established in the master plans less than those listed in Table 2 of Subsection 4.124(.07) are superseded by lot coverage standards in that table.*

**Response:** The applicant intends to construct detached single-family homes within his development.

**(.11) Early Vesting of Traffic Generation. [...]**

**Response:** No early vesting of traffic generation is requested. This standard is not applicable.

## V. General Development Regulations

### A. Section 4.154. On-site Pedestrian Access and Circulation.

#### (.01) On-site Pedestrian Access and Circulation

- A. *The purpose of this section is to implement the pedestrian access and connectivity policies of the Transportation System Plan. It is intended to provide for safe, reasonably direct, and convenient pedestrian access and circulation.*
- B. *Standards. Development shall conform to all of the following standards:*

1. *Continuous Pathway System.* A pedestrian pathway system shall extend throughout the development site and connect to adjacent sidewalks, and to all future phases of the development, as applicable.
2. *Safe, Direct, and Convenient.* Pathways within developments shall provide safe, reasonably direct, and convenient connections between primary building entrances and all adjacent parking areas, recreational areas/playgrounds, and public rights-of-way and crosswalks based on all of the following criteria:
  - a. *Pedestrian pathways are designed primarily for pedestrian safety and convenience, meaning they are free from hazards and provide a reasonably smooth and consistent surface.*
  - b. *The pathway is reasonably direct. A pathway is reasonably direct when it follows a route between destinations that does not involve a significant amount of unnecessary out-of-direction travel.*
  - c. *The pathway connects to all primary building entrances and is consistent with the Americans with Disabilities Act (ADA) requirements.*
  - d. *All parking lots larger than three acres in size shall provide an internal bicycle and pedestrian pathway pursuant to Section 4.155(.03)(B.)(3.)(d.).*

**Response:** The site is a single-family residential development and includes a public street (Street A) with sidewalks on both sides accessed from SW Frog Pond Lane. The street extends north and east to connect to future development of the adjacent property to the east.

3. *Vehicle/Pathway Separation.* Except as required for crosswalks, per subsection 4, below, where a pathway abuts a driveway or street it shall be vertically or horizontally separated from the vehicular lane. For example, a pathway may be vertically raised six inches above the abutting travel lane, or horizontally separated by a row of bollards.

**Response:** The site includes a local street with 5-ft. wide sidewalks that are separated from vehicle travel lanes. This development will construct a portion of the Boeckman Creek Trail, which will connect to the sidewalk of proposed Street A, but will not otherwise connect to vehicle use areas. This standard is met.

4. *Crosswalks.* Where a pathway crosses a parking area or driveway, it shall be clearly marked with contrasting paint or paving materials (e.g., pavers, light-color concrete inlay between asphalt, or similar contrast).

**Response:** The proposed sidewalks and trail do not cross a parking area. Sidewalks will traverse through residential driveways meeting the design and material standards of the TSP. This standard is met.

5. *Pathway Width and Surface.* Primary pathways shall be constructed of concrete, asphalt, brick/masonry pavers, or other durable surface, and not less than five (5) feet wide. Secondary pathways and pedestrian trails may have an alternative surface except as otherwise required by the ADA.

**Response:** The proposed sidewalks will be constructed of concrete, asphalt, brick/masonry pavers, or other durable surfaces, and are 5 ft. wide. The proposed trail will be constructed of concrete and be 10 ft. wide. This standard is met.

6. *All pathways shall be clearly marked with appropriate standard signs.*  
[Added by Ord. #719, 6/17/13]

**Response:** The pedestrian pathways will be signed as required.

## **B. Section 4.155. General Regulations - Parking, Loading and Bicycle Parking.**

[...]

### **(.02) General Provisions:**

- A. *The provision and maintenance of off-street parking spaces is a continuing obligation of the property owner. The standards set forth herein shall be considered by the Development Review Board as minimum criteria.*

1. *The Board shall have the authority to grant variances or planned development waivers to these standards in keeping with the purposes and objectives set forth in the Comprehensive Plan and this Code.*
  2. *Waivers to the parking, loading, or bicycle parking standards shall only be issued upon a findings that the resulting development will have no significant adverse impact on the surrounding neighborhood, and the community, and that the development considered as a whole meets the purposes of this section.*
- B. *No area shall be considered a parking space unless it can be shown that the area is accessible and usable for that purpose, and has maneuvering area for the vehicles, as determined by the Planning Director.*
  - C. *In cases of enlargement of a building or a change of use from that existing on the effective date of this Code, the number of parking spaces required shall be based on the additional floor area of the enlarged or additional building, or changed use, as set forth in this Section. Current development standards, including parking area landscaping and screening, shall apply only to the additional approved parking area.*
  - D. *In the event several uses occupy a single structure or lot, the total requirement for off-street parking shall be the sum of the requirements of the several uses computed separately, except as modified by subsection "E," below. Within the TC Zone, the cumulative number of parking spaces required by this subsection may be reduced by 25%.*
  - E. *Owners of two or more uses, structures, or lots may utilize jointly the same parking area when the peak hours of operation do not overlap, provided satisfactory legal evidence is presented in the form of deeds, leases, or contracts securing full and permanent access to such parking areas for all the parties jointly using them.*
  - F. *Off-street parking spaces existing prior to the effective date of this Code may be included in the amount necessary to meet the requirements in case of subsequent enlargement of the building or use to which such spaces are necessary.*
  - G. *Off-Site Parking. Except for single-family dwellings and middle housing, the vehicle parking spaces required by this Chapter may be located on another lot, provided the lot is within 500 feet of the use it serves and the DRB has approved the off-site parking through the Land Use Review. The distance from the parking area to the use shall be measured from the nearest parking space to the main building entrance, following a sidewalk or other pedestrian route. Within the TC Zone there is no maximum distance to an off-site location provided the off-site parking is located within the TC Zone. The right to use the off-site parking must be evidenced in the form of recorded deeds, easements, leases, or contracts securing full and permanent access to such parking areas for all the parties jointly using them. Within the TC zone, there is no maximum distance to an off-site location provided the off-site parking is located within the TC Zone.*
  - H. *The conducting of any business activity shall not be permitted on the required parking spaces unless a temporary use permit is approved pursuant to Section 4.163.*
  - I. *Where the boundary of a parking lot adjoins or is within a residential district, such parking lot shall be screened by a sight-obscuring fence or planting. The screening shall be continuous along that boundary and shall be at least six feet in height.*
  - J. *Parking spaces along the boundaries of a parking lot over 650 square feet in area, excluding access areas, shall be provided with a sturdy bumper guard or curb at least six inches high and located far enough within the boundary to prevent any portion of a car within the lot from extending over the property line or interfering with required screening or sidewalks.*
  - K. *All areas used for parking and maneuvering of cars shall be surfaced with asphalt, concrete, or other surface, such as pervious materials (i. e. pavers, concrete, asphalt) that is found by the City's authorized representative to be suitable for the purpose. In all cases, suitable drainage, meeting standards set by the City's authorized representative shall be provided.*
  - L. *Artificial lighting which may be provided shall be so limited or deflected as not to shine into adjoining structures or into the eyes of passers-by.*
  - M. *Off-street parking requirements for types of uses and structures not specifically listed in this Code shall be determined by the Development Review Board if an application is pending before the Board. Otherwise, the requirements shall be specified by the Planning Director, based upon consideration of comparable uses.*
  - N. *Up to 40% of the off-street spaces may be compact car spaces as identified in Section 4.001 - "Definitions," and shall be appropriately identified.*
  - O. *Where off-street parking areas are designed for motor vehicles to overhang beyond curbs, planting areas adjacent to said curbs shall be increased to a minimum of seven feet in depth. This standard*

shall apply to a double row of parking, the net effect of which shall be to create a planted area that is a minimum of seven feet in depth.

- P. Parklets are permitted within the TC Zone on up to two parking spaces per block and shall be placed in front of the business. Placement of parklet requires a temporary right-of-way use permit and approval by the City Engineer.

[...]

**Response:** Generally, these provisions apply to multifamily and commercial development, which is not proposed within Frog Pond Overlook. These provisions are not applicable.

**(.03) Minimum and Maximum Off-Street Parking Requirements:**

- A. Parking and loading or delivery areas shall be designed with access and maneuvering area adequate to serve the functional needs of the site and shall:
1. Separate loading and delivery areas and circulation from customer and/or employee parking and pedestrian areas. Circulation patterns shall be clearly marked.
  2. To the greatest extent possible, separate vehicle and pedestrian traffic.
- B. Parking areas over 650 square feet, excluding access areas, and loading or delivery areas shall be landscaped to minimize the visual dominance of the parking or loading area, as follows: [...]

**Response:** There is no off-street loading required or proposed for the proposed single-family development. These provisions are not applicable.

- C. Off Street Parking shall be designed for safe and convenient access that meets ADA and ODOT standards. All parking areas which contain ten (10) or more parking spaces, shall for every 50 standard spaces., provide one ADA-accessible parking space that is constructed to building code standards, Wilsonville Code 9.000.
- D. Where possible, parking areas shall be designed to connect with parking areas on adjacent sites so as to eliminate the necessity for any mode of travel of utilizing the public street for multiple accesses or cross movements. In addition, on-site parking shall be designed for efficient on-site circulation and parking.
- E. In all multi-family dwelling developments, there shall be sufficient areas established to provide for parking and storage of motorcycles, mopeds and bicycles. Such areas shall be clearly defined and reserved for the exclusive use of these vehicles.
- F. Except for single-family dwelling units and middle housing, on-street parking spaces, directly adjoining the frontage of and on the same side of the street as the subject property, may be counted towards meeting the minimum off-street parking standards.

**Response:** There are no dwelling units proposed under this review. However, as shown in example house plans (Appendix H), it is expected that each future dwelling unit will have a garage and a minimum of two off-street parking spaces. There are no public off-street parking areas required or proposed for the proposed single-family development. The required parking is being provided on-site. On-street parking spaces are not requested to count toward the minimum standards.

- G. Tables 5 shall be used to determine the minimum and maximum parking standards for various land uses. The minimum number of required parking spaces shown on Tables 5 shall be determined by rounding to the nearest whole parking space. For example, a use containing 500 square feet, in an area where the standard is one space for each 400 square feet of floor area, is required to provide one off-street parking space. If the same use contained more than 600 square feet, a second parking space would be required. Structured parking and on-street parking are exempted from the parking maximums in Table 5.

**Response:** Table 5 requires that single units provide one parking space per dwelling unit, and those greater than 1,000 sq. ft. in size require two spaces. There is no maximum number listed. Each single-family dwelling unit will be provided with at least two parking spaces within garages. This standard is met.

H. Electrical Vehicle Charging Stations:

1. Parking spaces designed to accommodate and provide one or more electric vehicle charging stations on site may be counted towards meeting the minimum off-street parking standards.
2. Modification of existing parking spaces to accommodate electric vehicle charging stations on site is allowed outright.

**Response:** No electrical vehicle charging stations are proposed at this time.

3. *Motorcycle parking may substitute for up to five spaces or five percent of required automobile parking, whichever is less. For every four motorcycle parking spaces provided, the automobile parking requirement is reduced by one space.*
4. *Each motorcycle space must be at least four feet wide and eight feet deep. Existing parking may be converted to take advantage of this provision.*

**Response:** No motorcycle parking is proposed.

**(.04) Bicycle Parking:**

**A. Required Bicycle Parking—General Provisions:**

1. *The required minimum number of bicycle parking spaces for each use category is shown in Table 5, Parking Standards.*
2. *Bicycle parking spaces are not required for accessory buildings. If a primary use is listed in Table 5, bicycle parking is not required for the accessory use.*
3. *When there are two or more primary uses on a site, the required bicycle parking for the site is the sum of the required bicycle parking for the individual primary uses.*
4. *Bicycle parking space requirements may be waived by the Development Review Board per Section 4.118(.03)A.9. and 10.*

**Response:** Table 5 states that there is no minimum bicycle parking requirement for detached single-family homes. These provisions are not applicable.

[...]

**(.05) Minimum Off-Street Loading Requirements: [...]**

**Response:** There is no off-street loading requirement for single-family homes. These provisions are not applicable.

**(.06) Carpool and Vanpool Parking Requirements: [...]**

**Response:** There is no carpool or vanpool parking requirement for single-family homes. These provisions are not applicable.

[...]

**C. Section 4.156. Sign Code Regulations.**

**Section 4.156.07. Sign Regulations In Residential Zones.**

[...]

**Response:** No signs are proposed at this time. Future signs will be subject to these regulations.

**D. Section 4.167. General Regulations - Access, Ingress and Egress.**

- (.01)** *Each access onto streets or private drives shall be at defined points as approved by the City and shall be consistent with the public's health, safety and general welfare. Such defined points of access shall be approved at the time of issuance of a building permit if not previously determined in the development permit.*

**Response:** Proposed driveway access onto streets and private drives is shown in Sheet P2.00.

**E. Section 4.169. General Regulations – Double-Frontage Lots.**

- (.01)** *Buildings on double frontage lots (i.e., through lots) and corner lots must meet the front yard setback for principal buildings on both streets or tracts with a private drive. [Amended by Ord. 682, 9/9/10]*
- (.02)** *Given that double-frontage lots tend to have one end that is regarded as a rear yard by the*



owner, the Development Review Board may establish special maintenance conditions to apply to such areas. Such conditions may include the requirement that the subject homeowners association, if any, be responsible for the on-going maintenance of the street frontage areas of double-frontage lots.

**Response:** There are no double-frontage lots proposed in this development. These provisions are not applicable

## F. Section 4.171. General Regulations - Protection of Natural Features and Other Resources.

[...]

### **(.02) General Terrain Preparation:**

- A. All developments shall be planned, designed, constructed and maintained with maximum regard to natural terrain features and topography, especially hillside areas, floodplains, and other significant landforms.
- B. All grading, filling and excavating done in connection with any development shall be in accordance with the Uniform Building Code
- C. In addition to any permits required under the Uniform Building Code, all developments shall be planned, designed, constructed and maintained so as to:
  - 1. Limit the extent of disturbance of soils and site by grading, excavation and other land alterations.
  - 2. Avoid substantial probabilities of: (1) accelerated erosion; (2) pollution, contamination, or siltation of lakes, rivers, streams and wetlands; (3) damage to vegetation; (4) injury to wildlife and fish habitats.
  - 3. Minimize the removal of trees and other native vegetation that stabilize hillsides, retain moisture, reduce erosion, siltation and nutrient runoff, and preserve the natural scenic character.

**Response:** The site has been planned and designed to avoid the natural features on the site, including a SROZ in the northwest portion of the property, and significant slopes within the SROZ on site's western boundary. Grading, filling, and excavating will be conducted in accordance with the Uniform Building Code. The site will be protected with erosion control measures and trees to be preserved on site will be staked prior to commencement of site work to avoid damage to vegetation or injury to habitat. The removal of trees is necessary for site development, but replacement trees will be planted per the provisions of this code.

**(.03) Hillsides:** All developments proposed on slopes greater than 25% shall be limited to the extent that: [...]

**Response:** No development on slopes greater than 25% are proposed.

### **(.04) Trees and Wooded Areas.**

- A. All developments shall be planned, designed, constructed and maintained so that:
  - 1. Existing vegetation is not disturbed, injured, or removed prior to site development and prior to an approved plan for circulation, parking and structure location.
  - 2. Existing wooded areas, significant clumps/groves of trees and vegetation, and all trees with a diameter at breast height of six inches or greater shall be incorporated into the development plan and protected wherever feasible.
  - 3. Existing trees are preserved within any right-of-way when such trees are suitably located, healthy, and when approved grading allows.
- B. Trees and woodland areas to be retained shall be protected during site preparation and construction according to City Public Works design specifications, by:
  - 1. Avoiding disturbance of the roots by grading and/or compacting activity.
  - 2. Providing for drainage and water and air filtration to the roots of trees which will be covered with impermeable surfaces.
  - 3. Requiring, if necessary, the advisory expertise of a registered arborist/horticulturist both during and after site preparation.
  - 4. Requiring, if necessary, a special maintenance, management program to insure survival of specific woodland areas of specimen trees or individual heritage status trees.

**Response:** Existing vegetation will not be disturbed, injured or removed prior to land use and permit approvals. Existing trees have been retained wherever possible; however, 106 trees are proposed to be removed to provide area for home construction and site work. No trees are proposed to be removed from the SROZ Impact Area.

**(.05) High Voltage Powerline Easements and Rights of Way and Petroleum Pipeline Easements:**

- A. *Due to the restrictions placed on these lands, no residential structures shall be allowed within high voltage powerline easements and rights-of-way and petroleum pipeline easements, and any development, particularly residential, adjacent to high voltage powerline easements and rights-of-way and petroleum pipeline easements shall be carefully reviewed.*
- B. *Any proposed non-residential development within high voltage powerline easements and rights-of-way and petroleum pipeline easements shall be coordinated with and approved by the Bonneville Power Administration, Portland General Electric Company or other appropriate utility, depending on the easement or right-of-way ownership.*

**Response:** No high voltage powerline easements or petroleum pipeline easements are present on site.

**(.06) Hazards to Safety: Purpose:**

- A. *To protect lives and property from natural or human-induced geologic or hydrologic hazards and disasters.*
- B. *To protect lives and property from damage due to soil hazards.*
- C. *To protect lives and property from forest and brush fires.*
- D. *To avoid financial loss resulting from development in hazard areas.*

**Response:** As identified in the geotechnical report found in Appendix F, the portions of the site proposed for development contain no hydrologic, soil, fire, or other hazards. In the western portion of the site, where no development is proposed, there is a temporary access easement near the top of the steep slope. The attached geotechnical report concludes that planned utility lines and a temporary access way can be safely constructed as advised in the report.

**(.07) Standards for Earth Movement Hazard Areas:**

- A. *No development or grading shall be allowed in areas of land movement, slump or earth flow, and mud or debris flow, except under one of the following conditions:*
  - 1. *Stabilization of the identified hazardous condition based on established and proven engineering techniques which ensure protection of public and private property. Appropriate conditions of approval may be attached by the City.*
  - 2. *An engineering geologic study approved by the City establishing that the site is stable for the proposed use and development. The study shall include the following:*
    - a. *Index map.*
    - b. *Project description, to include: location; topography, drainage, vegetation; discussion of previous work; and discussion of field exploration methods.*
    - c. *Site geology, to include: site geologic map; description of bedrock and superficial materials including artificial fill; location of any faults, folds, etc.; and structural data including bedding, jointing, and shear zones.*
    - d. *Discussion and analysis of any slope stability problems.*
    - e. *Discussion of any off-site geologic conditions that may pose a potential hazard to the site or that may be affected by on-site development.*
    - f. *Suitability of site for proposed development from geologic standpoint.*
    - g. *Specific recommendations for cut slope stability, seepage and drainage control, or other design criteria to mitigate geologic hazards.*
    - h. *Supportive data, to include: cross sections showing subsurface structure; graphic logs of subsurface explorations; results of laboratory tests; and references.*
    - i. *Signature and certification number of engineering geologist registered in the State of Oregon.*
    - j. *Additional information or analyses as necessary to evaluate the site.*
- B. *Vegetative cover shall be maintained or established for stability and erosion control purposes.*
- C. *Diversion of storm water into these areas shall be prohibited.*
- D. *The principal source of information for determining earth movement hazards is the State Department of Geology and Mineral Industries (DOGAMI) Bulletin 99 and any subsequent bulletins and accompanying maps. Approved site specific engineering geologic studies shall be used to identify the*

extent and severity of the hazardous conditions on the site, and to update the earth movement hazards database.

**Response:** The DOGAMI map indicates that portions of the site are within a mapped landslide hazard area. Geotechnical investigations have been completed for the subject property, and no actual earth movement hazards have been identified. See Appendix F for geotechnical reports.

**(.08) Standards for Soil Hazard Areas:**

- A. *Appropriate siting and design safeguards shall insure structural stability and proper drainage of foundation and crawl space areas for development on land with any of the following soil conditions: wet or high water table; high shrink-swell capability; compressible or organic; and shallow depth-to-bedrock.*
- B. *The principal source of information for determining soil hazards is the State DOGAMI Bulletin 99 and any subsequent bulletins and accompanying maps. Approved site-specific soil studies shall be used to identify the extent and severity of the hazardous conditions on the site, and to update the soil hazards database accordingly.*

**Response:** Geotechnical investigations have been completed for the subject property, and no soil hazard areas have been identified. See Appendix F for geotechnical reports.

**(.09) Historic Protection: Purpose:**

- A. *To preserve structures, sites, objects, and areas within the City of Wilsonville having historic, cultural, or archaeological significance.*

[...]

**Response:** No historic, cultural, or archaeological items have been identified on the site.

[...]

**G. Section 4.175. Public Safety and Crime Prevention.**

- (.01) All developments shall be designed to deter crime and insure public safety.*
- (.02) Addressing and directional signing shall be designed to assure identification of all buildings and structures by emergency response personnel, as well as the general public.*
- (.03) Areas vulnerable to crime shall be designed to allow surveillance. Parking and loading areas shall be designed for access by police in the course of routine patrol duties.*
- (.04) Exterior lighting shall be designed and oriented to discourage crime.*

**Response:** The Frog Pond Overlook development has been designed to deter crime and ensure public safety. Street A will be lit for visibility and safety, as will the proposed trail. Homes will be oriented toward the street to provide “eyes on the street.” All dwellings will be addressed per Building and Fire Department requirements to allow identification for emergency response personnel. No parking and loading areas are proposed. Dwellings will have exterior porch lighting, which will support the streetlights to provide safety and visibility. These standards are met.

**H. Section 4.176. Landscaping, Screening, and Buffering.**

[...]

- (.02) Landscaping and Screening Standards.*

[...]

- C. *General Landscaping Standard.*

[...]

*Required materials. Shrubs and trees, other than street trees, may be grouped. Ground cover plants must fully cover the remainder of the landscaped area (see Figure 21: General Landscaping). The General Landscaping Standard has two different requirements for trees and shrubs:*

- a. *Where the landscaped area is less than 30 feet deep, one tree is required for every 30 linear feet.*
- b. *Where the landscaped area is 30 feet deep or greater, one tree is required for every 800 square feet and two high shrubs or three low shrubs are required for every 400 square feet.*

**Response:** The proposed development consists of single-family dwellings, which are generally subject to the General Landscape Standard. The landscape plan included as Sheets L2.00-L3.00 illustrate the location and type of landscaping within public rights-of-way and tracts.

**D. Low Screen Landscaping Standard.**

1. *Intent. The Low Screen Landscaping Standard is a landscape treatment that uses a combination of distance and low screening to separate uses or developments. It is intended to be applied in situations where low screening is adequate to soften the impact of one use or development on another, or where visibility between areas is more important than a total visual screen. The Low Screen Landscaping Standard is usually applied along street lot lines or in the area separating parking lots from street rights-of-way.*
2. *Required materials. The Low Screen Landscaping Standard requires sufficient low shrubs to form a continuous screen three feet high and 95% opaque, year-round. In addition, one tree is required for every 30 linear feet of landscaped area, or as otherwise required to provide a tree canopy over the landscaped area. Ground cover plants must fully cover the remainder of the landscaped area. A three foot high masonry wall or a berm may be substituted for the shrubs, but the trees and ground cover plants are still required. When applied along street lot lines, the screen or wall is to be placed along the interior side of the landscaped area. (See Figure 22: Low Screen Landscaping).*

**Response:** The proposed development consists of single-family dwellings, which are generally subject to the General Landscape Standard. The landscape plan included as Sheets L2.00-L3.00 illustrate the location and type of landscaping within public rights-of-way and tracts.

**E. Low Berm Landscaping Standard:**

1. *Intent. The Low Berm Standard is intended to be applied in situations where moderate screening to reduce both visual and noise impacts is needed to protect abutting uses or developments from one-another, and where it is desirable and practical to provide separation by both distance and sight-obscuring materials. This screening is most important where either, or both, of the abutting uses or developments can be expected to be particularly sensitive to noise or visual impacts.*
2. *Required materials. The Low Berm Standard requires a berm at least two feet six inches high along the interior side of the landscaped area (see Figure 23: Low Berm Landscaping). If the berm is less than three feet high, low shrubs meeting the Low Screen Landscaping Standard, above, are to be planted along the top of the berm, assuring that the screen is at least three feet in height. In addition, one tree is required for every 30 linear feet of berm, or as otherwise required to provide a tree canopy over the landscaped area. Ground cover plants must fully cover the remainder of the landscaped area.*

**Response:** There are no visual or noise impacts anticipated from the proposed development, and low berm landscaping is not required or proposed.

**F. High Screen Landscaping Standard.**

1. *Intent. The High Screen Landscaping Standard is a landscape treatment that relies primarily on screening to separate uses or developments. It is intended to be applied in situations where visual separation is required.*
2. *Required materials. The High Screen Landscaping Standard requires sufficient high shrubs to form a continuous screen at least six feet high and 95% opaque, year-round. In addition, one tree is required for every 30 linear feet of landscaped area, or as otherwise required to provide a tree canopy over the landscaped area. Ground cover plants must fully cover the remainder of the landscaped area. A six foot high masonry wall or a berm may be substituted for the shrubs, but the trees and ground cover plants are still required. When applied along street lot lines, the screen or wall is to be placed along the interior side of the landscaped area. (See Figure 24: High Screen Landscaping).*

**Response:** The proposed residential development is located adjacent to future residential development and a natural area. No screening is required or provided between uses.

**G. High Wall Standard.**

1. *Intent. The High Wall Standard is intended to be applied in situations where extensive screening to reduce both visual and noise impacts is needed to protect abutting uses or developments from*

one-another. This screening is most important where either, or both, of the abutting uses or developments can be expected to be particularly sensitive to noise or visual impacts, or where there is little space for physical separation.

2. *Required materials. The High Wall Standard requires a masonry wall at least six feet high along the interior side of the landscaped area (see Figure 25: High Wall Landscaping). In addition, one tree is required for every 30 linear feet of wall, or as otherwise required to provide a tree canopy over the landscaped area. Ground cover plants must fully cover the remainder of the landscaped area.*

**Response:** There are no visual or noise impacts anticipated from the proposed development, and high walls are not required or proposed.

*H. High Berm Standard.*

1. *Intent. The High Berm Standard is intended to be applied in situations where extensive screening to reduce both visual and noise impacts is needed to protect abutting uses or developments from one-another, and where it is desirable and practical to provide separation by both distance and sight-obscuring materials. This screening is most important where either, or both, of the abutting uses or developments can be expected to be particularly sensitive to noise or visual impacts.*
2. *Required materials. The High Berm Standard requires a berm at least four feet high along the interior side of the landscaped area (see Figure 26: High Berm Landscaping). If the berm is less than six feet high, low shrubs meeting the Low Screen Landscaping Standard, above, are to be planted along the top of the berm, assuring that the screen is at least six feet in height. In addition, one tree is required for every 30 linear feet of berm, or as otherwise required to provide a tree canopy over the landscaped area. Ground cover plants must fully cover the remainder of the landscaped area.*

**Response:** There are no visual or noise impacts anticipated from the proposed development, and a high berm is not required or provided.

*I. Partially Sight-Obscuring Fence Standard.*

1. *Intent. The Partially Sight-Obscuring Fence Standard is intended to provide a tall, but not totally blocked, visual separation. The standard is applied where a low level of screening is adequate to soften the impact of one use or development on another, and where some visibility between abutting areas is preferred over a total visual screen. It can be applied in conjunction with landscape plantings or applied in areas where landscape plantings are not necessary and where nonresidential uses are involved.*
2. *Required materials. Partially Sight-Obscuring Fence Standard are to be at least six feet high and at least 50% sight-obscuring. Fences may be made of wood (other than plywood or particle-board), metal, bricks, masonry or other permanent materials (see Figure 27: Partially Sight-Obscuring Fence).*

*J. Fully Sight-Obscuring Fence Standard.*

1. *Intent. The Fully Sight-Obscuring Fence Standard is intended to provide a totally blocked visual separation. The standard is applied where full visual screening is needed to reduce the impact of one use or development on another. It can be applied in conjunction with landscape plantings or applied in areas where landscape plantings are not necessary.*
2. *Required materials. Fully sight-obscuring fences are to be at least six feet high and 100% sight-obscuring. Fences may be made of wood (other than plywood or particle-board), metal, bricks, masonry or other permanent materials (see Figure 28: Totally Sight-Obscuring Fence).*

**Response:** There is no need for partially or totally blocked visual separation. Sight-obscuring fencing is not provided.

**(.03) Landscape Area.** *Not less than 15% of the total lot area, shall be landscaped with vegetative plant materials. The 10% parking area landscaping required by section 4.155.03(B)(1) is included in the 15% total lot landscaping requirement. Landscaping shall be located in at least three separate and distinct areas of the lot, one of which must be in the contiguous frontage area. Planting areas shall be encouraged adjacent to structures. Landscaping shall be used to define, soften or screen the appearance of buildings and off-street parking areas. Materials to be installed shall achieve a balance between various plant forms, textures, and heights. The installation of native plant materials shall be*

used whenever practicable. (For recommendations refer to the Native Plant List maintained by the City of Wilsonville).

**Response:** At least 15% of the total lot area for each single-family dwelling will be landscaped; conformance with this standard will be reviewed at the time of building permit submittal. There are no parking areas proposed and no parking area landscaping is required. The landscape plan included as Sheets L1.00-L3.00 illustrate the location and type of landscaping within public rights-of-way and tracts.

**(.04) Buffering and Screening.** *Additional to the standards of this subsection, the requirements of the Section 4.137.5 (Screening and Buffering Overlay Zone) shall also be applied, where applicable.*

- A. *All intensive or higher density developments shall be screened and buffered from less intense or lower density developments.*
- B. *Activity areas on commercial and industrial sites shall be buffered and screened from adjacent residential areas. Multi-family developments shall be screened and buffered from single-family areas.*
- C. *All exterior, roof and ground mounted, mechanical and utility equipment shall be screened from ground level off-site view from adjacent streets or properties.*
- D. *All outdoor storage areas shall be screened from public view unless visible storage has been approved for the site by the Development Review Board or Planning Director acting on a development permit.*
- E. *In all cases other than for industrial uses in industrial zones, landscaping shall be designed to screen loading areas and docks, and truck parking.*
- F. *In any zone any fence over six feet high measured from soil surface at the outside of fenceline shall require Development Review Board approval.*

**Response:** The requirements of Section 4.137.5 are applicable along the edge of nonresidential zones abutting, or located directly across the street from, residential zones. The proposed development is located within a residential zone and is anticipated to abut residential development in accordance with the Frog Pond Master Plan. These provisions are not applicable.

**(.05) Sight-Obscuring Fence or Planting.** *The use for which a sight-obscuring fence or planting is required shall not begin operation until the fence or planting is erected or in place and approved by the City. A temporary occupancy permit may be issued upon a posting of a bond or other security equal to 110% of the cost of such fence or planting and its installation. (See Sections 4.400 to 4.470 for additional requirements.)*

**Response:** No sight-obscuring fences or planting are required between the proposed residential use and adjacent uses. This standard is not applicable.

**(.06) Plant Materials.**

- A. *Shrubs and Ground Cover. All required ground cover plants and shrubs must be of sufficient size and number to meet these standards within three years of planting. Non-horticultural plastic sheeting or other impermeable surface shall not be placed under mulch. Native topsoil shall be preserved and reused to the extent feasible. Surface mulch or bark dust are to be fully raked into soil of appropriate depth, sufficient to control erosion, and are confined to areas around plantings. Areas exhibiting only surface mulch, compost or barkdust are not to be used as substitutes for plant areas.*
  1. *Shrubs. All shrubs shall be well branched and typical of their type as described in current AAN Standards and shall be equal to or better than 2-gallon containers and ten inches to 12 inches spread.*
  2. *Ground cover. Shall be equal to or better than the following depending on the type of plant materials used: gallon containers spaced at four feet on center minimum, four inch pot spaced two feet on center minimum, two one-fourth inch pots spaced at 18 inch on center minimum. No bare root planting shall be permitted. Ground cover shall be sufficient to cover at least 80% of the bare soil in required landscape areas within three years of planting. Where wildflower seeds are designated for use as a ground cover, the City may require annual re-seeding as necessary.*
  3. *Turf or lawn in non-residential developments. Shall not be used to cover more than 10% of the landscaped area, unless specifically approved based on a finding that, due to site conditions and availability of water, a larger percentage of turf or lawn area is appropriate. Use of lawn fertilizer shall be discouraged. Irrigation drainage runoff from lawns shall be retained within lawn areas.*
  4. *Plant materials under trees or large shrubs. Appropriate plant materials shall be installed beneath the canopies of trees and large shrubs to avoid the appearance of bare ground in those locations.*

5. *Integrate compost-amended topsoil in all areas to be landscaped, including lawns, to help detain runoff, reduce irrigation and fertilizer needs, and create a sustainable, low-maintenance landscape.*

**Response:** The landscape plan included as Sheets L1.00-L3.00 addresses these requirements.

- B. *Trees. All trees shall be well-branched and typical of their type as described in current American Association of Nurserymen (AAN) Standards and shall be balled and burlapped. The trees shall be grouped as follows:*
1. *Primary trees which define, outline or enclose major spaces, such as Oak, Maple, Linden, and Seedless Ash, shall be a minimum of two inch caliper.*
  2. *Secondary trees which define, outline or enclose interior areas, such as Columnar Red Maple, Flowering Pear, Flame Ash, and Honeylocust, shall be a minimum of 1¾ inch to 2 inch caliper.*
  3. *Accent trees which, are used to add color, variation and accent to architectural features, such as Flowering Pear and Kousa Dogwood, shall be 1¾ inch minimum caliper.*
  4. *Large conifer trees such as Douglas Fir or Deodar Cedar shall be installed at a minimum height of eight feet.*
  5. *Medium-sized conifers such as Shore Pine, Western Red Cedar or Mountain Hemlock shall be installed at a minimum height of five to six feet.*

**Response:** The landscape plan included as Sheets L1.00-L3.00 addresses these requirements.

- C. *Where a proposed development includes buildings larger than 24 feet in height or greater than 50,000 square feet in footprint area, the Planning Director or the Development Review Board, as applicable, may require larger or more mature plant materials.*
1. *At maturity, proposed trees shall be at least one-half the height of the building to which they are closest, and building walls longer than 50 feet shall require tree groups located no more than 50 feet on center, to break up the length and height of the façade.*
  2. *Either fully branched deciduous or evergreen trees may be specified depending upon the desired results. Where solar access is to be preserved, only solar-friendly deciduous trees are to be used. Where year-round sight obscuring is the highest priority, evergreen trees are to be used.*
  3. *The following standards are to be applied:*
    - a. *Deciduous trees:*
      - i. *Minimum height of ten feet; and*
      - ii. *Minimum trunk diameter (caliper) of two inches (measured at four and one-half feet above grade).*
    - b. *Evergreen trees: Minimum height of 12 feet.*

**Response:** Some of the proposed residential dwellings will exceed 24 ft. in height but will be far less than 50,000 sq. ft. in footprint area. Requirements for larger or more mature plant materials are not warranted.

- D. *Street Trees. In order to provide a diversity of species, the Development Review Board may require a mix of street trees throughout a development. Unless the Board waives the requirement for reasons supported by a finding in the record, different types of street trees shall be required for adjoining blocks in a development.*
1. *All trees shall be standard base grafted, well branched and typical of their type as described in current AAN Standards and shall be balled and burlapped (b&b). Street trees shall be planted at sizes in accordance with the following standards:*
    - a. *Arterial streets—Three inches minimum caliper*
    - b. *Collector streets—Two inches minimum caliper.*
    - c. *Local streets or residential private access drives—1¾ inches minimum caliper.*
    - d. *Accent or median tree—1¾ inches minimum caliper.*

**Response:** The section of Frog Pond Lane abutting the site is classified as a Local street, and proposed Street A is a Local street. As shown in Sheet L2.00, 2-in. caliper balled and burlapped street trees are proposed for both streets, which are larger than required.

2. *The following trees and varieties thereof are considered satisfactory street trees in most circumstances; however, other varieties and species are encouraged and will be considered:*

- a. *Trees over 50 feet mature height: Quercus garryana (Native Oregon White Oak), Quercus rubra borealis (Red Oak), Acer Macrophyllum (Native Big Leaf Maple), Acer nigrum (Green Column Black Maple), Fraxinus americanus (White Ash), Fraxinus pennsylvannica 'Marshall' (Marshall Seedless Green Ash), Quercus coccinea (Scarlet Oak), Quercus pulustris (PinOak), Tilia americana (American Linden).*
- b. *Trees under 50 feet mature height: Acer rubrum (Red Sunset Maple), Cornus nuttallii (Native Pacific Dogwood), Gleditsia triacanthos (Honey Locust), Pyrus calleryana 'Bradford' (Bradford Pear), Tilia cordata (Little Leaf Linden), Fraxinus oxycarpa (Flame Ash).*
- c. *Other street tree species. Other species may be specified for use in certain situations. For instance, evergreen species may be specified where year-round color is desirable and no adverse effect on solar access is anticipated. Water-loving species may be specified in low locations where wet soil conditions are anticipated.*

**Response:** The proposed street trees include Liriodendron Tulipifera `Fastigiatum` (Tulip Tree), Chinese Pistache, and Quercus Rubra (Red Oak). All trees listed here have been chosen from the approved street tree list for the Frog Pond West Master Plan, and they have been selected for the qualities that cause them to be frequently specified as street trees: predictable form, disease resistance, tidiness, and visual interest.

**E. Types of Plant Species.**

- 1. *Existing landscaping or native vegetation may be used to meet these standards, if protected and maintained during the construction phase of the development and if the plant species do not include any that have been listed by the City as prohibited. The existing native and non-native vegetation to be incorporated into the landscaping shall be identified.*
- 2. *Selection of plant materials. Landscape materials shall be selected and sited to produce hardy and drought-tolerant landscaping. Selection shall be based on soil characteristics, maintenance requirements, exposure to sun and wind, slope and contours of the site, and compatibility with other vegetation that will remain on the site. Suggested species lists for street trees, shrubs and groundcovers shall be provided by the City of Wilsonville.*
- 3. *Prohibited plant materials. The City may establish a list of plants that are prohibited in landscaped areas. Plants may be prohibited because they are potentially damaging to sidewalks, roads, underground utilities, drainage improvements, or foundations, or because they are known to be invasive to native vegetation.*

**Response:** As shown on Sheets L2.00 – L3.00, the proposed landscape materials include a mix of native trees, shrubs, and groundcovers. No prohibited plant materials are proposed.

**F. Tree Credit.**

*Existing trees that are in good health as certified by an arborist and are not disturbed during construction may count for landscaping tree credit as follows (measured at four and one-half feet above grade and rounded to the nearest inch):*

<b>Existing trunk diameter</b>	<b>Number of Tree Credits</b>
<i>18 to 24 inches in diameter</i>	<i>3 tree credits</i>
<i>25 to 31 inches in diameter</i>	<i>4 tree credits</i>
<i>32 inches or greater</i>	<i>5 tree credits</i>

- 1. *It shall be the responsibility of the owner to use reasonable care to maintain preserved trees. Trees preserved under this section may only be removed if an application for removal permit under Section 4.610.10(01)(H) has been approved. Required mitigation for removal shall be replacement with the number of trees credited to the preserved and removed tree.*
- 2. *Within five years of occupancy and upon notice from the City, the property owner shall replace any preserved tree that cannot be maintained due to disease or damage, or hazard or nuisance as defined in Chapter 6 of this code. The notice shall be based on complete information provided by an arborist Replacement with the number of trees credited shall occur within one (1) growing season of notice.*

**Response:** As shown on Sheets L1.00 and L2.00 and described in Appendix E, there are 154 trees on the site; 106 trees are proposed for removal, and 48 are to be preserved. Of the trees being preserved,



20 trees are 18 inches or more DBH. Per the calculations above and shown in Table 4 below, 73 landscape tree credits are provided by protected trees.

**Table 4 Tree Credits**

Count	Tag #	Existing Trunk Diameter	Number of Tree Credits
1	30482	36 in.	5
2	31067	24 in.	3
3	31071	24 in.	3
4	31072	20 in.	3
5	31099	24 in.	3
6	31102	36 in.	5
7	31103	24 in.	3
8	31109	26 in.	4
9	31110	36 in.	5
10	31111	24 in.	3
11	31141	40 in.	5
12	31143	24 in.	3
13	31145	21 in.	3
14	31146	24 in.	3
15	31149	26 in.	4
16	31156	2 x 24 in.	3
17	31159	32 in.	5
18	31162	30 in.	4
19	31165	24 in.	3
20	31176	18 in.	3
<b>Total</b>			<b>73</b>

[...]

H. *Compliance with Standards. The burden of proof is on the applicant to show that proposed landscaping materials will comply with the purposes and standards of this Section.*

**Response:** As detailed on Sheet L2.00, all landscape will comply with the standards of this section.

**(.07) Installation and Maintenance.**

- A. *Installation. Plant materials shall be installed to current industry standards and shall be properly staked to assure survival. Support devices (guy wires, etc.) shall not be allowed to interfere with normal pedestrian or vehicular movement.*
- B. *Maintenance. Maintenance of landscaped areas is the on-going responsibility of the property owner. Any landscaping installed to meet the requirements of this Code, or any condition of approval established by a City decision-making body acting on an application, shall be continuously maintained in a healthy, vital and acceptable manner. Plants that die are to be replaced in kind, within one growing season, unless appropriate substitute species are approved by the City. Failure to maintain landscaping as required in this Section shall constitute a violation of this Code for which appropriate legal remedies, including the revocation of any applicable land development permits, may result.*
- C. *Irrigation. The intent of this standard is to assure that plants will survive the critical establishment period when they are most vulnerable due to a lack of watering and also to assure that water is not wasted through unnecessary or inefficient irrigation. Approved irrigation system plans shall specify one of the following:*
  - 1. *A permanent, built-in, irrigation system with an automatic controller. Either a spray or drip irrigation system, or a combination of the two, may be specified.*
  - 2. *A permanent or temporary system designed by a landscape architect licensed to practice in the State of Oregon, sufficient to assure that the plants will become established and drought-tolerant.*
  - 3. *Other irrigation system specified by a licensed professional in the field of landscape architecture or irrigation system design.*
  - 4. *A temporary permit issued for a period of one year, after which an inspection shall be conducted to assure that the plants have become established. Any plants that have died, or that appear to the Planning Director to not be thriving, shall be appropriately replaced within one growing season. An inspection fee and a maintenance bond or other security sufficient to cover all costs of replacing the plant materials shall be provided, to the satisfaction of the Community*

*Development Director. Additionally, the applicant shall provide the City with a written license or easement to enter the property and cause any failing plant materials to be replaced.*

- D. Protection. All required landscape areas, including all trees and shrubs, shall be protected from potential damage by conflicting uses or activities including vehicle parking and the storage of materials.*

**Response:** As detailed on Sheet L2.00, all landscape areas will be watered by a fully automatic underground irrigation system. These standards are met.

- (.08) Landscaping on Corner Lots.** *All landscaping on corner lots shall meet the vision clearance standards of Section 4.177. If high screening would ordinarily be required by this Code, low screening shall be substituted within vision clearance areas. Taller screening may be required outside of the vision clearance area to mitigate for the reduced height within it.*

**Response:** High screening is not required on any corner lots and is not proposed. This standard is not applicable.

- (.09) Landscape Plans.** *Landscape plans shall be submitted showing all existing and proposed landscape areas. Plans must be drawn to scale and show the type, installation size, number and placement of materials. Plans shall include a plant material list. Plants are to be identified by both their scientific and common names. The condition of any existing plants and the proposed method of irrigation are also to be indicated. Landscape plans shall divide all landscape areas into the following categories based on projected water consumption for irrigation:*

- A. High water usage areas ( $\pm$  two inches per week): small convoluted lawns, lawns under existing trees, annual and perennial flower beds, and temperamental shrubs;*
- B. Moderate water usage areas ( $\pm$  one inch per week): large lawn areas, average water-using shrubs, and trees;*
- C. Low water usage areas (Less than one inch per week, or gallons per hour): seeded fieldgrass, swales, native plantings, drought-tolerant shrubs, and ornamental grasses or drip irrigated areas.*
- D. Interim or unique water usage areas: areas with temporary seeding, aquatic plants, erosion control areas, areas with temporary irrigation systems, and areas with special water-saving features or water harvesting irrigation capabilities.*

*These categories shall be noted in general on the plan and on the plant material list.*

**Response:** A landscape plan is included as Sheets L2.00-L3.00. The proposed site development plan includes street tree and mitigation plantings, which consist of native vegetation that that requires low water usage. Consumption rates are included in the table of landscape plans. Individual lot landscaping will be proposed at the time of building permit submittal and will likely include grass and ground coverings. These standards are met.

- (.10) Completion of Landscaping.** *The installation of plant materials may be deferred for a period of time specified by the Board or Planning Director acting on an application, in order to avoid hot summer or cold winter periods, or in response to water shortages. In these cases, a temporary permit shall be issued, following the same procedures specified in subsection (.07)(C)(3), above, regarding temporary irrigation systems. No final Certificate of Occupancy shall be granted until an adequate bond or other security is posted for the completion of the landscaping, and the City is given written authorization to enter the property and install the required landscaping, in the event that the required landscaping has not been installed. The form of such written authorization shall be submitted to the City Attorney for review.*

**Response:** Acknowledged. No deferral is requested at this time but may be requested in the future subject to the scenarios above.

- (.11) Street Trees Not Typically Part of Site Landscaping.** *Street trees are not subject to the requirements of this Section and are not counted toward the required standards of this Section. Except, however, that the Development Review Board may, by granting a waiver or variance, allow for special landscaping within the right-of-way to compensate for a lack of appropriate on-site locations for landscaping. See subsection (.06), above, regarding street trees.*

**Response:** No waiver or variance for on-site landscaping is requested. This standard is not applicable.

- (.12) Mitigation and Restoration Plantings.** *A mitigation plan is to be approved by the City's Development Review Board before the destruction, damage, or removal of any existing native plants. Plantings intended to mitigate the loss of native vegetation are subject to the following standards. Where these standards conflict with other requirements of this Code, the standards of this Section shall take precedence. The desired effect of this section is to preserve existing native vegetation.*
- A. *Plant Sources. Plant materials are to be native and are subject to approval by the City. They are to be non-clonal in origin; seed source is to be as local as possible, and plants must be nursery propagated or taken from a pre-approved transplantation area. All of these requirements are to be addressed in any proposed mitigation plan.*
  - B. *Plant Materials. The mitigation plan shall specify the types and installation sizes of plant materials to be used for restoration. Practices such as the use of pesticides, fungicides, and fertilizers shall not be employed in mitigation areas unless specifically authorized and approved.*
  - C. *Installation. Install native plants in suitable soil conditions. Plant materials are to be supported only when necessary because of extreme winds at the site. Where support is necessary, all stakes, guy wires or other measures are to be removed as soon as the plants can support themselves. Protect from animal and fowl predation and foraging until establishment.*
  - D. *Irrigation. Permanent irrigation systems are generally not appropriate in restoration situations, and manual or temporary watering of new plantings is often necessary. The mitigation plan shall specify the method and frequency of manual watering, including any that may be necessary after the first growing season.*
  - E. *Monitoring and Reporting. Monitoring of native landscape areas is the on-going responsibility of the property owner. Plants that die are to be replaced in kind and quantity within one year. Written proof of the survival of all plants shall be required to be submitted to the City's Planning Department one year after the planting is completed.*

**Response:** The site is currently in residential and agricultural use, and site plantings consist primarily of grass and clustered trees. The existing grass and 106 trees will be removed for site development, generally to accommodate the planned street and desired lotting pattern. Tree removal will be mitigated as detailed in the response to Section 4.610.40. These standards are not applicable.

## **I. Section 4.177. Street Improvement Standards.**

*This section contains the City's requirements and standards for pedestrian, bicycle, and transit facility improvements to public streets, or within public easements. The purpose of this section is to ensure that development, including redevelopment, provides transportation facilities that are safe, convenient, and adequate in rough proportion to their impacts.*

- (.01)** *Development and related public facility improvements shall comply with the standards in this section, the Wilsonville Public Works Standards, and the Transportation System Plan, in rough proportion to the potential impacts of the development. Such improvements shall be constructed at the time of development or as provided by Section 4.140, except as modified or waived by the City Engineer for reasons of safety or traffic operations.*

**Response:** The proposed public facility improvements are designed to be in substantial conformance with the standards in this section, the Wilsonville Public Works Standards, and the Transportation System Plan as modified by the Frog Pond Master Plan.

### **(.02) Street Design Standards.**

- A. *All street improvements and intersections shall provide for the continuation of streets through specific developments to adjoining properties or subdivisions.*
  - 1. *Development shall be required to provide existing or future connections to adjacent sites through the use of access easements where applicable. Such easements shall be required in addition to required public street dedications as required in Section 4.236(.04).*

**Response:** The proposed Street A has been designed to be substantially consistent with the Frog Pond West Master Plan. Frog Pond Lane is being improved to Local Street standards established in the TSP.. Future connections to adjacent sites are anticipated to the east. This standard is met.

B. *The City Engineer shall make the final determination regarding right-of-way and street element widths using the ranges provided in Chapter 3 of the Transportation System Plan and the additional street design standards in the Public Works Standards.*

**Response:** No modifications to the proposed rights-of-way and street elements widths are proposed at this time. The development will construct the local street in accordance with applicable standards. Frog Pond Lane and Street A will meet width and street element standards. See Sheet P2.10.

C. *Rights-of-way.*

1. *Prior to issuance of a Certificate of Occupancy Building permits or as a part of the recordation of a final plat, the City shall require dedication of rights-of-way in accordance with the Transportation System Plan. All dedications shall be recorded with the County Assessor's Office.*
2. *The City shall also require a waiver of remonstrance against formation of a local improvement district, and all non-remonstrances shall be recorded in the County Recorder's Office as well as the City's Lien Docket, prior to issuance of a Certificate of Occupancy Building Permit or as a part of the recordation of a final plat.*
3. *In order to allow for potential future widening, a special setback requirement shall be maintained adjacent to all arterial streets. The minimum setback shall be 55 feet from the centerline or 25 feet from the right-of-way designated on the Master Plan, whichever is greater.*

**Response:** This proposal includes the following right-of-way dedication as shown in Sheet P2.10 and P3.00:

- ROW dedication of 9.5 feet along the site's frontage with SW Frog Pond Lane

The site does not have frontage on an arterial street; therefore, the special setback does not apply. These standards are met.

D. *Dead-end Streets. New dead-end streets or cul-de-sac shall not exceed 200 feet in length, unless the adjoining land contains barriers such as existing buildings, railroads or freeways, or environmental constraints such as steep slopes, or major streams or rivers, that prevent future street extension and connection. A central landscaped island with rainwater management and infiltration are encouraged in cul-de-sac design. No more than 25 dwelling units shall take access to a new dead-end or cul-de-sac street unless it is determined that the traffic impacts on adjacent streets will not exceed those from a development of 25 or fewer units. All other dimensional standards of dead-end streets shall be governed by the Public Works Standards. Notification that the street is planned for future extension shall be posted on the dead-end street.*

**Response:** Street A is proposed to stub at the eastern boundary of the subject property with the intent for it to be extended upon that property's development. A vehicle turn-around is provided in Tract B. There are no proposed permanent dead-end streets or cul-de-sacs. This standard is not applicable.

E. *Corner or clear vision area.*

1. *A clear vision area which meets the Public Works Standards shall be maintained on each corner of property at the intersection of any two streets, a street and a railroad or a street and a driveway. However, the following items shall be exempt from meeting this requirement:*
  - a. *Light and utility poles with a diameter less than 12 inches.*
  - b. *Trees less than six inch d.b.h., approved as a part of the Stage II Site Design, or administrative review.*
  - c. *Except as allowed by b., above, an existing tree, trimmed to the trunk, ten feet above the curb.*
  - d. *Official warning or street sign.*
  - e. *Natural contours where the natural elevations are such that there can be no cross-visibility at the intersection and necessary excavation would result in an unreasonable hardship on the property owner or deteriorate the quality of the site.*

F. *Vertical clearance - a minimum clearance of 12 feet above the pavement surface shall be maintained over all streets and access drives.*

**Response:** Clear vision areas will be maintained at the corner of each property.

- G. *Interim improvement standard. It is anticipated that all existing streets, except those in new subdivisions, will require complete reconstruction to support urban level traffic volumes. However, in most cases, existing and short-term projected traffic volumes do not warrant improvements to full Master Plan standards. Therefore, unless otherwise specified by the Development Review Board, the following interim standards shall apply.*
1. *Arterials 24 foot paved, with standard sub-base. Asphalt overlays are generally considered unacceptable, but may be considered as an interim improvement based on the recommendations of the City Engineer, regarding adequate structural quality to support an overlay.*
  2. *Half-streets are generally considered unacceptable. However, where the Development Review Board finds it essential to allow for reasonable development, a half-street may be approved. Whenever a half-street improvement is approved, it shall conform to the requirements in the Public Works Standards:*
  3. *When considered appropriate in conjunction with other anticipated or scheduled street improvements, the City Engineer may approve street improvements with a single asphalt lift. However, adequate provision must be made for interim storm drainage, pavement transitions at seams and the scheduling of the second lift through the Capital Improvements Plan.*

**Response:** There are no existing streets within the development site. These standards are not applicable.

- (.03) Sidewalks.** *Sidewalks shall be provided on the public street frontage of all development. Sidewalks shall generally be constructed within the dedicated public right-of-way, but may be located outside of the right-of-way within a public easement with the approval of the City Engineer.*
- A. *Sidewalk widths shall include a minimum through zone of at least five feet. The through zone may be reduced pursuant to variance procedures in Section 4.196, a waiver pursuant to Section 4.118, or by authority of the City Engineer for reasons of traffic operations, efficiency, or safety.*
  - B. *Within a Planned Development, the Development Review Board may approve a sidewalk on only one side. If the sidewalk is permitted on just one side of the street, the owners will be required to sign an agreement to an assessment in the future to construct the other sidewalk if the City Council decides it is necessary.*

**Response:** As shown on Sheet P2.10, all sidewalks within the development site are at least 5 ft. wide. No adjustments are requested. These standards are met.

- (.04) Bicycle Facilities.** *Bicycle facilities shall be provided to implement the Transportation System Plan, and may include on-street and off-street bike lanes, shared lanes, bike boulevards, and cycle tracks. The design of on-street bicycle facilities will vary according to the functional classification and the average daily traffic of the facility.*

**Response:** The proposed street cross-sections shown on Sheet P2.10 comply with the street classifications and cross-sections identified in the Frog Pond West Master Plan. SW Frog Pond Lane and proposed Street A are Local classified streets and no bike lanes are proposed; bikes will share the vehicular lane with vehicles in these local streets. These standards are met.

- (.05) Multiuse Pathways.** *Pathways may be in addition to, or in lieu of, a public street. Paths that are in addition to a public street shall generally run parallel to that street, and shall be designed in accordance with the Public Works Standards or as specified by the City Engineer. Paths that are in lieu of a public street shall be considered in areas only where no other public street connection options are feasible, and are subject to the following standards.*
- A. *Paths shall be located to provide a reasonably direct connection between likely pedestrian and bicyclist destinations. Additional standards relating to entry points, maximum length, visibility, and path lighting are provided in the Public Works Standards.*
  - B. *To ensure ongoing access to and maintenance of pedestrian/bicycle paths, the City Engineer will require dedication of the path to the public and acceptance of the path by the City as public right-of-way; or creation of a public access easement over the path.*

**Response:** A multiuse path is proposed through Tract A, connecting to proposed Street A. The path is an extension of the Boeckman Creek Trail and is not proposed in lieu of a public street. Therefore, no dedication is required or proposed for the path/trail.

**(.06) Transit Improvements**

*Transit Improvements. Development on sites that are adjacent to or incorporate major transit streets shall provide improvements as described in this section to any bus stop located along the site's frontage, unless waived by the City Engineer for reasons of safety or traffic operations. Transit facilities include bus stops, shelters, and related facilities. Required transit facility improvements may include the dedication of land or the provision of a public easement.*

[...]

**Response:** The site is not adjacent to nor incorporates a major transit street. These standards are not applicable.

**(.07) Residential Private Access Drives.** *Residential Private Access Drives shall meet the following standards:*

[...]

**Response:** There are no private drives or accessways proposed. This standard is not applicable.

*B. The design and construction of a Residential Private Access Drive shall ensure a useful lifespan and structural maintenance schedule comparable, as determined by the City Engineer or City's Authorized Representative, to a local street constructed in conformance to current public works standards.*

- 1. The design of residential private access drives shall be stamped by a professional engineer registered in the state of Oregon and shall be approved by the City Engineer or City's Authorized Representative to ensure the above requirement is met.*
- 2. Prior to issuing a certificate of occupancy for any residential dwelling unit whose primary vehicular access is from a Residential Private Access Drive the City Engineer or City's Authorized Representative shall certify construction of the Residential Private Access Drive substantially conforms the design approved by the City Engineer or City's Authorized Representative.*

**Response:** There are no private drives or accessways proposed. This standard is not applicable.

*C. Residential Private Access Drives shall be named for addressing purposes. All Residential Private Access Drives shall use the suffix "Lane", i.e. SW Oakview Lane.*

*D. Residential Private Access Drives shall meet or exceed the standards for access drives and travel lanes established in Subsection (.08) of this Section.*

*[Amended by Ord. 682, 9/1/10]*

**Response:** There are no private drives or accessways proposed. This standard is not applicable.

**(.08). Access Drive and Driveway Approach Development Standards.**

*A. An access drive to any proposed development shall be designed to provide a clear travel lane free from any obstructions.*

*B. Access drive travel lanes shall be constructed with a hard surface capable of carrying a 23-ton load.*

*C. Where emergency vehicle access is required, approaches and driveways shall be designed and constructed to accommodate emergency vehicle apparatus and shall conform to applicable fire protection requirements. The City may restrict parking, require signage, or require other public safety improvements pursuant to the recommendations of an emergency service provider.*

*D. Secondary or emergency access lanes may be improved to a minimum 12 feet with an all-weather surface as approved by the Fire District. All fire lanes shall be dedicated easements.*

**Response:** There are no private drives or accessways proposed. This standard is not applicable.

[...]

*P. Unless constrained by topography, natural resources, rail lines, freeways, existing or planned or approved development, or easements or covenants, driveways proposed as part of a residential or mixed-use development shall meet local street spacing standards and shall be constructed to align with existing or planned streets, if the driveway.*

- 1. Intersects with a public street that is controlled, or is to be controlled in the planning period, by a traffic signal;*
- 2. Intersects with an existing or planned arterial or collector street; or*

3. *Would be an extension of an existing or planned local street, or of another major driveway.*

**Response:** Locations of driveways within the subdivision are provided on Sheet P2.00 as conceptual locations. Driveway locations will be verified at the time of building permit review.

**(.09) Minimum street intersection spacing standards.**

- A. *New streets shall intersect at existing street intersections so that centerlines are not offset. Where existing streets adjacent to a proposed development do not align properly, conditions shall be imposed on the development to provide for proper alignment.*
- B. *Minimum intersection spacing standards are provided in Transportation System Plan Table 3-2.*

**Response:** The development abuts SW Frog Pond Lane, a Local classified street, and will construct one Local street (Street A) within the site. Table 3-2 of the TSP does not provide numerical spacing standards for Local classified streets, but establishes that access is permitted to each lot. All residential lots proposed with this development are accessed from Local streets. Where Street A connects to SW Frog Pond Lane, the centerlines are not offset. This standard is met.

**(.10) Exceptions and Adjustments.** *The City may approve adjustments to the spacing standards of subsections (.08) and (.09) above through a Class II process, or as a waiver per Section 4.118(.03)(A.), where an existing connection to a City street does not meet the standards of the roadway authority, the proposed development moves in the direction of Code compliance, and mitigation measures alleviate all traffic operations and safety concerns. Mitigation measures may include consolidated access (removal of one access), joint use driveways (more than one property uses same access), directional limitations (e.g., one-way), turning restrictions (e.g., right in/out only), or other mitigation.*

**Response:** The proposed street is designed to be in conformance to the Frog Pond West Master Plan; no exceptions or adjustments to the spacing standards are requested.

**J. Section 4.180. Exceptions and Modifications - Projections into Required Yards.**

**(.01)** *Certain non-structural architectural features are permitted to project into required yards or courts, without requiring the approval of a Variance or Reduced Setback Agreement, as follows:*

- A. *Into any required yard:*
  1. *Architectural features may project into the required yard not more than two (2) inches for each foot of required setback.*
  2. *Open, unenclosed fire escapes may project a distance not exceeding forty-eight (48) inches.*
- B. *Into any required yard, adjoining a street or tract with a private drive: [Amended by Ord. 682, 9/9/10]*
  1. *Architectural features may project a distance not exceeding forty (40) inches.*
  2. *An uncovered porch, terrace, or patio extending no more than two and one-half (2 1/2) feet above the finished elevation may extend within three (3) feet of an interior side lot line, or within ten (10) feet of a front lot line or of an exterior side lot line.*

**Response:** No buildings are proposed with this application. These provisions are not applicable.

**K. Section 4.181. Exceptions & Modifications - Height Limits.**

*Except as stipulated in Sections 4.800 through 4.804, height limitations specified elsewhere in this Code shall not apply to barns, silos or other farm buildings or structures on farms; to church spires; belfries; cupolas; and domes; monuments; water towers; windmills; chimneys; smokestacks; fire and hose towers; flag poles; above-ground electric transmission, distribution, communication and signal lines, towers and poles; and properly screened mechanical and elevator structures.*

**Response:** No listed structures are proposed at this time. These provisions are not applicable.

**L. Section 4.182. Exceptions and Modifications - Setback Modifications.**

*In any residential zone where the average depth of at least two existing front yards on adjoining lots or within 150 feet of the lot in question and within the same block front is less or greater than the minimum or maximum front yard depth prescribed elsewhere in this Code, the required depth of the front yard on such lot shall be modified. In such case, the front yard depth shall not be less than the average depth, nor*

more than the greater depth, of existing front yards on at least two adjoining lots within 150 feet. In the case of a corner lot, the depth of the front yard may be reduced to that of the lot immediately adjoining, provided, however, that the depth of a front yard on any corner lot shall be at least ten feet.

**Response:** No setback modifications are requested under the provisions of this section. These provisions are not applicable.

#### M. Section 4.197. Zone Changes and Amendments To This Code – Procedures.

*(.01) The following procedure shall be followed in applying for an amendment to the text of this Chapter:[...]*

**Response:** No zoning text amendments are proposed. This procedure is not applicable.

*(.02) The following procedures shall be followed for zone map amendments.*

**Response:** An amendment to the zoning map is proposed as part of this project. Therefore, the criteria in this section apply.

*[...]*

*(C) In recommending approval or denial of a proposed zone map amendment, the Planning Commission or Development Review Board shall at a minimum, adopt findings addressing the following criteria:*

- 1. That the application before the Commission or Board was submitted in accordance with the procedures set forth in Section 4.008, Section 4.125 (.18)(B)(2) or, in the case of a Planned Development, Section 4.140; and*

**Response:** The zone map amendment is being requested concurrent with a Planned Development. The application has been submitted in accordance with the procedures set forth in Section 4.140. This criterion is met.

- 2. That the proposed amendment is consistent with the Comprehensive Plan map designation and substantially complies with the applicable goals, policies and objectives, set forth in the Comprehensive Plan text; and*

**Response:** The Comprehensive Plan map designation for the Frog Pond Overlook site is Residential Neighborhood RN, which is implemented by the requested Residential Neighborhood RN zone.

The applicable goals, policies, and objectives of the Comprehensive Plan text are addressed in Section III of this narrative. This criterion is met.

- 3. In the event that the subject property, or any portion thereof, is designated as "Residential" on the City's Comprehensive Plan Map; specific findings shall be made addressing substantial compliance with Implementation Measures 4.1.4.b, d, e, q, and x of Wilsonville's Comprehensive Plan text; and*

**Response:** The Frog Pond Overlook site is designated "Residential" on the City's Comprehensive Plan Map. Compliance with Implementation Measures 4.1.4.b, d, e, q, and x is addressed in Section III of this narrative. This criterion is met.

- 4. That the existing primary public facilities, i.e., roads and sidewalks, water, sewer and storm sewer are available and are of adequate size to serve the proposed development; or, that adequate facilities can be provided in conjunction with project development. The Planning Commission and Development Review Board shall utilize any and all means to insure that all primary facilities are available and are adequately sized; and*

**Response:** As addressed elsewhere in this narrative the development will extend roads and sidewalks, water, sewer, and storm sewer to serve the proposed development. This criterion is met.

- 5. That the proposed development does not have a significant adverse effect upon Significant Resource Overlay Zone areas, an identified natural hazard, or an identified geologic hazard.*



*When Significant Resource Overlay Zone areas or natural hazard, and/or geologic hazard are located on or abut the proposed development, the Planning Commission or Development Review Board shall use appropriate measures to mitigate and significantly reduce conflicts between the development and identified hazard or Significant Resource Overlay Zone; and*

**Response:** There is a mapped SROZ in the west/northwest portion of the subject property. As described in Section IV.F of this report, there is no proposed development within the boundary of the SROZ, or within areas of natural or geologic hazard. See the geotechnical report included as Appendix F.

6. *That the applicant is committed to a development schedule demonstrating that development of the property is reasonably expected to commence within two years of the initial approval of the zone change; and*

**Response:** The zone change request is being submitted concurrently with a planned development, subdivision, and site plan review application. The applicant is committed to develop the property as soon as these applications and related site development permits are approved, which is expected to occur by fall of 2022 or winter of 2023. This criterion is met.

7. *That the proposed development and use(s) can be developed in compliance with the applicable development standards or appropriate conditions are attached that insure that the project development substantially conforms to the applicable development standards; and*

**Response:** The proposed development and use is single-family residential in accordance with the Frog Pond West Master Plan. Compliance with the applicable development standards of the RN zone is addressed Section IV of this narrative.

8. *Adequate public facilities, services, and transportation networks are in place, or are planned to be provided concurrently with the development of the property. The applicant shall demonstrate compliance with the Transportation Planning Rule, specifically by addressing whether the proposed amendment has a significant effect on the transportation system pursuant to OAR 660-012-0060. A Traffic Impact Analysis (TIA) shall be prepared pursuant to the requirements in Section 4.133.05.(01).*

**Response:** Adequate public facilities, services, and transportation networks are in place, or are planned to be provided concurrently with the proposed development. The development will extend sewer and water infrastructure into the development from existing infrastructure in Frog Pond Lane and will provide storm drainage facilities to serve the development. See Sheet P4.00 and Appendix B for the Preliminary Stormwater Report.

The proposed development includes an internal roadway (Street A) and a public trail in substantial conformance with the Frog Pond Area Plan and includes improvements to the north side of Frog Pond Lane. The development will provide frontage improvements along Frog Pond Lane in coordination with the City's planned design and reconstruction of the roadway along the project boundary. A Transportation Evaluation was prepared by DKS & Associates at the direction of the City of Wilsonville and is included in this application as Appendix C.

Compliance with the TPR is included in the Frog Pond Area Plan and assumes full development of the Frog Pond area. This criterion is met.

- (.03) If affirmative findings cannot be made for all applicable criteria listed above the proposed text or map amendment, as the case may be, shall be denied.*
- (.04) City Council action approving a change in zoning shall be in the form of a Zoning Order.*
- (.05) In cases where a property owner or other applicant has requested a change in zoning and the City Council has approved the change subject to conditions, the owner or applicant shall sign a statement accepting, and agreeing to complete the conditions of approval before the zoning shall be changed.*

**Response:** The proposed development meets the applicable criteria as described above.

## VI. Land Divisions

### A. Section 4.210. Application Procedure.

- (.01) Pre-application conference.** Prior to submission of a tentative condominium, partition, or subdivision plat, a person proposing to divide land in the City shall contact the Planning Department to arrange a pre-application conference as set forth in Section 4.010.
- A. *Preparation of Tentative Plat.* The Planning staff shall provide information regarding procedures and general information having a direct influence on the proposed development, such as elements of the Comprehensive Plan, existing and proposed streets, roads and public utilities. The applicant shall cause to be prepared a tentative plat, together with improvement plans and other supplementary material as specified in this Section. The Tentative Plat shall be prepared by an Oregon licensed professional land surveyor or engineer. An affidavit of the services of such surveyor or engineer shall be furnished as part of the submittal.
- B. *Tentative Plat Submission.* The purpose of the Tentative Plat is to present a study of the proposed subdivision to the Planning Department and Development Review Board and to receive approval or recommendations for revisions before preparation of a final Plat. The design and layout of this plan plat shall meet the guidelines and requirements set forth in this Code. The Tentative Plat shall be submitted to the Planning Department with the following information:
1. Site development application form completed and signed by the owner of the land or a letter of authorization signed by the owner. A preliminary title report or other proof of ownership is to be included with the application form.
  2. Application fees as established by resolution of the City Council.
  3. Ten copies and one sepia or suitable reproducible tracing of the Tentative Plat shall be submitted with the application. Paper size shall be 18 inch by 24 inch, or such other size as may be specified by the City Engineer.
  4. Name of the subdivision. No subdivision name shall duplicate or resemble the name of any other subdivision in Clackamas or Washington County. Names may be checked through the county offices.
  5. Names, addresses, and telephone numbers of the owners and applicants, and engineer or surveyor.
  6. Date, north point and scale of drawing.
  7. Location of the subject property by Section, Township, and Range.
  8. Legal road access to subject property shall be indicated as City, County, or other public roads.
  9. Vicinity map showing the relationship to the nearest major highway or street.
  10. Lots. Dimensions of all lots, minimum lot size, average lot size, and proposed lot and block numbers.
  11. Gross acreage in proposed plat.
  12. Proposed uses of the property, including sites, if any, for multi-family dwellings, shopping centers, churches, industries, parks, and playgrounds or other public or semi-public uses.
  13. Improvements: Statement of the improvements to be made or installed including streets, private drives, sidewalks, lighting, tree planting, and times such improvements are to be made or completed.
  14. Trees. Locations, types, sizes, and general conditions of all existing trees, as required in Section 4.600.
  15. Utilities such as electrical, gas, telephone, on and abutting the tract.
  16. Easements: Approximate width, location, and purpose of all existing and proposed easements on, and known easements abutting the tract.
  17. Deed Restrictions. Outline of proposed deed restrictions, if any.
  18. Written Statement. Information which is not practical to be shown on the maps may be shown in separate statements accompanying the Tentative Plat.
  19. If the subdivision is to be a "Planned Development," a copy of the proposed Home Owners Association By-Laws must be submitted at the time of submission of the application. The Tentative Plat shall be considered as the Stage I Preliminary Plan. The proposed By-Laws must address the maintenance of any parks, common areas, or facilities.
  20. Any plat bordering a stream or river shall indicate areas subject to flooding and shall comply with the provisions of Section 4.172.
  21. Proposed use or treatment of any property designated as open space by the City of Wilsonville.

22. A list of the names and addresses of the owners of all properties within 250 feet of the subject property, printed on self-adhesive mailing labels. The list shall be taken from the latest available property ownership records of the Assessor's office of the affected county.
  23. A completed "liens and assessments" form, provided by the City Finance Department.
  24. Locations of all areas designated as a Significant Resource Overlay Zone by the City, as well as any wetlands shall be shown on the tentative plat.
  25. Locations of all existing and proposed utilities, including but not limited to domestic water, sanitary sewer, storm drainage, and any private utilities crossing or intended to serve the site. Any plans to phase the construction or use of utilities shall be indicated.
  26. A traffic study, prepared under contract with the City, shall be submitted as part of the tentative plat application process, unless specifically waived by the Community Development Director.
- C. Action on proposed tentative plat:  
[...]
- D. Land division phases to be shown. Where the applicant intends to develop the land in phases, the schedule of such phasing shall be presented for review at the time of the tentative plat. In acting on an application for tentative plat approval, the Planning Director or Development Review Board may set time limits for the completion of the phasing schedule which, if not met, shall result in an expiration of the tentative plat approval.
- E. Remainder tracts to be shown as lots or parcels. Tentative plats shall clearly show all affected property as part of the application for land division. All remainder tracts, regardless of size, shall be shown and counted among the parcels or lots of the division.  
[...]

**Response:** A Subdivision is requested to create the lots proposed by the Planned Development. The information described above is included with this submittal. A Preliminary Plat is included as Sheet 3.00; a Preliminary Utility Plan is included as Sheet P4.00; a Tree Removal and Protection Plan is included as Sheet L1.00; Preliminary Street Cross-Sections are included as Sheets P2.10; and draft Homeowner Association Bylaws and CC&Rs are included as Appendix G.

## B. Section 4.236. General Requirements - Streets.

**(.01) Conformity to the Transportation System Plan.** Land divisions shall conform to and be in harmony with the Transportation Systems Plan, the Bicycle and Pedestrian Master Plan, and the Parks and Recreation Master Plan.

**Response:** As will be confirmed by the TIA, the proposed street plan conforms to the Transportation System Plan and is in substantial conformance with the Frog Pond West Master Plan.

The 2006 Bicycle and Pedestrian Master Plan identifies the extension and development of the Boeckman Creek Trail, identified as a major regional trail. The 2017 Frog Pond West Master Plan incorporates a Bicycle and Pedestrian Framework (Figure 17), a planned trail through the property, and sidewalks along the property's SW Frog Pond Lane frontage. The development will construct SW Frog Pond Lane and the trail as identified in Figure 17.

**(.02) Relation to Adjoining Street System.**

- A. A land division shall provide for the continuation of the principal streets existing in the adjoining area, or of their proper projection when adjoining property is not developed, and shall be of a width not less than the minimum requirements for streets set forth in these regulations. Where, in the opinion of the Planning Director or Development Review Board, topographic conditions make such continuation or conformity impractical, an exception may be made. In cases where the Board or Planning Commission has adopted a plan or plat of a neighborhood or area of which the proposed land division is a part, the subdivision shall conform to such adopted neighborhood or area plan.
- B. Where the plat submitted covers only a part of the applicant's tract, a sketch of the prospective future street system of the unsubmitted part shall be furnished and the street system of the part submitted shall be considered in the light of adjustments and connections with the street system of the part not submitted.
- C. At any time when an applicant proposes a land division and the Comprehensive Plan would allow for the proposed lots to be further divided, the City may require an arrangement of lots and streets such as to permit a later resubdivision in conformity to the street plans and other requirements specified in these regulations.

**Response:** As shown in Sheet P8.00, the proposed street network is designed for future continuation per the Frog Pond West Master Plan. These standards are met.

**(.03)** *All streets shall conform to the standards set forth in Section 4.177 and the block size requirements of the zone.*

**Response:** The standards of Section 4.177 are addressed in Section V of this narrative.

**(.04)** **Creation of Easements.** *The Planning Director or Development Review Board may approve an easement to be established without full compliance with these regulations, provided such an easement is the only reasonable method by which a portion of a lot large enough to allow partitioning into two parcels may be provided with vehicular access and adequate utilities. If the proposed lot is large enough to divide into more than two parcels, a street dedication may be required.*

**Response:** No street easements are proposed. This standard is not applicable.

**(.05)** **Topography:** *The layout of streets shall give suitable recognition to surrounding topographical conditions in accordance with the purpose of these regulations.*

**Response:** The street layout recognizes topographical conditions. This standard is met.

**(.06)** **Reserve Strips.** *The Planning Director or Development Review Board may require the applicant to create a reserve strip controlling the access to a street. Said strip is to be placed under the jurisdiction of the City Council, when the Director or Board determine that a strip is necessary:*

- A. *To prevent access to abutting land at the end of a street in order to assure the proper extension of the street pattern and the orderly development of land lying beyond the street; or*
- B. *To prevent access to the side of a street on the side where additional width is required to meet the right-of-way standards established by the City; or*
- C. *To prevent access to land abutting a street of the land division but not within the tract or parcel of land being divided; or*
- D. *To prevent access to land unsuitable for building development.*

**Response:** No reserve strip is proposed. The applicant acknowledges that the DRB may require that the applicant create a reserve strip. This standard is met.

**(.07)** **Future Expansion of Street:** *When necessary to give access to, or permit a satisfactory future division of, adjoining land, streets shall be extended to the boundary of the land division and the resulting dead-end street may be approved without a turn-around. Reserve strips and street plugs shall be required to preserve the objective of street extension. Notification that the street is planned for future extension shall be posted on the stub street.*

**Response:** Proposed Street A has been extended to the eastern boundary of the site and is intended for future extension. For that reason, no turnarounds are proposed for these streets. The applicant will comply with any requirements related to signage street extension objectives. This standard is met.

**(.08)** **Existing Streets:** *Whenever existing streets adjacent to or within a tract are of inadequate width, additional right-of-way shall conform to the designated width in this Code or in the Transportation Systems Plan.*

**Response:** Frog Pond Lane to the south of the site is of inadequate width. The project will dedicate 9.5 ft. of additional right-of-way to the street. This standard is met.

**(.09)** **Street Names:** *No street names will be used which will duplicate or be confused with the names of existing streets, except for extensions of existing streets. Street names and numbers shall conform to the established name system in the City, and shall be subject to the approval of the City Engineer.*

**Response:** Street A is the only new street proposed. Streets A will conform to the City's established name system and will be subject to approval by the City Engineer. This standard is met.

### C. Section 4.237. General Requirements – Other.

#### **(.01) Blocks:**

- A. *The length, width, and shape of blocks shall be designed with due regard to providing adequate building sites for the use contemplated, consideration of needs for convenient access, circulation, control, and safety of pedestrian, bicycle, and motor vehicle traffic, and recognition of limitations and opportunities of topography.*
- B. *Sizes: Blocks shall not exceed the sizes and lengths specified for the zone in which they are located unless topographical conditions or other physical constraints necessitate larger blocks. Larger blocks shall only be approved where specific findings are made justifying the size, shape, and configuration.*

**Response:** The length, width, and shape of blocks have been designed in conformance with the Frog Pond West Master Plan and to comply with the standards of Section 4.177. These standards are addressed in section V of this narrative. The site is located within the RN zone and is also subject to the block, access, and connectivity standards of Section 4.127(.10). Those standards are addressed in Section IV.E of this narrative. These standards are met.

#### **(.02) Easements:**

- A. *Utility lines. Easements for sanitary or storm sewers, drainage, water mains, electrical lines or other public utilities shall be dedicated wherever necessary. Easements shall be provided consistent with the City's Public Works Standards, as specified by the City Engineer or Planning Director. All of the public utility lines within and adjacent to the site shall be installed within the public right-of-way or easement; with underground services extending to the private parcel constructed in conformance to the City's Public Works Standards. All franchise utilities shall be installed within a public utility easement. All utilities shall have appropriate easements for construction and maintenance purposes.*
- B. *Water courses. Where a land division is traversed by a water course, drainage way, channel or stream, there shall be provided a storm water easement or drainage right-of-way conforming substantially with the lines of the water course, and such further width as will be adequate for the purposes of conveying storm water and allowing for maintenance of the facility or channel. Streets or parkways parallel to water courses may be required.*

**Response:** Public utilities are placed within public rights-of-way or within public utility easements (PUE) adjacent to the public streets (see Sheet P4.00). Water line looping is proposed between the eastern terminus of Street A and Frog Pond Lane. There is a 15 ft. water line easement proposed between the two streets to accommodate the water line.

#### **(.03) Pedestrian and bicycle pathways.** *An improved public pathway shall be required to transverse the block near its middle if that block exceeds the length standards of the zone in which it is located.*

- A. *Pathways shall be required to connect to a cul-de-sac or to pass through unusually shaped blocks.*
- B. *Pathways required by this subsection shall have a minimum width of ten feet unless they are found to be unnecessary for bicycle traffic, in which case they are to have a minimum width of six feet.*

**Response:** Provisions for guiding the design of pedestrian and bicycle connectivity in the Frog Pond West area are provided by the Street Demonstration Plan of the Frog Pond West Master Plan and supersede the provisions of this section. Pedestrian connections on the subject site are proposed through the recreation area/open space of Tract A, and connecting to Street A. The proposed design is consistent with the Street Demonstration Plan.

#### **(.04) Tree planting.** *Tree planting plans for a land division must be submitted to the Planning Director and receive the approval of the Director or Development Review Board before the planting is begun. Easements or other documents shall be provided, guaranteeing the City the right to enter the site and plant, remove, or maintain approved street trees that are located on private property.*

**Response:** Tree planting plans are included as Sheet L2.00. Proposed street trees are located within public right-of-way and additional easements should not be needed. This standard is met.

#### **(.05) Lot Size and shape.** *The lot size, width, shape and orientation shall be appropriate for the location of the land division and for the type of development and use contemplated. Lots shall meet the requirements of the zone where they are located.*

- A. *In areas that are not served by public sewer, an on-site sewage disposal permit is required from the City. If the soil structure is adverse to on-site sewage disposal, no development shall be permitted until sewer service can be provided.*
- B. *Where property is zoned or deeded for business or industrial use, other lot widths and areas may be permitted at the discretion of the Development Review Board. Depth and width of properties reserved or laid out for commercial and industrial purposes shall be adequate to provide for the off-street service and parking facilities required by the type of use and development contemplated.*
- C. *In approving an application for a Planned Development, the Development Review Board may waive the requirements of this section and lot size, shape, and density shall conform to the Planned Development conditions of approval.*

**Response:** The site is served by public sewer, and no on-site sewage disposal is proposed. The property is zoned for residential purposes and is subject to an application for a Planned Development. The site is located within the RN zone and is subject to the standards of that zone. The proposed lots meet the dimensional standards of the RN zone and the R-10 sub-districts. These standards are met.

**(.06) Access.** *The division of land shall be such that each lot shall have a minimum frontage on a street or private drive, as specified in the standards of the relative zoning districts. This minimum frontage requirement shall apply with the following exceptions:*

- A. *A lot on the outer radius of a curved street or tract with a private drive, or facing the circular end of a cul-de-sac shall have frontage of not less than 25 feet upon a street or tract with a private drive, measured on the arc.*
- B. *The Development Review Board may waive lot frontage requirements where in its judgment the waiver of frontage requirements will not have the effect of nullifying the intent and purpose of this regulation or if the Board determines that another standard is appropriate because of the characteristics of the overall development.*

**Response:** The minimum lot width in the RN zone/R10 Subdistrict 8 is 40 ft; as detailed in the response to Section 4.127 and shown on Sheet P3.00, each lot has mean width of at least 40 ft. on a public street. These standards are met.

**(.07) Through lots.** *Through lots shall be avoided except where essential to provide separation of residential development from major traffic arteries or adjacent non-residential activity or to overcome specific disadvantages of topography and orientation. A planting screen easement of at least ten feet, across which there shall be no access, may be required along the line of lots abutting such a traffic artery or other disadvantageous use. Through lots with planting screens shall have a minimum average depth of 100 feet. The Development Review Board may require assurance that such screened areas be maintained as specified in Section 4.176.*

**Response:** There are no through-lots proposed as a part of this project. This standard is not applicable.

**(.08) Lot side lines.** *The side lines of lots, as far as practicable for the purpose of the proposed development, shall run at right angles to the street or tract with a private drive upon which the lots face.*

**Response:** Side lot lines are proposed at right angles to the extent practicable. This standard is met.

**(.09) Large lot land divisions.** *In dividing tracts which at some future time are likely to be re-divided, the location of lot lines and other details of the layout shall be such that re-division may readily take place without violating the requirements of these regulations and without interfering with the orderly development of streets. Restriction of buildings within future street locations shall be made a matter of record if the Development Review Board considers it necessary.*

**Response:** No future development tracts are proposed.

**(.10) Building line.** *The Planning Director or Development Review Board may establish special building setbacks to allow for the future re-division or other development of the property or for other reasons specified in the findings supporting the decision. If special building setback lines are established for the land division, they shall be shown on the final plat.*

**Response:** No special building setbacks are proposed.

**(.11) Build-to line.** *The Planning Director or Development Review Board may establish special build to lines for the development, as specified in the findings and conditions of approval for the decision. If special build-to lines are established for the land division, they shall be shown on the final plat.*

**Response:** There is no maximum setback in the RN zones, and no build-to-lines are proposed.

**(.12) Land for public purposes.** *The Planning Director or Development Review Board may require property to be reserved for public acquisition, or irrevocably offered for dedication, for a specified period of time.*

**Response:** The City has not identified any requirements for property to be reserved for public acquisition. The development will dedicate right-of-way for the public street network.

**(.13) Corner lots.** *Lots on street intersections shall have a corner radius of not less than ten (10) feet.*

**Response:** As shown on Sheet P3.00, lots on street intersections have corner radii of at least 20 ft. This standard is met.

#### **D. Section 4.262. Improvements - Requirements.**

**(.01) Streets.** *Streets within or partially within the development shall be graded for the entire right-of-way width, constructed and surfaced in accordance with the Transportation Systems Plan and City Public Works Standards. Existing streets which abut the development shall be graded, constructed, reconstructed, surfaced or repaired as determined by the City Engineer.*

**(.02) Curbs.** *Curbs shall be constructed in accordance with standards adopted by the City.*

**(.03) Sidewalks.** *Sidewalks shall be constructed in accordance with standards adopted by the City.*

**Response:** As shown on Sheets P2.10, streets will be graded, constructed, and surfaced according to the TSP, the cross-sections incorporated into the Frog Pond West Master Plan, and the City's Public Works Standards as modified by the City Engineer. These standards are met.

**(.04) Sanitary sewers.** *Sanitary sewers. When the development is within 200 feet of an existing public sewer main, sanitary sewers shall be installed to serve each lot or parcel in accordance with standards adopted by the City. When the development is more than 200 feet from an existing public sewer main, the City Engineer may approve an alternate sewage disposal system.*

**(.05) Drainage.** *Storm drainage, including detention or retention systems, shall be provided as determined by the City Engineer.*

**Response:** The proposed development will be served by public sanitary sewer. Storm drainage systems are being provided as outlined in the City's Site Assessment and Planning standards. LIDA facilities are proposed within the Frog Pond Ln street frontage.

See Sheet P2.00 for the location of LIDA facilities within the planter strips of Frog Pond Ln and Street A. See Sheet L2.20 for details of the LIDA facilities planting; and see Appendix B for the Preliminary Stormwater Plan, including a downstream analysis and evaluation of capacity. These standards are met.

**(.06) Underground utility and service facilities.** *All new utilities shall be subject to the standards of Section 4.300 (Underground Utilities). The developer shall make all necessary arrangements with the serving utility to provide the underground services in conformance with the City's Public Works Standards.*

**Response:** The standards of Section 4.300 are addressed in Section VII of this narrative. These standards are met.

**(.07) Streetlight standards.** *Streetlight standards shall be installed in accordance with regulations adopted by the City.*

**Response:** Streetlights will be installed per the Frog Pond West Master Plan and regulations adopted by the City. Sheet L2.10 shows lighting along the pedestrian trail (Boeckman Creek Trail).

**(.08) Street signs.** *Street name signs shall be installed at all street intersections and dead-end signs at the entrance to all dead-end streets and cul-de-sacs in accordance with standards adopted by the City. Other signs may be required by the City Engineer.*

**Response:** Street signs will be installed per City standards.

**(.09) Monuments.** *Monuments shall be placed at all lot and block corners, angle points, points of curves in streets, at intermediate points and shall be of such material, size and length as required by State Law. Any monuments that are disturbed before all improvements are completed by the developer and accepted by the City shall be replaced to conform to the requirements of State Law.*

**Response:** Monuments will be placed per State, Clackamas County, and City requirements.

**(.10) Water.** *Water mains and fire hydrants shall be installed to serve each lot in accordance with City standards.*

**Response:** Water mains and fire hydrants are proposed to serve each lot in accordance with City and Fire Department standards. See Sheet P4.00.

## VII. Underground Utilities

### A. Section 4.300 General.

**(.01)** *The City Council deems it reasonable and necessary in order to accomplish the orderly and desirable development of land within the corporate limits of the City, to require the underground installation of utilities in all new developments.*

**(.02)** *After the effective date of this Code, the approval of any development of land within the City will be upon the express condition that all new utility lines, including but not limited to those required for power, communication, street lighting, gas, cable television services and related facilities, shall be placed underground.*

**(.03)** *The construction of underground utilities shall be subject to the City's Public Works Standards and shall meet applicable requirements for erosion control and other environmental protection.*

**Response:** The proposed development is subject to the requirements of this section.

### B. Section 4.320. Requirements.

**(.01)** *The developer or subdivider shall be responsible for and make all necessary arrangements with the serving utility to provide the underground services (including cost of rearranging any existing overhead facilities). All such underground facilities as described shall be constructed in compliance with the rules and regulations of the Public Utility Commission of the State of Oregon relating to the installation and safety of underground lines, plant, system, equipment and apparatus.*

**(.02)** *The location of the buried facilities shall conform to standards supplied to the subdivider by the City. The City also reserves the right to approve location of all surface-mounted transformers.*

**(.03)** *Interior easements (back lot lines) will only be used for storm or sanitary sewers, and front easements will be used for other utilities unless different locations are approved by the City Engineer. Easements satisfactory to the serving utilities shall be provided by the developer and shall be set forth on the plat.*

**Response:** New utilities will be installed underground in accordance with City and other agency requirements. These standards are met.

## VIII. Site Design Review

### A. Section 4.400. Purpose.

**(.01)** *Excessive uniformity, inappropriateness or poor design of the exterior appearance of structures and signs and the lack of proper attention to site development and landscaping in the business, commercial, industrial and certain residential areas of the City hinders the harmonious development*



*of the City, impairs the desirability of residence, investment or occupation in the City, limits the opportunity to attain the optimum use in value and improvements, adversely affects the stability and value of property, produces degeneration of property in such areas and with attendant deterioration of conditions affecting the peace, health and welfare, and destroys a proper relationship between the taxable value of property and the cost of municipal services therefor.*

- (.02)** *The City Council declares that the purposes and objectives of site development requirements and the site design review procedure are to:*
- A. Assure that Site Development Plans are designed in a manner that insures proper functioning of the site and maintains a high quality visual environment.*
  - B. Encourage originality, flexibility and innovation in site planning and development, including the architecture, landscaping and graphic design of said development;*
  - C. Discourage monotonous, drab, unsightly, dreary and inharmonious developments;*
  - D. Conserve the City's natural beauty and visual character and charm by assuring that structures, signs and other improvements are properly related to their sites, and to surrounding sites and structures, with due regard to the aesthetic qualities of the natural terrain and landscaping, and that proper attention is given to exterior appearances of structures, signs and other improvements;*
  - E. Protect and enhance the City's appeal and thus support and stimulate business and industry and promote the desirability of investment and occupancy in business, commercial and industrial purposes;*
  - F. Stabilize and improve property values and prevent blighted areas and, thus, increase tax revenues;*
  - G. Insure that adequate public facilities are available to serve development as it occurs and that proper attention is given to site planning and development so as to not adversely impact the orderly, efficient and economic provision of public facilities and services;*
  - H. Achieve the beneficial influence of pleasant environments for living and working on behavioral patterns and, thus, decrease the cost of governmental services and reduce opportunities for crime through careful consideration of physical design and site layout under defensible space guidelines that clearly define all areas as either public, semi-private, or private, provide clear identity of structures and opportunities for easy surveillance of the site that maximize resident control of behavior—particularly crime;*
  - I. Foster civic pride and community spirit so as to improve the quality and quantity of citizen participation in local government and in community growth, change and improvements;*
  - J. Sustain the comfort, health, tranquility and contentment of residents and attract new residents by reason of the City's favorable environment and, thus, to promote and protect the peace, health and welfare of the City.*

**Response:** The City Council adopted the Frog Pond West Master Plan to guide development in this area. The Master Plan addresses visual appeal, infrastructure provisions, and protection of the natural areas within the development site. The proposed development is intended to advance the vision for Frog Pond West by incorporating the natural areas on site, providing attractive streetscapes, and enhancing the existing neighborhood to the south and the future school and park to the west and north. The intent of this purpose statement is incorporated into the proposed site design.

Per City staff, the project elements subject to the standards of this section include: tracts and their landscaping; landscaping in the public right-of-way; retaining walls; and public furnishings.

## **B. Section 4.421. Criteria and Application of Design Standards.**

- (.01)** *The following standards shall be utilized by the Board in reviewing the plans, drawings, sketches and other documents required for Site Design Review. These standards are intended to provide a frame of reference for the applicant in the development of site and building plans as well as a method of review for the Board. These standards shall not be regarded as inflexible requirements. They are not intended to discourage creativity, invention and innovation. The specifications of one or more particular architectural styles is not included in these standards. (Even in the Boones Ferry Overlay Zone, a range of architectural styles will be encouraged.)*
- A. Preservation of Landscape. The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soils removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.*

**Response:** The western portion of the site contains a SROZ and has been preserved for use as an open space recreation area, including construction of the Boeckman Creek Trail. Grading, tree removal, and

development in this area has been minimized and limited only to the development of the area's use as active open space. This standard is met.

*B. Relation of Proposed Buildings to Environment. Proposed structures shall be located and designed to assure harmony with the natural environment, including protection of steep slopes, vegetation and other naturally sensitive areas for wildlife habitat and shall provide proper buffering from less intensive uses in accordance with Sections 4.171 and 4.139 and 4.139.5. The achievement of such relationship may include the enclosure of space in conjunction with other existing buildings or other proposed buildings and the creation of focal points with respect to avenues of approach, street access or relationships to natural features such as vegetation or topography.*

**Response:** Proposed Tract A consists of 36,501 sq. ft. of open space including areas in and adjacent to the SROZ. To encourage community use as active open space, proposed pedestrian amenities in Tract A include a bench, lighting, and a 10-foot-wide concrete pedestrian walkway. Tract B consists of landscaping, a pedestrian trail leading to a deck structure with a bench and views of the landscape. See Sheets L2.00 and L2.10 for details. This standard is met.

*C. Drives, Parking and Circulation. With respect to vehicular and pedestrian circulation, including walkways, interior drives and parking, special attention shall be given to location and number of access points, general interior circulation, separation of pedestrian and vehicular traffic, and arrangement of parking areas that are safe and convenient and, insofar as practicable, do not detract from the design of proposed buildings and structures and the neighboring properties.*

**Response:** The drives, parking, and circulation within the development are subject to the requirements of the RN Zone, the Planned Development overlay, and Land Division requirements and are not subject to Site Design Review. This standard is not applicable.

*D. Surface Water Drainage. Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties of the public storm drainage system.*

**Response:** See Sheet P2.00 and L1.00 for the location of LIDA facilities within the planter strips of the public streets. See Sheet L2.20 for details of LIDA facility planting; and see Appendix B for the Preliminary Stormwater Plan. This standard is met.

*E. Utility Service. Any utility installations above ground shall be located so as to have a harmonious relation to neighboring properties and site. The proposed method of sanitary and storm sewage disposal from all buildings shall be indicated.*

**Response:** As shown on Sheet P4.00, each lot will be served by a sanitary sewer line. Storm sewage disposal is provided by a storm drain system connecting to each on-site stormwater facility. This standard is met.

*F. Advertising Features. In addition to the requirements of the City's sign regulations, the following criteria should be included: the size, location, design, color, texture, lighting and materials of all exterior signs and outdoor advertising structures or features shall not detract from the design of proposed buildings and structures and the surrounding properties.*

**Response:** No signs are proposed with this application. This standard is not applicable.

*G. Special Features. Exposed storage areas, exposed machinery installations, surface areas, truck loading areas, utility buildings and structures and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall be required to prevent their being incongruous with the existing or contemplated environment and its surrounding properties. Standards for screening and buffering are contained in Section 4.176.*

**Response:** The proposed development is a single-family residential development, and no storage areas, machinery installations, surface areas, truck loading areas, or utility buildings or structures are proposed. This standard is not applicable.

*(.02) The standards of review outlined in Sections (a) through (g) above shall also apply to all accessory buildings, structures, exterior signs and other site features, however related to the major buildings or structures.*

**Response:** No accessory buildings, signs, or other site features are proposed. Proposed structures are addressed above.

*(.03) The Board shall also be guided by the purpose of Section 4.400, and such objectives shall serve as additional criteria and standards.*

**Response:** The purpose of Section 4.400 is addressed earlier in this section. This standard is met.

*(.04) Conditional application. The Planning Director, Planning Commission, Development Review Board or City Council may, as a Condition of Approval for a zone change, subdivision, land partition, variance, conditional use, or other land use action, require conformance to the site development standards set forth in this Section.*

**Response:** This application includes a zone change and planned development, among other applications, and includes responses to the site development standards of those sections. Per City staff, the project elements subject to Site Design Review and the standards of this chapter are tracts and their landscaping, and landscaping in the public right-of-way.

*(.05) The Board may attach certain development or use conditions in granting an approval that are determined necessary to insure the proper and efficient functioning of the development, consistent with the intent of the Comprehensive Plan, allowed densities and the requirements of this Code. In making this determination of compliance and attaching conditions, the Board shall, however, consider the effects of this action on the availability and cost of needed housing. The provisions of this section shall not be used in such a manner that additional conditions either singularly or accumulatively have the effect of unnecessarily increasing the cost of housing or effectively excluding a needed housing type.*

**Response:** The development has been designed in accordance with the Frog Pond West Master Plan, which is part of, and consistent with, the Comprehensive Plan. The proposed development plan is consistent with the densities and other requirements established by the Frog Pond West Master Plan and the implementing RN zone. No additional conditions are needed to ensure that the development remains consistent with the City's adopted policies.

*(.06) The Board or Planning Director may require that certain paints or colors of materials be used in approving applications. Such requirements shall only be applied when site development or other land use applications are being reviewed by the City.*

- A. Where the conditions of approval for a development permit specify that certain paints or colors of materials be used, the use of those paints or colors shall be binding upon the applicant. No Certificate of Occupancy shall be granted until compliance with such conditions has been verified.*
- B. Subsequent changes to the color of a structure shall not be subject to City review unless the conditions of approval under which the original colors were set included a condition requiring a subsequent review before the colors could be changed.*

**Response:** The proposed development is detached single-family residential development. No paints or colors of materials are identified in the design standards of the Frog Pond West Master Plan. It is anticipated that building elevations, including paint and material colors, will be evaluated at the time of building permit review.

*[...]*

#### **C. Section 4.440. Procedure.**

*(.01) **Submission of Documents.** A prospective applicant for a building or other permit who is subject to site design review shall submit to the Planning Department, in addition to the requirements of Section 4.035, the following:*

- A. *A site plan, drawn to scale, showing the proposed layout of all structures and other improvements including, where appropriate, driveways, pedestrian walks, landscaped areas, fences, walls, off-street parking and loading areas, and railroad tracks. The site plan shall indicate the location of entrances and exits and direction of traffic flow into and out of off-street parking and loading areas, the location of each parking space and each loading berth and areas of turning and maneuvering vehicles. The site plan shall indicate how utility service and drainage are to be provided.*

**Response:** Sheet P2.00 shows the proposed layout of improvements, driveways, pedestrian walks, fences, and walls. Sheets L2.00 – L3.00 show landscaped areas.

- B. *A Landscape Plan, drawn to scale, showing the location and design of landscaped areas, the variety and sizes of trees and plant materials to be planted on the site, the location and design of landscaped areas, the varieties, by scientific and common name, and sizes of trees and plant materials to be retained or planted on the site, other pertinent landscape features, and irrigation systems required to maintain trees and plant materials. An inventory, drawn at the same scale as the Site Plan, of existing trees of four inch caliper or more is required. However, when large areas of trees are proposed to be retained undisturbed, only a survey identifying the location and size of all perimeter trees in the mass is necessary.*

**Response:** Sheet L1.10 provides an inventory of existing trees. Sheets L2.00– L3.00 show landscaped areas and landscape schedules and Sheet L3.00 shows planting details.

- C. *Architectural drawings or sketches, drawn to scale, including floor plans, in sufficient detail to permit computation of yard requirements and showing all elevations of the proposed structures and other improvements as they will appear on completion of construction. Floor plans shall also be provided in sufficient detail to permit computation of yard requirements based on the relationship of indoor versus outdoor living area, and to evaluate the floor plan's effect on the exterior design of the building through the placement and configuration of windows and doors.*

**Response:** Example building elevations are included as Appendix H.

- D. *A Color Board displaying specifications as to type, color, and texture of exterior surfaces of proposed structures. Also, a phased development schedule if the development is constructed in stages.*  
E. *A sign Plan, drawn to scale, showing the location, size, design, material, color and methods of illumination of all exterior signs.*  
F. *The required application fee.*

**Response:** A color board is not included, as exterior dwelling design will be evaluated at the time of building permit review. No signs are proposed at this time. The required application fee has been submitted with this application.

## IX. Tree Preservation and Protection

### A. Section 4.600.20. Applicability of Subchapter

- (.01) *The provisions of this subchapter apply to the United States and the State of Oregon, and to their agencies and subdivisions, including the City of Wilsonville, and to the employees and agents thereof.*  
(.02) *By this subchapter, the City of Wilsonville regulates forest practices on all lands located within its urban growth boundary, as provided by ORS 527.722.*  
(.03) *The provisions of this subchapter apply to all land within the City limits, including property designated as a Significant Resource Overlay Zone or other areas or trees designated as protected by the Comprehensive Plan, City zoning map, or any other law or ordinance; except that any tree activities in the Willamette River Greenway that are regulated by the provisions of WC 4.500 - 4.514 and requiring a conditional use permit shall be reviewed by the DRB under the application and review procedures set forth for Tree Removal Permits.*

**Response:** Upon annexation and at the time of development, the site will be located within City limits and this subchapter will be applicable.

**Section 4.600.30. Tree Removal Permit Required**

- (.01) Requirement Established. No person shall remove any tree without first obtaining a Tree Removal Permit (TRP) as required by this subchapter.*
- (.02) Tree Removal Permits will be reviewed according to the standards provided for in this subchapter, in addition to all other applicable requirements of Chapter 4.*
- (.03) Although tree activities in the Willamette River Greenway are governed by WC 4.500—4.514, the application materials required to apply for a conditional use shall be the same as those required for a Type B or C permit under this subchapter, along with any additional materials that may be required by the Planning Department. An application for a Tree Removal Permit under this section shall be reviewed by the Development Review Board.*

**Response:** As shown on Sheet L1.00 and described in Appendix E, the development will remove trees and a Tree Removal Permit is required.

**Section 4.600.40. Exceptions**

- (.01) Exception from requirement. Notwithstanding the requirement of WC 4.600.30(1), the following activities are allowed without a Tree Removal Permit, unless otherwise prohibited:*
- A. Agriculture, Commercial Tree Farm or Orchard. Tree removal or transplanting occurring during use of land for commercial purposes for agriculture, orchard(s), or tree farm(s), such as Christmas tree production.*
  - B. Emergencies. Actions made necessary by an emergency, such as tornado, windstorm, flood, freeze, utility damage or other like disasters, in order to prevent imminent injury or damage to persons or property or restore order and it is impractical due to circumstances to apply for a permit.
    - 1. When an emergency has occurred, a Tree Removal Permit must be applied for within 30 days following the emergency tree removal under the application procedures established in this subchapter.*
    - 2. In addition to complying with the permit application requirements of this subchapter, an applicant shall provide a photograph of any tree removed and a brief description of the conditions that necessitated emergency removal. Such photograph shall be supplied within seven days of application for a permit. Based on good cause shown arising out of the emergency, the Planning Director may waive any or all requirements of this section.*
    - 3. Where a Type A Permit is granted for emergency tree removal, the permittee is encouraged to apply to the City Tree Fund for replanting assistance.**
  - C. City utility or road work in utility or road easements, in utility or road rights-of-way, or in public lands. However, any trees removed in the course of utility work shall be mitigated in accordance with the standards of this subchapter.*
  - D. Nuisance abatement. The City is not required to apply for a Tree Removal Permit to undertake nuisance abatement as provided in WC 6.200 et seq. However, the owner of the property subject to nuisance abatement is subject to all the provisions of this subchapter in addition to the requirements of WC 6.200 et seq.*
  - E. The removal of filbert trees is exempt from the requirements of this subchapter.*
  - F. The Charbonneau District, including its golf course, is exempt from the requirements of WC 4.600.30(1) on the basis that by and through the current CC&R's of the Charbonneau Country Club, the homeowners' association complies with all requirements of WC 4.610.30(1)(C)(1). This exception has been based upon the Tree Maintenance and Protection Plan that has been submitted by the Charbonneau Country Club and approved by the Planning Director. Tree removal activities remain subject to all applicable standards of this subchapter. Unless authorized by the City, this exception does not include tree removal upon any public easements or public property within the district. In the event that the CC&R's are changed relative to the effect of the Tree Maintenance and Protection Plan, then the Planning Director shall review whether such effect is material, whether it can be mitigated, and if not, may disallow the exemption.*

**Response:** The proposed tree removal is not listed as exempt. The provisions of this chapter are applicable.

**Section 4.600.50. Application For Tree Removal Permit**

- (.01) Application for Permit. A person seeking to remove one or more trees shall apply to the Director for a Tree Removal Permit for a Type A, B, C, or D permit, depending on the applicable standards as provided in this subchapter.*

- A. *An application for a tree removal permit that does not meet the requirements of Type A may be submitted as a Type B application.*
- (.02)** *Time of Application. Application for a Tree Removal Permit shall be made before removing or transplanting trees, except in emergency situations as provided in WC 4.600.40 (1)(B) above. Where the site is proposed for development necessitating site plan or plat review, application for a Tree Removal Permit shall be made as part of the site development application as specified in this subchapter.*
- (.03)** *Fees. A person applying for a Tree Removal Permit shall pay a non-refundable application fee; as established by resolution of the City Council.*
- A. *By submission of an application, the applicant shall be deemed to have authorized City representatives to have access to applicant's property as may be needed to verify the information provided, to observe site conditions, and if a permit is granted, to verify that terms and conditions of the permit are followed.*

**Response:** The site is proposed for development necessitating site plan and plat review, and this application includes a request for a Type C Tree Removal Permit. The application fee has been submitted with this application.

## **B. Section 4.610.00. Application Review Procedure**

- (.01)** *The permit applicant shall provide complete information as required by this subchapter in order for the City to review the application.*
- (.02) Departmental Review.** *All applications for Tree Removal Permits must be deemed complete by the City Planning Department before being accepted for review. When all required information has been supplied, the Planning Department will verify whether the application is complete. Upon request of either the applicant or the City, the City may conduct a field inspection or review meeting. City departments involved in the review shall submit their report and recommendations to the Planning Director who shall forward them to the appropriate reviewing authority.*
- (.03) Reviewing Authority.**
  - A. *Type A or B. Where site plan review or plat approval by the Development Review Board is not required by City ordinance, the grant or denial of the Tree Removal Permit application shall be the responsibility of the Planning Director. The Planning Director has the authority to refer a Type B permit application to the DRB under the Class II administrative review procedures of this Chapter. The decision to grant or deny a permit shall be governed by the applicable review standards enumerated in WC 4.610.10.*
  - B. *Type C. Where the site is proposed for development necessitating site plan review or plat approval by the Development Review Board, the Development Review Board shall be responsible for granting or denying the application for a Tree Removal Permit, and that decision may be subject to affirmance, reversal or modification by the City Council, if subsequently reviewed by the Council. For site development applications subject to a Class II administrative review process in the Coffee Creek Industrial Design Overlay District, the Planning Director shall be responsible for the granting or denial of the Tree Removal Permit application.*
  - C. *Type D. Type D permit applications shall be subject to the standards and procedures of Class I administrative review and shall be reviewed for compliance with the Oregon Forest Practice Rules and Statutes. The Planning Director shall make the decision to grant or deny an application for a Type D permit.*
  - D. *Review period for complete applications. Type A permit applications shall be reviewed within ten working days. Type B permit applications shall be reviewed by the Planning Director within 30 calendar days, except that the DRB shall review any referred application within 60 calendar days. Type C permit applications shall be reviewed within the time frame established by this Chapter. Type D permit applications shall be reviewed within 15 calendar days.*

**Response:** The application is for a Type C Tree Removal Permit and is subject to review and approval by the DRB.

[...]

### **Section 4.610.10. Standards For Tree Removal, Relocation Or Replacement**

- (.01)** *Except where an application is exempt, or where otherwise noted, the following standards shall govern the review of an application for a Type A, B, C or D Tree Removal Permit:*

- A. *Standard for the Significant Resource Overlay Zone. The standard for tree removal in the Significant Resource Overlay Zone shall be that removal or transplanting of any tree is not inconsistent with the purposes of this Chapter.*

**Response:** A small portion of the site contains the Impact Area of the SROZ, however, tree removal is not proposed in the Impact Area. The standard is met.

- B. *Preservation and Conservation. No development application shall be denied solely because trees grow on the site. Nevertheless, tree preservation and conservation as a design principle shall be equal in concern and importance to other design principles.*

**Response:** As shown on Sheet L1.0, many of the trees to be removed are located within the grading limits of SW Frog Pond Lane and proposed Street A. The remainder of the trees to be removed are located within the building footprint of the individual lots, as determined by minimum setbacks and driveway depth requirements. The applicant has made significant efforts to preserve most existing trees on the subject property with the proposed open space Tracts D and E. There are 154 trees on the site; 106 trees are proposed for removal, 48 trees are to be installed.

- C. *Developmental Alternatives. Preservation and conservation of wooded areas and trees shall be given careful consideration when there are feasible and reasonable location alternatives and design options on-site for proposed buildings, structures or other site improvements.*

**Response:** Tree removal has been minimized to the greatest extent possible and is limited to locations that are to be developed with residential lots or public improvements. Preservation of wooded area and natural area on the west side of the subject site has been prioritized. This standard is met.

- D. *Land Clearing. Where the proposed activity requires land clearing, the clearing shall be limited to designated street rights-of-way and areas necessary for the construction of buildings, structures or other site improvements.*

**Response:** The proposed land clearing is limited to designated street rights-of-way and areas necessary for the construction of single-family homes. This standard is met.

- E. *Residential Development. Where the proposed activity involves residential development, residential units shall, to the extent reasonably feasible, be designed and constructed to blend into the natural setting of the landscape.*

**Response:** The proposed development is a single-family residential development. The units will be designed and constructed, as much as possible, to blend into the natural areas on the site. This standard is met.

- F. *Compliance With Statutes and Ordinances. The proposed activity shall comply with all applicable statutes and ordinances.*

**Response:** Applicable statutes and ordinances include the City's Development Code. The proposed activity will comply with this code and any other applicable statutes and ordinances. This standard is met.

- G. *Relocation or Replacement. The proposed activity shall include necessary provisions for tree relocation or replacement, in accordance with WC 4.620.00, and the protection of those trees that are not to be removed, in accordance with WC 4.620.10.*

**Response:** As shown in Sheet L1.00 and described in Appendix E, trees to be retained will be protected per the provisions of 4.620.10 and trees will be replaced in accordance with 4.620.00. Those provisions are addressed in the responses to Section 4.620.00 below in this narrative. This standard is met.

- H. *Limitation. Tree removal or transplanting shall be limited to instances where the applicant has provided completed information as required by this Chapter and the reviewing authority determines that removal or transplanting is necessary based on the criteria of this subsection.*

1. *Necessary For Construction. Where the applicant has shown to the satisfaction of the reviewing authority that removal or transplanting is necessary for the construction of a building, structure or*

*other site improvement, and that there is no feasible and reasonable location alternative or design option on-site for a proposed building, structure or other site improvement; or a tree is located too close to existing or proposed buildings or structures, or creates unsafe vision clearance.*

**Response:** Per the arborist's report included as Appendix E, there are 154 trees on site. In total, 106 trees will be removed from the site and 48 trees will be retained.

Removal of the trees on site is necessary for construction of site improvements, including utilities, streets, and detached residential dwellings. The location of streets and connections was determined by the Frog Pond West Master Plan. In addition, the designation of the site as a single-family area requires the grading of each lot to accommodate single-family dwellings and associated site improvements (driveways and walkways, stormwater management, outdoor yard areas, etc.). Reducing building footprints by increasing height is not a viable alternative as the height limit in the RN zone is 35 ft., or 2.5 stories.

This standard is met.

2. *Disease, Damage, or Nuisance, or Hazard. Where the tree is diseased, damaged, or in danger of falling, or presents a hazard as defined in WC 6.208, or is a nuisance as defined in WC 6.200 et seq., or creates unsafe vision clearance as defined in this Code.*
  - (a) *As a condition of approval of Stage II development, filbert trees must be removed if they are no longer commercially grown or maintained. .*

**Response:** No filbert trees were identified. This standard is not applicable.

3. *Interference. Where the tree interferes with the healthy growth of other trees, existing utility service or drainage, or utility work in a previously dedicated right-of-way, and it is not feasible to preserve the tree on site.*

**Response:** As shown on Sheet L1.00, several of the trees proposed for removal are located within the SW Frog Pond Lane and future Street A rights-of-way to be dedicated with the plat. The construction of these streets and associated sidewalks and utilities requires their removal. These trees cannot be preserved while providing the street network required by the Frog Pond West Master Plan and established by previous approvals.

4. *Other. Where the applicant shows that tree removal or transplanting is reasonable under the circumstances.*

**Response:** The proposed development is anticipated by the Frog Pond West Master Plan. While the development requires removal of trees on site, the trees removed will be mitigated, and street trees appropriate for the size and location of the planter strips within the public right-of-way will be planted. These trees will serve to soften the urban environment, contribute to stormwater management, and provide shade and protection for pedestrians.

*I. Additional Standards for Type C Permits.*

1. *Tree survey. For all site development applications reviewed under the provisions of Chapter 4 Planning and Zoning, the developer shall provide a Tree Survey before site development as required by WC 4.610.40, and provide a Tree Maintenance and Protection plan, unless specifically exempted by the Planning Director or DRB, prior to initiating site development.*

**Response:** A tree survey has been completed and incorporated into the Tree Removal and Protection Plan included as Sheet L1.00 and L1.10. This standard is met.

2. *Platted Subdivisions. The recording of a final subdivision plat whose preliminary plat has been reviewed and approved after the effective date of Ordinance 464 by the City and that conforms with this subchapter shall include a Tree Survey and Maintenance and Protection Plan, as required by this subchapter, along with all other conditions of approval.*

**Response:** A tree survey has been completed and incorporated into the Tree Removal and Protection Plan included as Sheets L1.00 and L1.10. This standard is met.



3. *Utilities. The City Engineer shall cause utilities to be located and placed wherever reasonably possible to avoid adverse environmental consequences given the circumstances of existing locations, costs of placement and extensions, the public welfare, terrain, and preservation of natural resources. Mitigation and/or replacement of any removed trees shall be in accordance with the standards of this subchapter.*

**Response:** The utilities will be located and placed within rights-of-way or adjacent PUEs whenever possible. Trees removed from the site will be mitigated and/or replaced per the provisions of 4.620.00. This standard is met.

[...]

#### **Section 4.610.40. Type C Permit**

**(.01)** *Approval to remove any trees on property as part of a site development application may be granted in a Type C permit. A Type C permit application shall be reviewed by the standards of this subchapter and all applicable review criteria of Chapter 4. Application of the standards of this section shall not result in a reduction of square footage or loss of density, but may require an applicant to modify plans to allow for buildings of greater height. If an applicant proposes to remove trees and submits a landscaping plan as part of a site development application, an application for a Tree Removal Permit shall be included. The Tree Removal Permit application will be reviewed in the Stage II development review process. The DRB shall review all Type C permits, with the exception of Class II development review applications located within the Coffee Creek Industrial Design Overlay District, where the Planning Director shall have review authority. Any plan changes made that affect trees after Stage II review of a development application shall be subject to review by the original approval authority. Where mitigation is required for tree removal, such mitigation may be considered as part of the landscaping requirements as set forth in this Chapter. Tree removal shall not commence until approval of the required Stage II application and the expiration of the appeal period following that decision. If a decision approving a Type C permit is appealed, no trees shall be removed until the appeal has been settled.*

**Response:** The proposed development requires removal of trees; a landscaping plan has been submitted as part of the site development application, and the application includes a request for a Tree Removal Permit. Mitigation is required and addressed in the responses to Section 4.620.00.

- (.02)** *The applicant must provide ten copies of a Tree Maintenance and Protection Plan completed by an arborist that contains the following information:*
- A. *A plan, including a topographical survey bearing the stamp and signature of a qualified, registered professional containing all the following information:*
    1. *Property Dimensions. The shape and dimensions of the property, and the location of any existing and proposed structure or improvement*

**Response:** See Sheets P1.00 and P1.10 Existing Conditions for the location of existing structures and improvements; See Sheet P2.00 Preliminary Site Plan for the location of proposed improvements.

2. *Tree survey. The survey must include:*
  - a. *An accurate drawing of the site based on accurate survey techniques at a minimum scale of one inch equals 100 feet and which provides a) the location of all trees having six inches or greater d.b.h. likely to be impacted, b) the spread of canopy of those trees, (c) the common and botanical name of those trees, and d) the approximate location and name of any other trees on the property.*
  - b. *A description of the health and condition of all trees likely to be impacted on the site property. In addition, for trees in a present or proposed public street or road right-of-way that are described as unhealthy, the description shall include recommended actions to restore such trees to full health. Trees proposed to remain, to be transplanted or to be removed shall be so designated. All trees to remain on the site are to be designated with metal tags that are to remain in place throughout the development. Those tags shall be numbered, with the numbers keyed to the tree survey map that is provided with the application.*
  - c. *Where a stand of 20 or more contiguous trees exist on a site and the applicant does not propose to remove any of those trees, the required tree survey may be simplified to*

*accurately show only the perimeter area of that stand of trees, including its drip line. Only those trees on the perimeter of the stand shall be tagged, as provided in "b," above.*

- d. *All Oregon white oaks, native yews, and any species listed by either the state or federal government as rare or endangered shall be shown in the tree survey.*

**Response:** See Sheets L1.00 and L1.10 for a tree survey indicating the location of trees greater than 6-in DBH. See Appendix E Tree Plan and Sheet L1.10 for information about the condition of the trees, crown diameter, and proposed action for each tree.

3. *Tree Protection. A statement describing how trees intended to remain will be protected during development, and where protective barriers are necessary, that they will be erected before work starts. Barriers shall be sufficiently substantial to withstand nearby construction activities. Plastic tape or similar forms of markers do not constitute "barriers."*

**Response:** See Appendix E, Page 1, for a description of activities permitted and prohibited within the root protection zone of trees to be protected. See also the Tree Protection Detail and note on Sheet L1.00.

4. *Easements and Setbacks. Location and dimension of existing and proposed easements, as well as all setbacks required by existing zoning requirements.*

**Response:** See Sheet P2.00 Preliminary Site Plan for setbacks required by zoning requirements. See Sheet P3.00 for the location and dimensions of proposed easements.

5. *Grade Changes. Designation of grade changes proposed for the property that may impact trees.*

**Response:** Sheet L1.00 Tree Removal and Protection Plan includes proposed grading contours.

6. *Cost of Replacement. A cost estimate for the proposed tree replacement program with a detailed explanation including the number, size and species.*

**Response:** A cost estimate will be provided if/as required.

7. *Tree Identification. A statement that all trees being retained will be identified by numbered metal tags, as specified in subsection "A," above in addition to clear identification on construction documents.*

**Response:** The Tree Plan Legend on Sheet L1.00 includes a statement identifying the purpose of the tree tags.

### C. Section 4.620.00. *Tree Relocation, Mitigation, Or Replacement*

**(.01) Requirement Established.** *A Type B or C Tree Removal Permit grantee shall replace or relocate each removed tree having six inches or greater d.b.h. within one year of removal.*

**(.02) Basis For Determining Replacement.** *The permit grantee shall replace removed trees on a basis of one tree replanted for each tree removed. All replacement trees must measure two inches or more in diameter. Alternatively, the Planning Director or Development Review Board may require the permit grantee to replace removed trees on a per caliper inch basis, based on a finding that the large size of the trees being removed justifies an increase in the replacement trees required. Except, however, that the Planning Director or Development Review Board may allow the use of replacement Oregon white oaks and other uniquely valuable trees with a smaller diameter.*

**Response:** As noted in Sheet L1.10, 25 trees of 6 inches or greater dbh are proposed for removal. There are 48 replacement trees proposed to be planted on site. The standard is met.

**(.03) Replacement Tree Requirements.** *A mitigation or replacement tree plan shall be reviewed by the City prior to planting and according to the standards of this subsection.*

- A. *Replacement trees shall have shade potential or other characteristics comparable to the removed trees, shall be appropriately chosen for the site from an approved tree species list supplied by the City, and shall be state Department of Agriculture Nursery Grade No. 1 or better.*
- B. *Replacement trees must be staked, fertilized and mulched, and shall be guaranteed by the permit grantee or the grantee's successors-in-interest for two (2) years after the planting date.*
- C. *A "guaranteed" tree that dies or becomes diseased during that time shall be replaced.*

- D. *Diversity of tree species shall be encouraged where trees will be replaced, and diversity of species shall also be maintained where essential to preserving a wooded area or habitat.*

**Response:** There are 48 replacement trees proposed to be provided as street trees and within Tract A and Tract B. The replacement street trees have been selected from the City's street tree list. Replacement trees will be maintained and replaced if they die within the two-year establishment period.

**(.04)** *All trees to be planted shall consist of nursery stock that meets requirements of the American Association of Nurserymen (AAN) American Standards for Nursery Stock (ANSI Z60.1) for top grade.*

**(.05) Replacement Tree Location.**

- A. *City Review Required. The City shall review tree relocation or replacement plans in order to provide optimum enhancement, preservation and protection of wooded areas. To the extent feasible and desirable, trees shall be relocated or replaced on-site and within the same general area as trees removed.*
- B. *Relocation or Replacement Off-Site. When it is not feasible or desirable to relocate or replace trees on-site, relocation or replacement may be made at another location approved by the City.*

**Response:** The tree replacement plan/landscaping plan is included as Sheet L2.00. Replacement trees consist of street trees and trees located within Tracts A and B. There are 106 trees proposed for removal, 48 trees being preserved, and a total of 48 trees being planted. Trees will likely be planted on the individual dwelling lots at the time of site development but are not proposed to be included in the replacement tree plans. The standard is met.

**(.06) City Tree Fund.** *Where it is not feasible to relocate or replace trees on site or at another approved location in the City, the Tree Removal Permit grantee shall pay into the City Tree Fund, which fund is hereby created, an amount of money approximately the value as defined by this subchapter, of the replacement trees that would otherwise be required by this subchapter. The City shall use the City Tree Fund for the purpose of producing, maintaining and preserving wooded areas and heritage trees, and for planting trees within the City.*

- A. *The City Tree Fund shall be used to offer trees at low cost on a first-come, first-serve basis to any Type A Permit grantee who requests a tree and registers with the City Tree Fund.*
- B. *In addition, and as funds allow, the City Tree Fund shall provide educational materials to assist with tree planting, mitigation, and relocation.*

**Response:** Of the 154 trees on site, 106 are proposed for removal. There are 48 trees to be preserved and 48 trees to be planted on site. As a result, the applicant will pay into the tree fund for 58 trees not mitigated.

**(.07) Exception.** *Tree replacement may not be required for applicants in circumstances where the Director determines that there is good cause to not so require. Good cause shall be based on a consideration of preservation of natural resources, including preservation of mature trees and diversity of ages of trees. Other criteria shall include consideration of terrain, difficulty of replacement and impact on adjacent property.*

**Response:** The applicant is not requesting an exception to the tree replacement requirement.

**Section 4.620.10. Tree Protection During Construction**

**(.01)** *Where tree protection is required by a condition of development under Chapter 4 or by a Tree Maintenance and Protection Plan approved under this subchapter, the following standards apply:*

- A. *All trees required to be protected must be clearly labeled as such.*
- B. *Placing Construction Materials Near Tree. No person may conduct any construction activity likely to be injurious to a tree designated to remain, including, but not limited to, placing solvents, building material, construction equipment, or depositing soil, or placing irrigated landscaping, within the drip line, unless a plan for such construction activity has been approved by the Planning Director or Development Review Board based upon the recommendations of an arborist.*
- C. *Attachments to Trees During Construction. Notwithstanding the requirement of WC 4.620.10(1)(A), no person shall attach any device or wire to any protected tree unless needed for tree protection.*
- D. *Protective Barrier. Before development, land clearing, filling or any land alteration for which a Tree Removal Permit is required, the developer shall erect and maintain suitable barriers as identified by an arborist to protect remaining trees. Protective barriers shall remain in place until the City authorizes their removal or issues a final certificate of occupancy, whichever occurs first. Barriers*

shall be sufficiently substantial to withstand nearby construction activities. Plastic tape or similar forms of markers do not constitute "barriers." The most appropriate and protective barrier shall be utilized. Barriers are required for all trees designated to remain, except in the following cases:

1. *Rights-of-Way and Easements.* Street right-of-way and utility easements may be cordoned by placing stakes a minimum of 50 feet apart and tying ribbon, plastic tape, rope, etc., from stake to stake along the outside perimeters of areas to be cleared.
2. *Any property area separate from the construction or land clearing area onto which no equipment will venture may also be cordoned off as described in paragraph (D) of this subsection, or by other reasonable means as approved by the reviewing authority.*

**Response:** Sheet L1.00 and the Arborist Report included as Appendix E provide direction regarding the protection of trees on the site, including compliance with this section. This standard is met.

## X. Annexations and Urban Growth Boundary Amendments

### A. Section 4.700. Procedures Relating To The Processing Of Requests For Annexation And Urban Growth Boundary Amendments.

*(.01) The City of Wilsonville is located within the Portland Metropolitan Area, and is therefore subject to regional government requirements affecting changes to the City limits and changes to the Urban Growth Boundary (UGB) around Wilsonville. The City has the authority to annex properties as prescribed in State law, but the City's role in determining the UGB is primarily advisory to Metro, as provided in Oregon Revised Statutes. The following procedures will be used to aid the City Council in formulating recommendations to those regional entities.*

- A. *Proponents of such changes shall provide the Planning Director with all necessary maps and written information to allow for review by City decision-makers. The Planning Director, after consultation with the City Attorney, will determine whether each given request is quasi-judicial or legislative in nature and will make the necessary arrangements for review based upon that determination.*

**Response:** The applicant has provided the required information. The Planning Director has determined that the annexation request is subject to quasi-judicial review.

- B. *Written information submitted with each request shall include an analysis of the relationship between the proposal and the City's Comprehensive Plan, applicable statutes, as well as the Statewide Planning Goals and any officially adopted regional plan that may be applicable.*

**Response:** See Section III of this narrative for a discussion of the relationship between the proposed annexation and the City's Comprehensive Plan.

## XI. Conclusion

The request for the Frog Pond Overlook development and related approvals has been shown to be consistent with the applicable standards of the City of Wilsonville. West Hills Land Development LLC respectfully requests approval of the applications.

# **Appendix A**

City of Wilsonville Annexation and Zone Change,  
Legal Descriptions and Exhibits



**EXHIBIT A**  
**LEGAL DESCRIPTION for ANNEXATION**  
May 17, 2022 (Otak #20015)

That property described in Statutory Warranty Deed to West Hills Land Development LLC recorded March 31, 2022 as Document No. 2022-019396, as adjusted by Property Line Adjustment Deed Document No. \_\_\_\_\_, both of Clackamas County Records, together with a portion of S.W. Frog Pond Lane, (County Road No. 2362), in the northwest quarter of the southeast quarter of Section 12, Township 3 South, Range 1 West, Willamette Meridian, Clackamas County, Oregon, the boundaries thereof described as follows:

BEGINNING at a 3/4 inch iron pipe (as shown on Clackamas County Survey No. 7853) which bears North 01°40'13" East along the east line of the southeast quarter of said section a distance of 1748.96 feet, and North 88°35'30" West along the north right of way line of 33.00 foot wide S.W. Frog Pond Lane (County Road No. 2362) a distance of 1908.13 feet from the southeast corner of said section, said POINT OF BEGINNING being the southeast corner of said West Hills Land Development LLC property;

thence along said north right of way line, South 88°35'30" East a distance of 564.59 feet to the northerly extension of the east line of that property described in Quitclaim Deed to Amy Thurmond recorded March 5, 1999 as Document No. 99-022102, Clackamas County Records;

thence along said northerly extension, South 01°39'15" West a distance of 33.00 feet to a point on the south right of way line of said S.W. Frog Pond Lane;

thence parallel with the south line of the southeast quarter of said Section 12 along said south right of way line, North 88°35'30" West a distance of 1119.31 feet;

thence North 01°24'30" East a distance of 33.00 feet to the southwest corner of said West Hills Land Development LLC property;

thence along the lines common to said West Hills Land Development LLC property and that property described in Statutory Warranty Deed to Derek Osterholme and Amber Osterholme recorded May 20, 2020 as Document No. 2020-036921, Clackamas County Records as adjusted by said Property Line Adjustment Deed, through the following four courses:

North 21°44'17" West a distance of 31.49 feet;

North 01°03'30" East a distance of 231.53 feet;

North 12°24'03" East a distance of 7.90 feet;

and North 82°39'16" East a distance of 575.72 feet to a 1 inch iron pipe (as shown on Clackamas County Survey No. 29676) found at the northeast corner of said West Hills Land Development LLC property, also being the most westerly northwest corner of that property described in Statutory Warranty Deed to Andy Finkbeiner and Tamara L.

Pittman recorded May 30, 2001 as Document No. 2001-040160 Clackamas County Records;

thence along the west line of said Finkbeiner and Pittman property,  
South 01°42'32" West a distance of 355.85 feet to the POINT OF BEGINNING.

Contains 4.917 acres, more or less.

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

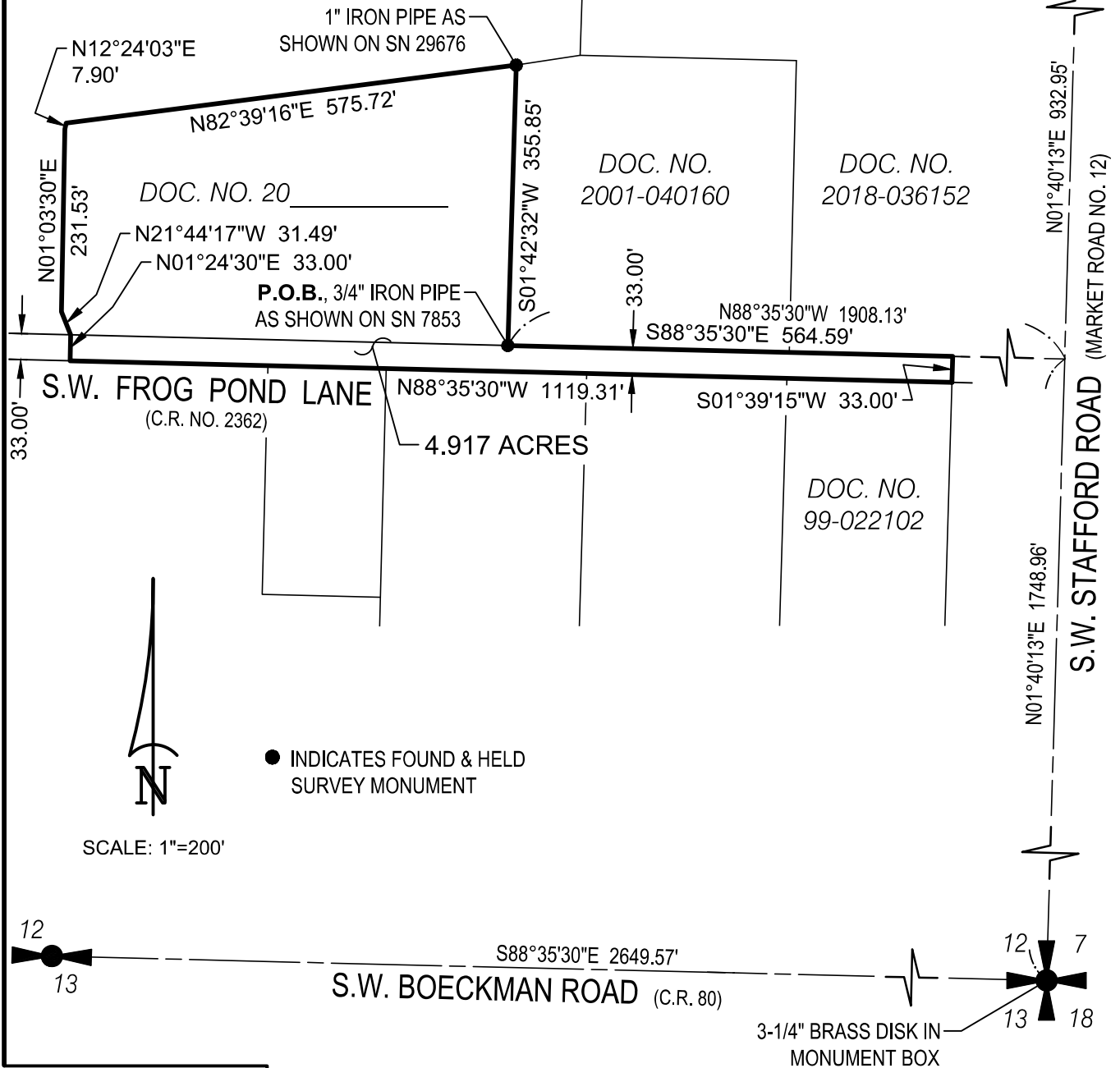
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OREGON  
NOVEMBER 12, 2013  
MICHAEL D. SPELTS  
87475PLS

RENEWS: JUNE 30, 2024

DOC. NO. 20  
 (ADJUSTMENT APPROVED  
 BY CLACKAMAS COUNTY  
 FILE NO. Z0154-22 PLA)

12 7



● INDICATES FOUND & HELD SURVEY MONUMENT

SCALE: 1"=200'

12  
13

S88°35'30"E 2649.57'  
 S.W. BOECKMAN ROAD (C.R. 80)

12 7  
13 18  
3-1/4" BRASS DISK IN MONUMENT BOX

**Otak**

808 SW 3rd Ave., Ste. 800  
 Portland, Oregon 97204  
 Phone: (503) 287-6825  
 www.otak.com  
 project: 20015

**EXHIBIT B**  
 ANNEXATION OF THE WEST HILLS LAND DEVELOPMENT LLC  
 PROPERTY & A PORTION OF S.W. FROG POND LANE  
 IN THE NW QUARTER OF THE SE QUARTER OF SECTION 12, TOWNSHIP 3 SOUTH,  
 RANGE 1 WEST, WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON  
 MAY 17, 2022



**EXHIBIT A**  
**LEGAL DESCRIPTION for ZONE CHANGE**

May 17, 2022 (Otak #20015)

That property described in Statutory Warranty Deed to West Hills Land Development LLC recorded March 31, 2022 as Document No. 2022-019396, as adjusted by Property Line Adjustment Deed Document No. \_\_\_\_\_, both of Clackamas County Records, in the northwest quarter of the southeast quarter of Section 12, Township 3 South, Range 1 West, Willamette Meridian, Clackamas County, Oregon, the boundaries thereof described as follows:

BEGINNING at a 3/4 inch iron pipe (as shown on Clackamas County Survey No. 7853) which bears North 01°40'13" East along the east line of the southeast quarter of said section a distance of 1748.96 feet, and North 88°35'30" West along the north right of way line of 33.00 foot wide S.W. Frog Pond Lane (County Road No. 2362) a distance of 1908.13 feet from the southeast corner of said section, said POINT OF BEGINNING being the southeast corner of said West Hills Land Development LLC property;

thence along said north right of way line, North 88°35'30" West a distance of 554.86 feet;

thence along the lines common to said West Hills Land Development LLC property and that property described in Statutory Warranty Deed to Derek Osterholme and Amber Osterholme recorded May 20, 2020 as Document No. 2020-036921, Clackamas County Records as adjusted by said Property Line Adjustment Deed, through the following four courses:

North 21°44'17" West a distance of 31.49 feet;

North 01°03'30" East a distance of 231.53 feet;

North 12°24'03" East a distance of 7.90 feet;

and North 82°39'16" East a distance of 575.72 feet to a 1 inch iron pipe (as shown on Clackamas County Survey No. 29676) found at the northeast corner of said West Hills Land Development LLC property, also being the most westerly northwest corner of that property described in Statutory Warranty Deed to Andy Finkbeiner and Tamara L. Pittman recorded May 30, 2001 as Document No. 2001-040160 Clackamas County Records;

thence along the west line of said Finkbeiner and Pittman property,  
South 01°42'32" West a distance of 355.85 feet to the POINT OF BEGINNING.

Contains 4.07 acres, more or less.

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

2022.05.17

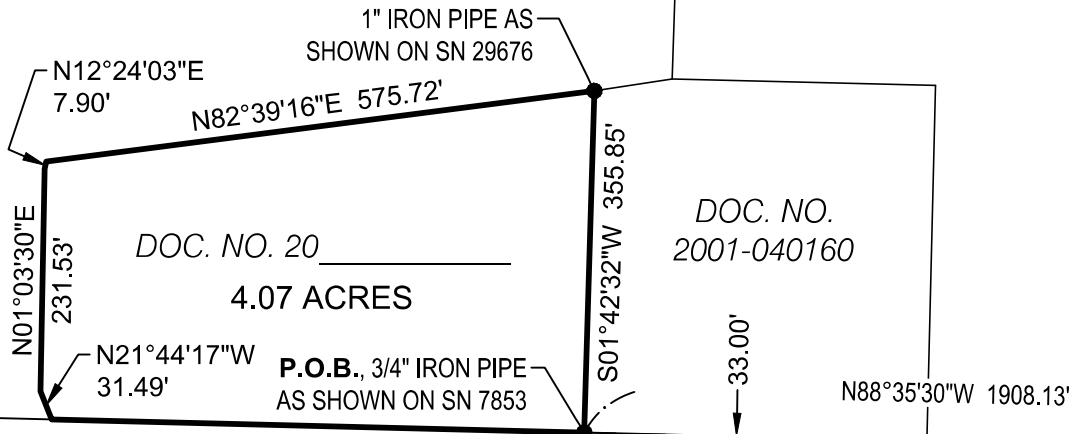
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OREGON  
NOVEMBER 12, 2013  
MICHAEL D. SPELTS  
87475PLS

RENEWS: JUNE 30, 2024

DOC. NO. 20  
 (ADJUSTMENT APPROVED  
 BY CLACKAMAS COUNTY  
 FILE NO. Z0154-22 PLA)

12 7



DOC. NO. 20  
 4.07 ACRES

DOC. NO.  
 2001-040160

P.O.B., 3/4" IRON PIPE  
 AS SHOWN ON SN 7853

S.W. FROG POND LANE  
 (C.R. NO. 2362)

S.W. STAFFORD ROAD (MARKET ROAD NO. 12)

33.00'

33.00'

N88°35'30"W 554.86'

N88°35'30"W 1908.13'

N01°40'13"E 1748.96'



● INDICATES FOUND & HELD  
 SURVEY MONUMENT

SCALE: 1"=200'

12  
 13

S88°35'30"E 2649.57'

S.W. BOECKMAN ROAD (C.R. 80)

3-1/4" BRASS DISK IN  
 MONUMENT BOX

12 7  
 13 18

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**EXHIBIT B**

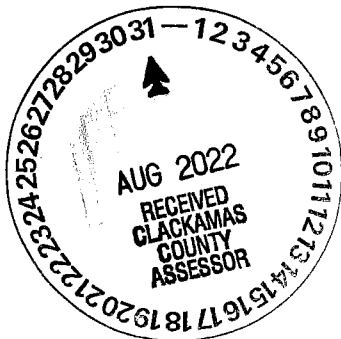
ZONE CHANGE, WEST HILLS LAND DEVELOPMENT LLC PROPERTY  
 IN THE NW QUARTER OF THE SE QUARTER OF SECTION 12, TOWNSHIP 3 SOUTH,  
 RANGE 1 WEST, WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON

MAY 17, 2022

**CERTIFICATION OF PROPERTY OWNERSHIP OF  
100% OF LAND AREA**

I hereby certify that the attached petition contains the names of the owners<sup>1</sup> (as shown on the last available complete assessment roll) of 100% of the land area of the territory proposed for annexation as described in the attached petition.

NAME JOSHUA BOLL  
TITLE GIS CARTOGRAPHER II  
DEPARTMENT TAX & ASSESSMENT  
COUNTY OF CLACKAMAS  
DATE 8/31/22

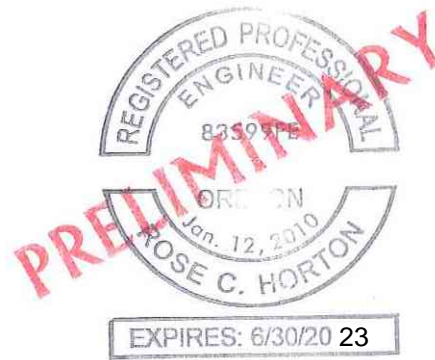


<sup>1</sup> Owner means the legal owner of record or, where there is a recorded land contract which is in force, the purchaser thereunder. If a parcel of land has multiple owners, each consenting owner shall be counted as a percentage of their ownership interest in the land. That same percentage shall be applied to the parcel's land mass and assessed value for purposes of the consent petition. If a corporation owns land in territory proposed to be annexed, the corporation shall be considered the individual owner of that land.



**Appendix B**  
Preliminary Stormwater Report dated  
May 2022 by Otak, Inc.





**Frog Pond Terrace, Frog Pond Overlook**  
**Preliminary Storm Drainage Report**  
Land Use

**Submitted to:**

City of Wilsonville  
29799 SW Town Center Loop E.  
Wilsonville, OR 97070

May 2022

**Prepared by:**

Otak, Inc.  
808 SW Third Avenue, Suite 800  
Portland, OR 97204

Project No. 20015

## **Acknowledgements**

**Project Name:** Frog Pond Terrace, Frog Pond Overlook  
**Type of Report:** Preliminary  
**Submittal Level:** Land Use

## **Site Information**

**Subject Property:** 31W12D Tax lots 700, 2800, 2801  
**Applicant Information:** Dan Grimberg  
West Hills Land Development  
3330 NW Yeon St. Suite 200  
Portland, OR 97210  
503-789-0358

## **Project Development Team**

**Stormwater Lead:** Rose Horton, PE  
**Stormwater Designer:** Teresa Huntsinger, PE and Roger Tiffany, EIT

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## Section 1. Introduction

The Frog Pond Terrace and Frog Pond Overlook sites are proposed residential developments located within the West Neighborhood of the Frog Pond Area Plan. The combined 8.81 acres of property and right-of-way are comprised of Tax map 31W12D lots 700 (Terrace), 2800 and 2801 (Overlook) in Clackamas County within the City of Wilsonville Urban Growth Boundary (UGB) (see Vicinity Map). The Frog Pond Terrace and Frog Pond Overlook developments will consist of 19 and 12 single-family residential dwellings respectively as well as associated public infrastructure improvements including SW Frog Pond Lane, resulting in 4.53 acres in new or replaced impervious surface area.

The purpose of this document is to demonstrate compliance of the Frog Pond Terrace and Frog Pond Overlook stormwater management system with the City of Wilsonville Stormwater and Surface Water Design and Construction Standards (2015). Descriptions of the existing and proposed hydrologic conditions, as well as documentation showing compliance of the proposed onsite stormwater management system with City of Wilsonville standards for water quality and quantity are included in this report.



## Section 2. Project Description

The Frog Pond Terrace and Frog Pond Overlook proposed residential developments consist of 31 new single-family lots, local street extensions, as well as sidewalks, public roadway improvements, utilities, and stormwater management systems that discharge to Boeckman Creek. Additionally, this project will include frontage improvements to SW Frog Pond Lane.

## Permitting

The following permit applications will be required for this project:

- City of Wilsonville Development Permit
- Section 401 water quality certification from DEQ

## Existing Conditions

The project site, shown in Figure 1, is primarily agricultural with a home and outbuildings that comprise 0.46 areas of impervious area. The Frog Pond Terrace project site slopes west at about 5% while the Frog Pond Overlook project site slopes north at about 4%. The right-of-way (ROW) of SW Frog Pond Lane that fronts on the Frog Pond Overlook site includes 0.02 acres of impervious pavement. Both project sites slope towards Boeckman Creek. This proposed project will maintain drainage patterns.

## Proposed Conditions

Site improvements will include construction of approximately 4.53 acres of new or replaced impervious surfaces in the form of roof, roadway, and sidewalk area. A detention pond and vegetated stormwater swales are proposed to be constructed within the right-of-way and tracts to provide low impact development water quality treatment and flow control throughout the proposed residential developments. Runoff from approximately 14.65 acres of undeveloped offsite area will be conveyed through the site's stormwater infrastructure.

## Section 3. Hydrology

### Rainfall Depth

The following rainfall depths listed in Table 3.1 are provided in the City of Wilsonville Public Works Standards (2015). These depths correspond to design recurrence intervals which are used in hydrologic calculations for various aspects of stormwater management design.

**Table 1 24 Hour Precipitation Depths**

Recurrence Interval (Years)	Total Precipitation Depth (inches)
2	2.50
10	3.45
25	3.90
100	4.50

### Pollutants of Concern

The pollutants of concern are those typically found in roadway runoff. These include sediment, oil and grease, polycyclic aromatic hydrocarbons (PAHs), metals such as Copper, Zinc, and Lead as well as pesticides and other nutrients (DEQ, 2016). Table 3.2 lists each waterway affected by this project and DEQ listing status.

**Table 2 Pollutants of Concern**

Waterway	Parameter	Listing Status
Boeckman Creek	N/A	None
Willamette River (Middle)	Chlorophyll a	303(d), TMDL needed

Waterway	Parameter	Listing Status
Willamette River (Middle)	E. Coli	TMDL approved
Willamette River (Middle)	Mercury	303(d), TMDL needed
Willamette River (Middle)	Temperature	TMDL approved

## Wetlands

Wetland and water boundaries were delineated by AKS Engineering and Forestry on December 2, 2021. Wetlands were delineated adjacent to Boeckman Creek. The project is not anticipated to impact wetlands or waters. The project will impact the Significant Resource Overlay Zone (SROZ). Discussion of the impacts to sensitive areas will be provided by the environmental consultant, AKS.

## Soils

The Web Soil Survey published by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) was referenced to determine the soil names, symbols, and hydrologic soil groups found on the project site. The soil type identified within the project area is identified as Woodburn silt loam (91B/C). These soils are classified as hydrologic soil type C, which in an undrained condition generally exhibit slow infiltration rates when thoroughly wet. The USDA soil survey map and the corresponding hydrologic soil group (HSG) for the area of interest are provided in Appendix A.

A geotechnical investigation was conducted to determine the site strata and infiltration rates. The field exploitation did not encounter the static groundwater table and well data indicates that the groundwater table is at least 20 feet below ground surface. Perched groundwater conditions may occur during the wet season. Infiltration testing at a depth of five to six feet below ground surface yielded infiltration rates between 0.6 to 1.2 inches/hour. The geotechnical engineer stated that the lower value is more representative of the site and that a factor of safety of at least 2 be applied to the design infiltration rate. The onsite Geotechnical Memorandum by Hardman Geotechnical Services is included in Appendix B.

## Flood Hazard

The proposed development for this site is located outside the 100-year floodplain boundary designated by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Clackamas County, Oregon and Incorporated Areas, Panel 234, June 17, 2008. See Appendix A for the FIRMette of the proposed site.

## Section 4. Methodology

The stormwater system for the proposed Frog Pond Terrace/Overlook development was modeled using the following methods and design standards:

- **Water Quality:** The City of Wilsonville requires capture and treatment of 80% of the average annual runoff (approximately 1-inch in 24 hours). The City of Wilsonville has adopted a BMP Sizing Tool that was developed to aid in the design of detention and water quality low impact development facilities. The City of Wilsonville BMP Sizing Tool was used to size the minimum facility footprint areas to meet the water quality treatment standard.
- **Flow Control:** The BMP sizing tool was also simultaneously used to calculate facility sizes to include flow control. This tool provides the necessary calculations to design a facility to meet the City's flow

duration matching standards whereby the “duration of peak flow rates from post development conditions shall be less than or equal to the duration of peak flow rates from pre-development conditions for all peak flows between 42% of the 2-year storm peak flow rate up to the 10-year peak flow rate.”

- **Conveyance:** The Santa Barbara Urban Hydrograph (SBUH) method will be used to calculate design conveyance flow rates and XP-SWMM software will be used to size the project conveyance system. The City’s design event for pipe conveyance is the 25-year, 24-hour storm, requiring 1-foot of freeboard between the hydraulic grade line and finished grade at structure rims.

## **BMP Sizing Tool Hydrology**

The BMP Sizing Tool was created to aid in designing low impact development facilities for both treating stormwater runoff and matching flow durations between target conditions and developed conditions. City standards consider target conditions to be pre-development, prior to any human settlement. City of Wilsonville standards stipulate that the pre-developed vegetation of Oak Savannah, which applies to the project site, should be modeled in the sizing tool as grass. Proposed conditions were set to paved conditions for roof, roadway, and sidewalk, and set to landscaped conditions for landscaped and other disturbed pervious areas within the project boundary.

A detention pond and vegetated filtration swales will function to provide both water quality and flow control mitigation. The BMP Sizing Tool provides minimum facility footprint areas for treatment and flow control. The BMP Sizing Tool also provides the required orifice sizes for incorporating the flow control component into these facilities.

## **Drainage**

The developed site drains to Boeckman Creek over a mile north of its discharge point at the Willamette River. The Boeckman Creek drainage basin upstream of the project site is approximately 800 acres and the project area comprises less than 2% of the contributing drainage basin. Boeckman Creek is confined to a deep channel approximately 40 feet below the adjacent developments. A flow control structure on the creek exists in Boeckman Creek directly upstream of SW Boeckman Road (Wilsonville, 1992). Otak conducted a downstream impact analysis on the downstream section of Boeckman Creek per City of Wilsonville standards and the downstream impact analysis is included in Appendix C.

## **Conveyance**

The proposed development will include a piped conveyance network that will convey flows to Boeckman Creek. Pipes draining the project site will be designed to meet City of Wilsonville conveyance standards.

The Santa Barbara Urban Hydrograph (SBUH) method will be used to calculate runoff rates generated under proposed developed conditions for contributing onsite areas as well as offsite upstream areas. The City of Wilsonville Public Works Standards (2015) identifies the 25-year, 24-hour storm to be used for conveyance design, maintaining 1-foot of clearance between the hydraulic grade line and conveyance structure rim elevations. The City also requires an assessment of the 100-year storm event impacts to the proposed system. Flow rates during the 100-year may be conveyed overland but are not expected to inundate existing structures. The stormwater conveyance network will be sized during final design.

## Section 5. Water Quality Treatment

### Low Impact Development

The City of Wilsonville promotes the use of Low Impact Development (LID) approaches to meet water quality treatment standards. Locations of LID facilities for water quality treatment for the Frog Pond Terrace and Frog Pond Overlook project site are shown on Figures 2 and 3.

### Water Quality Facilities

Water quality treatment will be provided through a detention pond and filtration vegetated swales. The BMP Sizing Tool was used to calculate minimum facility sizes to satisfy water quality requirements. Facility sizing calculation reports from the BMP Sizing Tool are provided in Appendix D.

The proposed ten-foot wide pedestrian trail along the west end of the site is located adjacent to a steep slope where it is not feasible to install stormwater management facilities. Runoff from the trail will sheet flow through a vegetated area toward Boeckman Creek. The trail is located 100 – 250 feet away from the creek.

## Section 6. Flow Control

City of Wilsonville Public Works Standards (2015) requires the use of flow attenuation when a proposed development increases impervious surface area by more than 5,000 square feet. Therefore, this project site will require flow control mitigation prior to discharging site runoff to downstream conveyance systems (open or closed channels or conduits). Per City requirements, the “post-development conditions shall be less than or equal to the duration of peak flow rates from pre-development conditions for all peak flows between 42% of the 2-year storm peak flow rate up to the 10-year peak flow rate.”

Flow control structures will be located immediately downstream of the detention pond and vegetated filtration swales, per the City’s standard detail. These facilities provide flow control by installing orifices at the end of their corresponding underdrain pipes to backwater flows into the available storage and voids present in facility soil and rock layers. Water is released from the facility through the orifice, which is sized to meter flows at a rate that meets flow control standards.

Orifices are provided for flow control purposes only; construction details of the flow control structures are provided on the plan sheets. Construction details of the flow control structures are provided on the plan sheets. A summary of facilities to serve this project is presented in Tables 3 and 4.

**Table 3 Facility Summary Table**

Basin ID	Facility ID	Function	LID Min. Size, BMP Output (sf)	LID Treatment Size, Site Plan (sf)	Orifice Diameter (in)
T11	Swale 1	WQ	150	342	0.6
T12	Swale 2	WQ, FC	314	336	0.8
T13	Swale 3	WQ, FC	357	384	0.9
O3	Swale 4	WQ	180	221	0.6
O4	Swale 5	WQ	162	192	0.6
FP2	Swale 6	WQ, FC	113	183	0.5
FP3	Swale 7	WQ, FC	179	248	0.6

**Table 4 Detention Pond Summary Table**

Basin ID	Facility ID	Function	Max Depth (ft)	Treatment Area (sf)
T1-T10, T14, O1, O2, O5, FP1, FP4	Pond	WQ, FC	5.0	7,523

## Section 7. Operations and Maintenance

Vegetated facilities will be maintained by the private development. Operations and Maintenance requirements are included in Appendix E in conjunction with corresponding standard details for each type of facility. The following representative will be responsible for ongoing maintenance of onsite facilities: Dan Grimberg, Director of Land Development at West Hills Development, 503-641-7342.

## Section 8. Conclusion

The proposed Frog Pond Terrace and Frog Pond Overlook developments will include a stormwater management system designed to comply with standards set forth by the City of Wilsonville. The proposed development will create 4.53 acres of impervious area. Runoff from impervious areas will be treated by LID facilities, including a detention pond and vegetated filtration swales. Flow control requirements will also be met by adding orifices at the downstream end of underdrain to regulate outflows from the detention pond and vegetated swales. The BMP Sizing Tool was used to calculate minimum facility and orifice sizes to satisfy water quality and flow control requirements. In accordance with City of Wilsonville standards, the conveyance system will be sized to convey the 25-year, 24-hour storm event with a minimum of one foot of freeboard between the hydraulic grade line (HGL) and the finished grade elevation.

## Section 9. References

- AKS, 2021A. *Natural Resources Feasibility Map SW Frog Pond Lane Martin Properties*, AKS Engineering & Forestry, October 2021.
- AKS, 2021B. *Natural Resources Feasibility Map SW Frog Pond Lane Ross Properties*, AKS Engineering & Forestry, October 2021.
- AKS, 2021C. *Frog Pond Terrace Significant Resource Impact Report*, AKS Engineering & Forestry, December 2021.
- DEQ, 2016. *Section 401 Water Quality Certification*, State of Oregon Department of Environmental Quality, May 2016.
- FEMA, 2017. *FEMA Map Service Center*. <<http://msc.fema.gov/>> Accessed: December 11, 2019.
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- National Resource Conservation Services, 2018. *United States Department of Agriculture. Web Soil Survey*. <<http://websoilsurvey.nrcs.usda.gov/>> Accessed: August 17, 2021.

SCS, 1986. *Technical Release 55: Urban Hydrology for Small Watersheds*, United States Department of Agriculture Soil Conservation Service, June 1986.

USACE, 2014. *Standard Local Operating Procedures for Endangered Species (SLOPES V) to Administer Maintenance or Improvement of Stormwater, Transportation or Utility Actions*, United States Army Corps of Engineers, March 14, 2014.

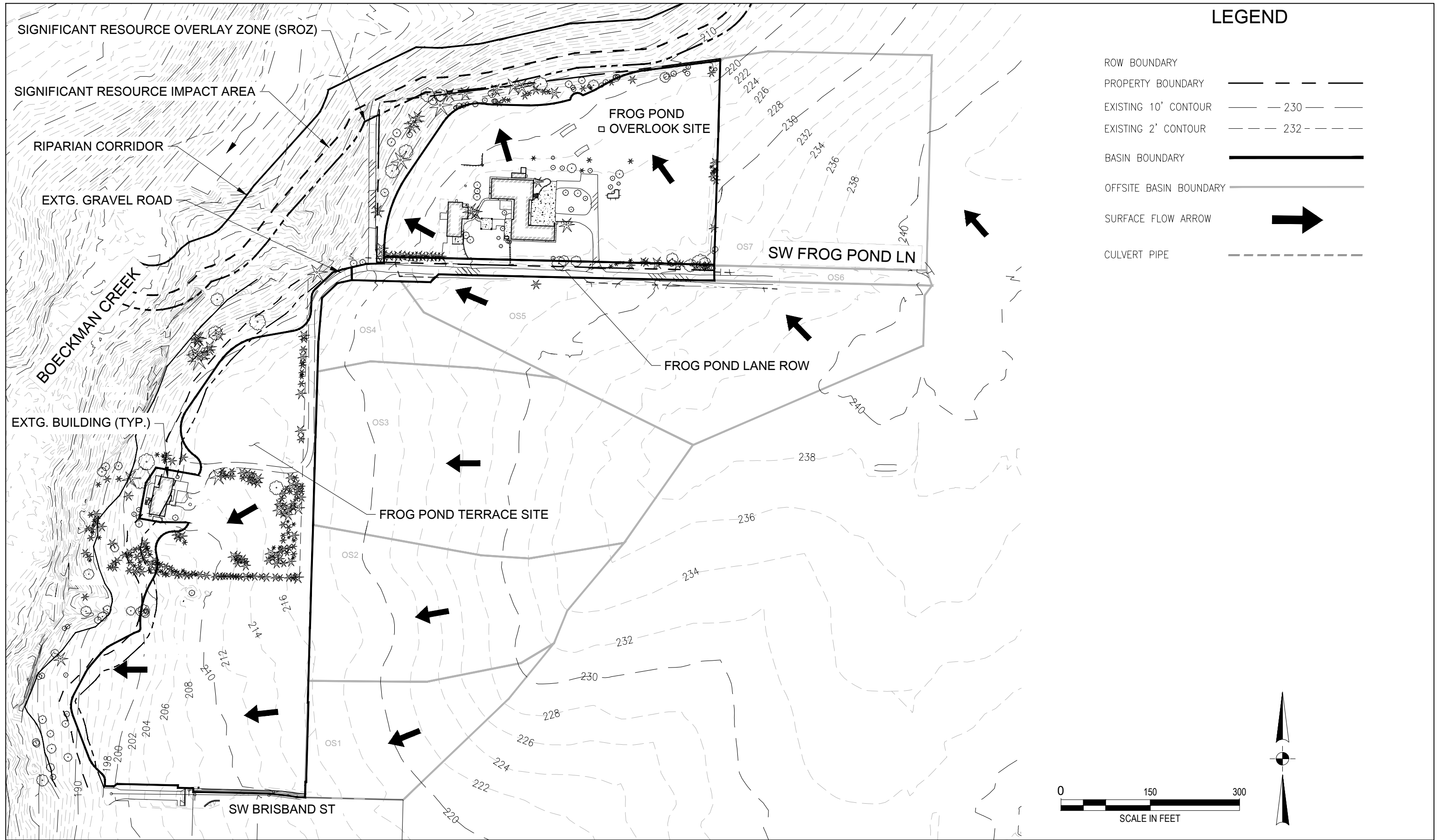
Wilsonville, 1992. *Boeckman Creek Detention. Job No. 92-06-001*, City of Wilsonville, June 1992.

Wilsonville, 2015. *City of Wilsonville Public Works Standards. Section 3, Stormwater & Surface Water Design and Construction Standards 2015*; Revised December 2015.



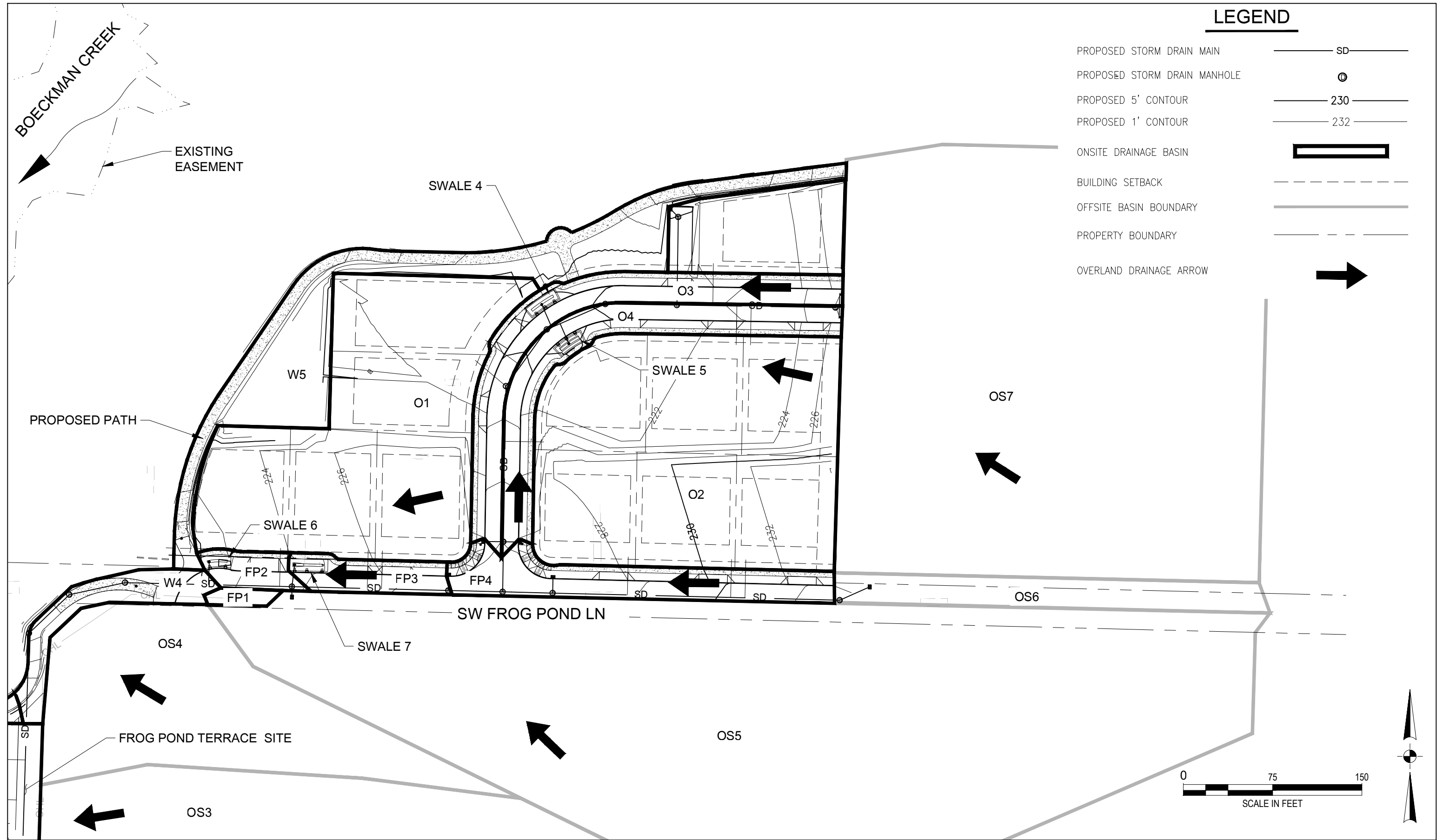
## Figures





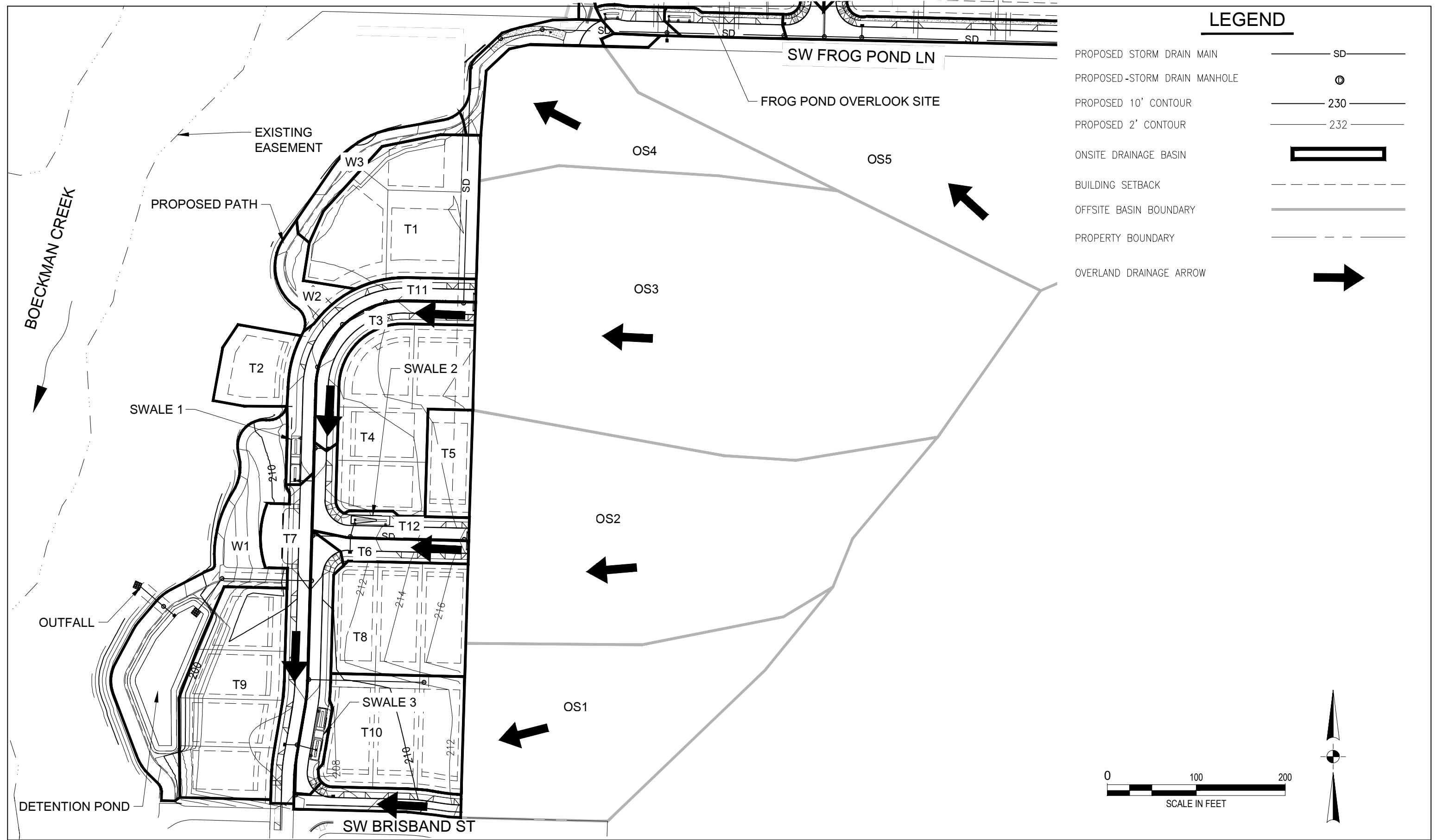
**FROG POND TERRACE & OVERLOOK | PRELIMINARY DESIGN | EXISTING CONDITIONS**





FROG POND OVERLOOK | PRELIMINARY DESIGN | PROPOSED CONDITIONS





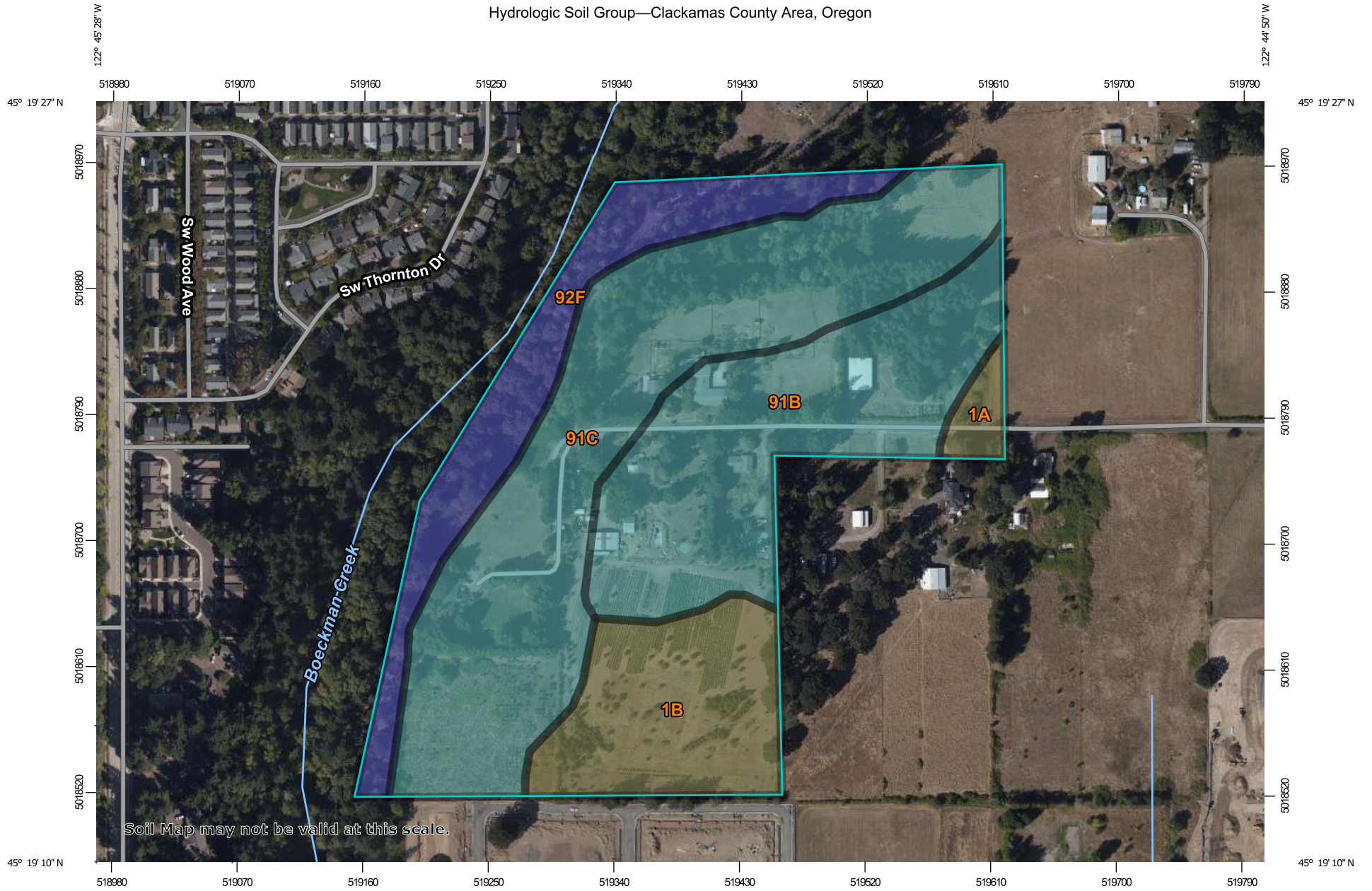
FROG POND TERRACE | PRELIMINARY DESIGN | PROPOSED CONDITIONS



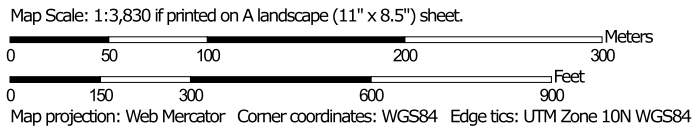
# Appendix A

Hydrology

Hydrologic Soil Group—Clackamas County Area, Oregon




Soil Map may not be valid at this scale.





## MAP LEGEND

### Area of Interest (AOI)









 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons





 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Lines


 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Points






 A  
 A/D  
 B  
 B/D

 C  
 C/D  
 D  
 Not rated or not available

### Water Features

 Streams and Canals

### Transportation

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clackamas County Area, Oregon  
 Survey Area Data: Version 16, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 1, 2019—Sep 12, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1A	Aloha silt loam, 0 to 3 percent slopes	C/D	0.6	1.9%
1B	Aloha silt loam, 3 to 6 percent slopes	C/D	5.1	15.1%
91B	Woodburn silt loam, 3 to 8 percent slopes	C	8.9	26.7%
91C	Woodburn silt loam, 8 to 15 percent slopes	C	13.9	41.3%
92F	Xerochrepts and Haploxerolls, very steep	B	5.0	15.0%
<b>Totals for Area of Interest</b>			<b>33.5</b>	<b>100.0%</b>

## Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher

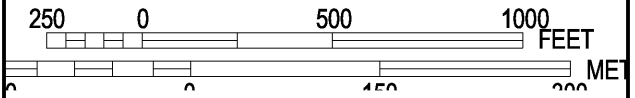




JOINS PANEL 0253



MAP SCALE 1" = 500'



NFIP  
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0234D

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**CLACKAMAS COUNTY,**  
**OREGON**  
**AND INCORPORATED AREAS**

**PANEL 234 OF 1175**  
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CLACKAMAS COUNTY	415588	0234	D
WILSONVILLE, CITY OF	410025	0234	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



**MAP NUMBER**  
**41005C0234D**  
**EFFECTIVE DATE**  
**JUNE 17, 2008**

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

## Drainage Basin Areas

20015 Frog Pond Terrace, Frog Pond Overlook

### Existing Conditions:

Basin Name	Impervious Area		Pervious Area		Total Area	
	Total (sf)	Total (ac)	Total (sf)	Total (ac)	(sf)	(ac)
<b>Site Total</b>	<b>21076</b>	<b>0.48</b>	<b>362,700</b>	<b>8.33</b>	<b>383,776</b>	<b>8.81</b>
Terrace	3,451	0.08	214,181	4.92	217,632	5.00
Overlook	16,780	0.39	131,665	3.02	148,445	3.41
ROW	845	0.02	16,854	0.39	17,699	0.406

Impervious Area per Lot 2,750 SF (2015 Public Works Stds 301.4.01)

### Proposed Conditions:

31.0 lots

HSG Type C

Basin	Treated By	Impervious Area				Pervious Area		Total Area	
		Roadway (sf)	Roof (sf)	Total (sf)	Total (ac)	(sf)	(ac)	(sf)	(ac)
<b>Site Total</b>		<b>110,770</b>	<b>85,250</b>	<b>197,378</b>	<b>4.53</b>	<b>152,956</b>	<b>3.51</b>	<b>383,550</b>	<b>8.81</b>
T1	Pond	2,281	8,250	10,531	0.24	15,541	0.36	26,072	0.60
T2	Pond	0	2,750	2,750	0.06	4,073	0.09	6,823	0.16
T3	Pond	6,349	0	6,349	0.15	867	0.02	7,216	0.17
T4	Pond	0	11,000	11,000	0.25	14,166	0.33	25,166	0.58
T5	Pond	0	2,750	2,750	0.06	3,313	0.08	6,063	0.14
T6	Pond	3,553	0	3,553	0.08	475	0.01	4,028	0.09
T7	Pond	11,600	0	11,600	0.27	475	0.01	11,600	0.27
T8	Pond	0	8,250	8,250	0.19	475	0.01	18,955	0.44
T9	Pond	0	11,000	11,000	0.25	475	0.01	24,021	0.55
T10	Pond	0	8,250	8,250	0.19	475	0.01	19,640	0.45
T11	Swale 1	9,707	0	9,707	0.22	548	0.01	10,255	0.24
T12	Swale 2	5,835	0	5,835	0.13	889	0.02	6,724	0.15
T13	Swale 3	6,251	0	6,251	0.14	1,775	0.04	8,026	0.18
T14	Pond	4,741	0	4,741	0.11	0	0.00	4,741	0.11
O1	Pond	0	13,750	13,750	0.32	28,494	0.65	42,244	0.97
O2	Pond	0	16,500	16,500	0.38	32,114	0.74	48,614	1.12
O3	Swale 4	11,467	0	11,467	0.26	998	0.02	12,465	0.29
O4	Swale 5	10,399	0	10,399	0.24	815	0.02	11,214	0.26
O5	Pond	1,101	2,750	3,851	0.09	6,315	0.14	10,166	0.23
FP1	Pond	783	0	783	0.02	0	0.00	783	0.02
FP2	Swale 6	2,177	0	2,177	0.05	183	0.00	2,360	0.05
FP3	Swale 7	3,445	0	3,445	0.08	248	0.01	3,693	0.08
FP4	Pond	9,700	0	9,700	0.22	0	0.00	9,700	0.22
W1	Veg Corridor	8,128	0	8,128	0.19	18,324	0.42	26,452	0.61
W2	Veg Corridor	1,305	0	1,305	0.03	2,667	0.06	3,972	0.09
W3	Veg Corridor	2,398	0	2,398	0.06	2,472	0.06	4,870	0.11
W4	Veg Corridor	1,087	0	2,445	0.06	2,751	0.06	5,196	0.12
W5	Veg Corridor	8,463	0	8,463	0.19	14,028	0.32	22,491	0.52
OS1	Offsite*			30,737	0.71	25,149	0.58	55,886	1.28
OS2	Offsite*			52,874	1.21	43,260	0.99	96,134	2.21
OS3	Offsite*			89,730	2.06	73,415	1.69	163,145	3.75
OS4	Offsite*			17,929	0.41	14,670	0.34	32,599	0.75
OS5	Offsite*			83,168	1.91	68,046	1.56	151,214	3.47
OS6	Offsite*			4,990	0.11	4,083	0.09	9,073	0.21
OS7	Offsite*			70,520	1.62	57,699	1.32	128,219	2.94
<b>Pond Total</b>				<b>125,358</b>	<b>2.88</b>	<b>107,258</b>	<b>2.46</b>	<b>265,832</b>	<b>6.10</b>

\* For conveyance sizing offsite areas are assumed to be developed to 55% imperviousness

# **Appendix B**

Geotechnical Report





# HARDMAN GEOTECHNICAL SERVICES INC.

Practical, Cost-Effective  
Engineering Solutions

December 15, 2021  
HGSI Project No. 21-2824

Dan Grimberg / Kristi Hosea  
**West Hills Land Development**  
3330 NW Yeon Avenue, Suite 200  
Portland, Oregon 97210

Via e-mail (pdf format); hard copies mailed upon request

**Subject: GEOTECHNICAL ENGINEERING AND INFILTRATION TESTING REPORT  
FROG POND WEST-WEST  
MARTIN, GEORGE AND ROSS PROPERTIES  
WILSONVILLE, OREGON**

This report presents the results of a geotechnical engineering study conducted by Hardman Geotechnical Services Inc. (HGSI) for Frog Pond West-West (Martin, George and Ross Properties) in Wilsonville, Oregon (Figure 1). The purpose of this study was to evaluate subsurface conditions at the site and to provide geotechnical recommendations for site development.

## SITE DESCRIPTION AND PROPOSED DEVELOPMENT

The project totals about 15.07 acres, as summarized below. Please note that the parcel addresses and acreages were taken from the Clackamas County GIS website and are only as accurate as the information provided.

Property	Tax Lot No.	Address	Acreage	House Constructed Date
Ross	31W12D 00700	7315 SW Frog Pond Ln	4.09	1964
George	31W12D 02801	7500 SW Frog Pond Ln	2.00	1972
Martin	31W12D 02800	No address	8.98	--

The Ross and George properties are currently occupied by residential homes, with several detached shops, garages and barns. Existing facilities are present only within the eastern, more flat-lying portion of the overall site. The areas surrounding the homes and other structures are landscaped with lawn, shrubbery and ornamental or fruit-bearing trees. No structures are present on the Martin property, which is overgrown with blackberries, etc. Along the western edge of the site is an area of steep slopes descending down to Boeckman Creek. The steep slope is vegetated with large deciduous and evergreen trees, and undergrowth.

December 15, 2021

HGSI Project No. 21-2824

Preliminary plans indicate the site will be developed into a 31-lot residential subdivision that will include two separate tracts with the intention of having one or both serve as water quality/detention facilities. The actual number of lots may vary as project design progresses. Site development will also include construction of on-site streets and underground utilities. All of the proposed development is within the eastern, flat to gently sloping portion of the site. The steep slopes in the western portion of the site are to remain open space.

In the northwest portion of the site, a temporary access easement extends near the top of the steep slope area. HGSI has studied potential landslide hazards and slope stability specific to this area, in a previous report (HGSI, 2021). The report concludes that the planned utility lines and temporary access way can be safely constructed, with a low-height soldier pile wall along the downslope (northwest) portion of the easement to protect against surficial soil sloughing/erosion.

## **REGIONAL GEOLOGY AND SEISMIC SETTING**

The subject site lies within the heart of the Portland Basin, a broad structural depression situated between the Coast Range on the west and the Cascade Range on the east. The Portland Basin is a northwest-southwest trending structural basin produced by broad regional downwarping of the area. The Portland Basin is approximately 20 miles wide and 45 miles long and is filled with consolidated and unconsolidated sedimentary rocks of late Miocene, Pliocene and Pleistocene age.

Geologic maps indicate the subject site is underlain by Quaternary age (last 1.6 million years) Willamette Silt, fine flood deposits that mantles basalt bedrock (Madin, 1990). This generally consists of massive fine sand and silt deposited following repeated catastrophic flooding events in the Willamette Valley, the last of which occurred between 15,000 and 10,000 years ago. In localized areas, the light brown sandy silts include buried paleosols that developed between depositional events. Regionally, the total thickness of catastrophic flood deposits range from 5 feet to greater than 100 feet.

The Willamette Formation is underlain by residual soil formed by in place weathering of the underlying Columbia River Basalt Formation (Madin, 1990). The Miocene aged (about 14.5 to 16.5 million years ago) Columbia River Basalts are a thick sequence of lava flows which form the crystalline basement of the Tualatin Valley. The basalts are composed of dense, finely crystalline rock that is commonly fractured along blocky and columnar vertical joints. Individual basalt flow units typically range from 25 to 125 feet thick and interflow zones are typically vesicular, scoriaceous, brecciated, and sometimes include sedimentary rocks.

At least three major fault zones capable of generating damaging earthquakes are known to exist in the region. These include the Portland Hills Fault Zone, Gales Creek-Newberg-Mt. Angel Structural Zone, and the Cascadia Subduction Zone. These potential earthquake source zones are included in the determination of seismic design values for structures, as presented in the *Seismic Design* section. None of the known faults extend beneath the site.

## **FIELD EXPLORATION**

### **Test Pits and Exploratory Hand Auger Borings**

The site-specific exploration for this study was conducted on October 22, 2021 and December 3 and 9, 2021. On October 22, 2021 HGSI oversaw the excavation of two test pits using a medium-sized excavator in the area of the temporary easement (Figure 2). Test pits TP-3 through TP-11 were excavated on December 3, 2021, using a rubber-tired backhoe with extend-a-hoe attachment. Six hand auger borings (HA-1 through HA-6) were drilled on December 3 and 9, 2021 by HGSI staff using hand auger tools. Explorations were conducted at the approximate locations shown on the attached Site Plan, Figure 2.

Explorations were conducted under the full-time observation of HGSI personnel. Soil samples obtained from the borings were classified in the field and representative portions were placed in relatively air-tight plastic bags. These soil samples were then returned to the laboratory for further examination. Pertinent information including soil sample depths, stratigraphy, soil engineering characteristics, and groundwater occurrence was recorded. Soils were classified in general accordance with the Unified Soil Classification System.

Summary exploration logs are attached to this report. The stratigraphic contacts shown on the individual exploration logs represent the approximate boundaries between soil types. The actual transitions may be more gradual. The soil and groundwater conditions depicted are only for the specific dates and locations reported, and therefore, are not necessarily representative of other locations and times.

### **Infiltration Testing**

On December 3, 2021, HGSI performed falling head infiltration tests using the open-hole method in hand auger borings HA-1, HA-2 and HA-3. The infiltration testing was performed by measuring the water level at one-minute intervals using HOBOTM data loggers, which measures water pressure corrected for temperature and barometric pressure. See attached HOBOTM water level data logger plot. The infiltration rate was determined based on the slope of the water depth line near the end of the test. Table 1 presents the results of the falling head infiltration tests.

**Table 1. Summary of Infiltration Test Results**

<b>Boring</b>	<b>Depth (feet)</b>	<b>Soil Type</b>	<b>Infiltration Rate (in/hr)</b>	<b>Hydraulic Head Range during Testing (inches)</b>
HA-1	5	Silt with Clay (ML)	0.6	7.8 – 6.6
HA-2	6	Fine Sandy Silt (ML)	1.1	15 - 14
HA-3	6	Fine Sandy Silt (ML)	1.2	14 – 13

The average of the three infiltration tests is 1.0 inches/hour. Reported values are ultimate and should be adjusted using an appropriate factor of safety for design purposes.

### **SUBSURFACE CONDITIONS**

The following discussion is a summary of subsurface conditions encountered in our explorations. For more detailed information regarding subsurface conditions at specific exploration locations, refer to the attached hand auger logs. Also, please note that subsurface conditions can vary between exploration locations, as discussed in the *Uncertainty and Limitations* section below.

#### **Soil**

On-site soils are anticipated to consist of undocumented fill, topsoil, colluvium, and Willamette Formation soils as described below.

***Undocumented Fill*** – In the northeast portion of the Ross Property, we encountered an area of undocumented fill. Test Pits TP-8, TP-9 and TP-10; and hand auger boring HA-3 encountered undocumented fill extending to 4.5 to 5 feet bgs. Between the fill and native soils a zone of old

topsoil was encountered in all three of the test pits. Undocumented fill consisted generally of soft silt with trace organics, and trace amounts of crushed rock and other erratic material.

**Topsoil** – Beginning at the surface level, all explorations encountered a zone of topsoil about 6 to 12 inches thick. The topsoil was generally comprised of soft, wet to moist dark brown organic silt. The upper roughly 6 inches of the topsoil appeared highly organic.

**Colluvium** – In TP-1 we encountered a zone of colluvium, comprised of stiff clayey silt with black and orange mottling. This material had a weathered, slightly disturbed appearance and extended to a depth of about 2.5 feet bgs. Colluvium, a zone of down-slope creep occurring due to weathering of surficial soils on natural slopes, was not encountered in the other test pits and hand auger borings.

**Willamette Silt** – Beneath the undocumented fill, topsoil and/or colluvium, all explorations encountered stiff to very stiff, moist to very moist, brown silt, clayey silt and silt with fine sand interpreted as Willamette Formation. The upper several feet of this unit exhibited orange and gray mottling. All explorations were terminated in the Willamette Silt unit, at depths ranging from 5 to 13 feet bgs.

### **Groundwater**

Seepage was encountered in two of the deeper test pits, TP-4 and TP-7, at depths of about 13 and 10 feet respectively. During the field exploration, no seepage or static groundwater table was encountered in the other explorations. Based on nearby water well data, depth to static groundwater is at least 20 feet below the ground surface. Perched groundwater conditions often occur over fine-grained native deposits such as those beneath the site, particularly during the wet season. It is anticipated that groundwater conditions will vary depending on the season, local subsurface conditions, changes in site utilization, and other factors. The perched groundwater conditions reported above are for the specific date and locations indicated, and therefore may not necessarily be indicative of other times and/or locations.

### **CONCLUSIONS AND RECOMMENDATIONS**

Results of this study indicate that the proposed development is geotechnically feasible, provided that the recommendations of this report are incorporated into the design and construction phases of the project. The proposed development avoids the steep slope area to the west; slope stability impacts are considered minimal as discussed in the *Slope Stability and Landslide Hazards* section. Recommendations are presented below regarding site preparation and undocumented fill removal, engineered fill, fill slope keying and benching, wet weather earthwork, spread footing foundations, below grade structural retaining walls, concrete slabs-on-grade, perimeter footing drains, seismic design, excavating conditions and utility trench backfill, stormwater infiltration systems, and erosion control considerations.

### **Slope Stability and Landslide Hazards**

For the purpose of evaluating slope stability, we reviewed published geologic and hazard mapping, reviewed regional site topography and LIDAR images, performed a field reconnaissance, and evaluated subsurface soil conditions in exploratory test pits and hand auger borings.

Reconnaissance observations indicate that slope geomorphology at the site is generally smooth and uniform, consistent with stable slope conditions. No geomorphic evidence of prior slope instability (such as hummocky topography, benches or old scarps) was observed. No seeps or springs were observed on site.

Regional geologic mapping and the Oregon Department of Geology and Mineral Industries online landslide database (SLIDO, 2017) shows a small mapped landslide in the western portion of the Martin/George

December 15, 2021

HGSI Project No. 21-2824

property (Figure 3). This feature is mapped with low (<10%) confidence level, and historical (<150 years) in age. In our opinion this mapped ancient slide is not indicative of a significant slope stability hazard to the site, and is located far enough away from the proposed development that slope stability impacts are not anticipated.

In the northwest portion of the site between the Ross and Martin Properties (Figures 2 and 3), a temporary access easement extends near the top of the steep slope area. HGSI has studied potential landslide hazards and slope stability specific to this area, in a previous report (HGSI, 2021). The report concludes that the planned utility lines and temporary access way can be safely constructed, with a low-height soldier pile wall along the downslope (northwest) portion of the easement to protect against surficial soil sloughing/erosion.

The planned development does not extend onto the steep slope areas in the western portion of the site. Based on our observations and results of the slope stability evaluation, it is our opinion that no special design or construction provisions are needed to address slope issues on the site, with the exception of the soldier pile wall planned in conjunction with the temporary access easement (HGSI, 2021). The project will be designed and constructed per current building codes, City of Wilsonville requirements, and the current standard-of-practice in geotechnical engineering. As such, it is our opinion that adequate slope stability factors of safety will be maintained for both temporary construction, and long-term conditions.

We understand that the proposed storm water management plan may consist of flow through planters, stormwater ponds or swales, with overflow to an approved outlet. Significant infiltration of stormwater via stormwater chambers or dry wells is not proposed for this site based on soil conditions and infiltration test results. The planned storm water facilities are not anticipated to impact slope stability on site, or to create any unstable conditions. Storm water management systems should be designed such that potential overflow is discharged in a controlled manner away from structures and slopes, and all systems should include an adequate factor of safety.

### **Site Preparation and Undocumented Fill Removal**

The areas of the site to be graded should first be cleared of vegetation and any loose debris; and debris from clearing should be removed from the site. Organic-rich topsoil should then be removed to competent native soils. We anticipate that the average depth of topsoil stripping will be 6 to 12 inches over most of the site. Deeper stripping / root picking may be needed in areas that are or were formerly treed. The final depth of stripping removal may vary depending on local subsurface conditions and the contractor's methods, and should be determined on the basis of site observations after the initial stripping has been performed. Stripped organic soil should be stockpiled only in designated areas or removed from the site and stripping operations should be observed and documented by HGSI. Existing subsurface structures (tile drains, old utility lines, septic leach fields, etc.) beneath areas of proposed structures and pavement should be removed and the excavations backfilled with engineered fill.

Undocumented fill was encountered in the northeast portion of the Ross Property, in TP-8, TP-9 and TP-10; and HA-3, at depths of about 4.5 to 5 feet bgs. There is potential for old fills to be present on site in areas beyond our explorations. Where encountered beneath proposed structures, pavements, or other settlement-sensitive improvements, undocumented fill should be removed down to firm inorganic native soils and the removal area backfilled with engineered fill (see below). HGSI should observe removal excavations (if any) prior to fill placement to verify that overexcavations are adequate and an appropriate bearing stratum is exposed.

In construction areas, once stripping has been verified, the area should be ripped or tilled to a depth of 12 inches, moisture conditioned, and compacted in-place prior to the placement of engineered fill. Exposed subgrade soils should be evaluated by HGSI. For large areas, this evaluation is normally performed by



proof-rolling the exposed subgrade with a fully loaded scraper or dump truck. For smaller areas where access is restricted, the subgrade should be evaluated by probing the soil with a steel probe. Soft/loose soils identified during subgrade preparation should be compacted to a firm and unyielding condition or over-excavated and replaced with engineered fill, as described below. The depth of overexcavation, if required, should be evaluated by HGSI at the time of construction.

### **Engineered Fill**

In general, we anticipate that on-site soils will be suitable for use as engineered fill in dry weather conditions, provided they are relatively free of organics and are properly moisture conditioned for compaction. Imported fill material must be approved by the geotechnical engineer prior to being imported to the site. Oversize material greater than 6 inches in size should not be used within 3 feet of foundation footings, and material greater than 12 inches in diameter should not be used in engineered fill.

Engineered fill should be compacted in horizontal lifts not exceeding 8 inches using standard compaction equipment. We recommend that engineered fill be compacted to at least 90 percent of the maximum dry density determined by ASTM D1557 (Modified Proctor) or equivalent. On-site soils may be wet or dry of optimum; therefore, we anticipate that moisture conditioning of native soil will be necessary for compaction operations.

Proper test frequency and earthwork documentation usually requires daily observation and testing during stripping, rough grading, and placement of engineered fill. Field density testing should conform to ASTM D2922 and D3017, or D1556. Engineered fill should be periodically observed and tested by the project geotechnical engineer or his representative. Typically, one density test is performed for at least every 2 vertical feet of fill placed or every 500 yd<sup>3</sup>, whichever requires more testing.

### **Fill Slope Keying and Benching**

Engineered fill placed on slopes requires keying and benching. We recommend that cut and fill slopes for the project be planned no steeper than 2H:1V. Fill slopes constructed over sloping ground should be constructed in accordance with the Fill Slope Detail, Figure 4. For fill slopes constructed at 2H:1V or flatter, and comprised of engineered fill placed and compacted as recommended herein, we anticipate that adequate factors of safety against global failure will be maintained.

Prior to placing compacted fill against the existing natural slopes, all loose undocumented fill, topsoil, and soft soils must first be removed. Adequate benching must be maintained. Fill slope keyways should be constructed with a minimum depth of 2 feet and minimum width of H/3 (10 feet minimum), where H equals the vertical height between the base and top of the fill slope. Both benches and keyways should be roughly horizontal in the down slope direction. A subdrain should be incorporated in the fill slope keyway, and HGSI should observe the keyway excavations prior to the placement of fill.

Measures should be taken to prevent surficial instability and/or erosion of embankment material. This can be accomplished by conscientious compaction of the embankment fills all the way out to the slope face, by maintaining adequate drainage, and planting the slope face as soon as possible after construction. To achieve the specified relative compaction at the slope face, it may be necessary to overbuild the slopes several feet, and then trim back to design finish grade. In our experience, compaction of slope faces by “track-walking” is generally ineffective and is therefore not recommended.

### **Wet Weather Earthwork**

The on-site soils are moisture sensitive and may be difficult to handle or traverse with construction equipment during periods of wet weather. Earthwork is typically most economical when performed under dry weather conditions. Earthwork performed during the wet-weather season will probably require

expensive measures such as cement treatment or imported granular material to compact fill to the recommended engineering specifications. If earthwork is to be performed or fill is to be placed in wet weather or under wet conditions when soil moisture content is difficult to control, the following recommendations should be incorporated into the contract specifications.

- Earthwork should be performed in small areas to minimize exposure to wet weather. Excavation or the removal of unsuitable soils should be followed promptly by the placement and compaction of clean engineered fill. The size and type of construction equipment used may have to be limited to prevent soil disturbance. Under some circumstances, it may be necessary to excavate soils with a backhoe to minimize subgrade disturbance caused by equipment traffic;
- The ground surface within the construction area should be graded to promote run-off of surface water and to prevent the ponding of water;
- Material used as engineered fill should consist of clean, granular soil containing less than about 7 percent fines. The fines should be non-plastic. Alternatively, cement treatment of on-site soils may be performed to facilitate wet weather placement;
- The ground surface within the construction area should be sealed by a smooth drum vibratory roller, or equivalent, and under no circumstances should be left uncompacted and exposed to moisture. Soils which become too wet for compaction should be removed and replaced with clean granular materials;
- Excavation and placement of fill should be observed by the geotechnical engineer to verify that all unsuitable materials are removed and suitable compaction and site drainage is achieved; and
- Bales of straw and/or geotextile silt fences should be strategically located to control erosion.

If cement or lime treatment is used to facilitate wet weather construction, HGSI should be contacted to provide additional recommendations and field monitoring

### **Spread Footing Foundations**

Shallow, conventional isolated or continuous spread footings may be used to support the proposed structures, provided they are founded on competent native soils, or compacted engineered fill placed directly upon the competent native soils. We recommend a maximum allowable bearing pressure of 2,000 pounds per square foot (psf) for designing spread footings bearing on undisturbed native soils or engineered fill. The recommended maximum allowable bearing pressure may be increased by a factor of 1.33 for short term transient conditions such as wind and seismic loading. Exterior footings should be founded at least 18 inches below the lowest adjacent finished grade. Minimum footing widths should be determined by the project engineer/architect in accordance with applicable design codes.

Assuming construction is accomplished as recommended herein, and for the foundation loads anticipated, we estimate total settlement of spread foundations of less than about 1 inch and differential settlement between two adjacent load-bearing components supported on competent soil of less than about ½ inch. We anticipate that the majority of the estimated settlement will occur during construction, as loads are applied.

Wind, earthquakes, and unbalanced earth loads will subject the proposed structure to lateral forces. Lateral forces on a structure will be resisted by a combination of sliding resistance of its base or footing on the underlying soil and passive earth pressure against the buried portions of the structure. For use in design, a coefficient of friction of 0.5 may be assumed along the interface between the base of the footing and subgrade soils. Passive earth pressure for buried portions of structures may be calculated using an equivalent fluid weight of 390 pounds per cubic foot (pcf), assuming footings are cast against dense, natural soils or engineered fill. The recommended coefficient of friction and passive earth pressure values do not include a

safety factor. The upper 12 inches of soil should be neglected in passive pressure computations unless it is protected by pavement or slabs on grade.

Footing excavations should be trimmed neat and the bottom of the excavation should be carefully prepared. Loose, wet or otherwise softened soil should be removed from the footing excavation prior to placing reinforcing steel bars. HGSI should observe foundation excavations prior to placing crushed rock, to verify that adequate bearing soils have been reached. Due to the high moisture sensitivity of on-site soils, construction during wet weather may require overexcavation of footings and backfill with compacted, crushed aggregate.

### **Below-Grade Cantilever Concrete Retaining Walls**

Recommendations are provided below for design of concrete retaining walls. Footings for below-grade cantilever concrete walls should be designed using the 2,000 psf allowable soil bearing pressure recommended in the *Spread Footing Foundations* section. Lateral earth pressures against below-grade retaining walls will depend upon the inclination of any adjacent slopes, type of backfill, degree of wall restraint, method of backfill placement, degree of backfill compaction, drainage provisions, and magnitude and location of any adjacent surcharge loads. At-rest soil pressure is exerted on a retaining wall when it is restrained against rotation. In contrast, active soil pressure will be exerted on a wall if its top is allowed to rotate or yield a distance of roughly 0.001 times its height or greater.

Table 2 below provides recommended lateral earth pressure values for unrestrained and restrained walls, for both level backfill conditions and 2H:1V (Horizontal:Vertical) sloping ground conditions at the top of the wall. These values assume that the recommended drainage provisions are incorporated, and hydrostatic pressures are not allowed to develop against the wall.

**Table 2. Recommended Lateral Earth Pressures for Below-Grade Structural Walls**

<b>Earth Pressure Condition</b>	<b>Level at Top of Wall</b>	<b>2H:1V Slope at Top of Wall</b>
Active (unrestrained wall)	35	54
At-rest (restrained wall)	55	74

During a seismic event, lateral earth pressures acting on below-grade structural walls will increase by an incremental amount that corresponds to the earthquake loading. Based on the Mononobe-Okabe equation and peak horizontal accelerations appropriate for the site location, seismic loading should be modeled using the active or at-rest earth pressures recommended above, plus an incremental rectangular-shaped seismic load of magnitude 5H, where H is the total height of the wall.

We assume relatively level ground surface below the base of the walls. As such, we recommend passive earth pressure of 390 pcf for use in design, assuming wall footings are cast against competent native soils or engineered fill. If the ground surface slopes down and away from the base of any of the walls, a lower passive earth pressure should be used and HGSI should be contacted for additional recommendations.

A coefficient of friction of 0.5 may be assumed along the interface between the base of the wall footing and subgrade soils. The recommended coefficient of friction and passive earth pressure values do not include a safety factor, and an appropriate safety factor should be included in design. The upper 12 inches of soil should be neglected in passive pressure computations unless it is protected by pavement or slabs on grade.

The above recommendations for lateral earth pressures assume that the backfill behind the subsurface walls will consist of properly compacted structural fill, and no adjacent surcharge loading. If the walls will be subjected to the influence of surcharge loading within a horizontal distance equal to or less than the height of the wall, the walls should be designed for the additional horizontal pressure. For uniform surcharge pressures, a uniformly distributed lateral pressure of 0.3 times the surcharge pressure should be added.

The recommended equivalent fluid densities assume a free-draining condition behind the walls so that hydrostatic pressures do not build up. This can be accomplished by placing a 12-inch wide zone of crushed drain rock containing less than 5 percent fines against the walls. A 3-inch minimum diameter perforated, plastic drain pipe should be installed at the base of the walls and connected to a sump to remove water from the crushed drain rock zone. The drain pipe should be wrapped in filter fabric (Mirafi 140N or other as approved by the geotechnical engineer) to minimize clogging. The above drainage measures are intended to remove water from behind the wall to prevent hydrostatic pressures from building up. Additional drainage measures may be specified by the project architect or structural engineer, for damp-proofing or other reasons.

HGSI should be contacted during construction to verify subgrade strength in wall keyway excavations, to verify that backslope soils are in accordance with our assumptions, and to take density tests on the wall backfill materials.

### **Concrete Slabs-on-Grade**

Preparation of areas beneath concrete slab-on-grade floors should be performed as recommended in the *Site Preparation* section. Care should be taken during excavation for foundations and floor slabs, to avoid disturbing subgrade soils. If subgrade soils have been adversely impacted by wet weather or otherwise disturbed, the surficial soils should be scarified to a minimum depth of 8 inches, moisture conditioned to within about 3 percent of optimum moisture content, and compacted to engineered fill specifications. Alternatively, disturbed soils may be removed and the removal zone backfilled with additional crushed rock. For evaluation of the concrete slab-on-grade floors using the beam on elastic foundation method, a modulus of subgrade reaction of 200 kcf (115 pci) should be assumed for the soils anticipated at subgrade depth. This value assumes the concrete slab system is designed and constructed as recommended herein, with a minimum thickness of crushed rock of 8 inches beneath the slab.

Interior slab-on-grade floors should be provided with an adequate moisture break. The capillary break material should consist of ODOT open graded aggregate per ODOT Standard Specifications 02630-2. The minimum recommended thickness of capillary break materials on re-compacted soil subgrade is 8 inches. The total thickness of crushed aggregate will be dependent on the subgrade conditions at the time of construction, and should be verified visually by proof-rolling. Under-slab aggregate should be compacted to at least 90% of its maximum dry density as determined by ASTM D1557 or equivalent.

In areas where moisture will be detrimental to floor coverings or equipment inside the proposed structure, appropriate vapor barrier and damp-proofing measures should be implemented. A commonly applied vapor barrier system consists of a 10-mil polyethylene vapor barrier placed directly over the capillary break material. Other damp/vapor barrier systems may also be feasible. Appropriate design professionals should be consulted regarding vapor barrier and damp proofing systems, ventilation, building material selection, radon and mold prevention issues, which are outside HGSI's area of expertise.

### **Perimeter Footing Drains**

Due to the potential for perched surface water above fine grained deposits such as those encountered at the site, we recommend the outside edge of perimeter footings be provided with a drainage system consisting of 3-inch minimum diameter perforated PVC pipe embedded in a minimum of 1 ft<sup>3</sup> per lineal foot of clean, free-draining sand and gravel or 1"- 1/4" drain rock. The drain pipe and surrounding drain rock should be

wrapped in non-woven geotextile (Mirafi 140N, or approved equivalent) to minimize the potential for clogging and/or ground loss due to piping. Water collected from the footing drains should be directed into the local storm drain system or other suitable outlet. A minimum 0.5 percent fall should be maintained throughout the drain and non-perforated pipe outlet. The footing drains should include clean-outs to allow periodic maintenance and inspection.

Down spouts and roof drains should collect roof water in a system separate from the footing drains in order to reduce the potential for clogging. Roof drain water should be directed to an appropriate discharge point well away from structural foundations. Grades should be sloped downward and away from buildings to reduce the potential for ponded water near structures.

### **Seismic Design**

Structures should be designed to resist earthquake loading in accordance with the methodology described in the current Oregon Residential Specialty Code (ORSC). We recommend Site Class D (Stiff Soils) be used for design per the ORSC. Design values determined for the site using the ASCE 7-16 Hazard Tool are summarized on Table 3, for Risk Category II.

**Table 3. Recommended Earthquake Ground Motion Parameters (ASCE 7-16)**

<b>Parameter</b>	<b>Value</b>
Location (Lat, Long), degrees	45.3211, -122.7494
Mapped Spectral Acceleration Values (MCE, Site Class B):	
Short Period, $S_s$	0.82 g
1.0 Sec Period, $S_1$	0.381 g
Design Values for <b>Site Class D</b> (Stiff Soils):	
Peak Ground Acceleration $PGA_M$	0.458
$F_a$	1.172
$SD_s = 2/3 \times F_a \times S_s$	0.641 g
Seismic Design Category (2021 ORSC)	$D_0$

Soil liquefaction is a phenomenon wherein saturated soil deposits temporarily lose strength and behave as a liquid in response to earthquake shaking. Soil liquefaction is generally limited to loose, granular soils located below the water table. Following development, on-site soils will consist predominantly of stiff to very stiff silt which are not considered susceptible to liquefaction. Therefore, it is our opinion that special design or construction measures are not required to mitigate the effects of liquefaction.

### **Excavating Conditions and Utility Trench Backfill**

We anticipate that on-site soils can be excavated using conventional heavy equipment such as scrapers and trackhoes to depths of 13 feet and likely greater. Maintenance of safe working conditions, including temporary excavation stability, is the responsibility of the contractor. Actual slope inclinations at the time of construction should be determined based on safety requirements and actual soil and groundwater conditions. All temporary cuts in excess of 4 feet in height should be sloped in accordance with U.S. Occupational Safety and Health Administration (OSHA) regulations (29 CFR Part 1926), or be shored. The existing native soils classify as Type B Soil and temporary excavation side slope inclinations as steep as 1H:1V may be assumed for planning purposes. This cut slope inclination is applicable to excavations above the water table only.

Perched groundwater conditions often occur over fine-grained native deposits such as those beneath the site, particularly during the wet season. If encountered, the contractor should be prepared to implement an appropriate dewatering system for installation of the utilities. At this time, we anticipate that dewatering systems consisting of ditches, sumps and pumps would be adequate for control of groundwater where encountered during construction conducted during the dry season. Regardless of the dewatering system used, it should be installed and operated such that in-place soils are prevented from being removed along with the groundwater.

Vibrations created by traffic and construction equipment may cause some caving and raveling of excavation walls. In such an event, lateral support for the excavation walls should be provided by the contractor to prevent loss of ground support and possible distress to existing or previously constructed structural improvements.

Utility trench backfill should consist of ¾"-0 crushed rock, compacted to at least 95% of the maximum dry density obtained by Modified Proctor (ASTM D1557) or equivalent. Initial backfill lift thicknesses for a ¾"-0 crushed aggregate base may need to be as great as 4 feet to reduce the risk of flattening underlying flexible pipe. Subsequent lift thickness should not exceed 1 foot. If imported granular fill material is used, then the lifts for large vibrating plate-compaction equipment (e.g. hoe compactor attachments) may be up to 2 feet, provided that proper compaction is being achieved and each lift is tested. Use of large vibrating compaction equipment should be carefully monitored near existing structures and improvements due to the potential for vibration-induced damage.

Adequate density testing should be performed during construction to verify that the recommended relative compaction is achieved. Typically, one density test is taken for every 4 vertical feet of backfill on each 200-lineal-foot section of trench.

### **Stormwater Infiltration Facilities**

Based on results of the soil infiltration testing, soils on site exhibit low infiltration rates especially in the presence of perched water or static groundwater. Infiltration rates ranged from 0.6 to 1.2 inches/hour as summarized on Table 1. We recommend shallow systems in the range of 2 to 5 feet bgs be designed using an infiltration rate of **0.6 inches/hour**. This is slightly less than the average test value of 1.0 inches/hour, but we feel 0.3 inches/hour is more representative of overall site conditions. Also, please note that the potential for infiltration of stormwater will be reduced during the wet season due to saturated soils / perched water conditions over much of the site. We do not believe the site is well suited for use of deeper infiltration facilities such as dry wells due to the very low-permeability site soils, and perched water conditions.

The designer should select an appropriate infiltration value based on our test results and the location of the proposed infiltration facility. The recommended infiltration rates do not incorporate a factor of safety. For the design infiltration rate, we recommend a factor of safety of at least 2.0. Greater factors of safety may be required by the governing agency.

Infiltration test methods and procedures attempt to simulate the as-built conditions of the planned disposal system. However, due to natural variations in soil properties, actual infiltration rates may vary from the measured and/or recommended design rates. All systems should be constructed such that potential overflow is discharged in a controlled manner away from structures, and all systems should include an adequate factor of safety. Infiltration rates presented in this report should not be applied to inappropriate or complex hydrological models such as a closed basin without extensive further studies.

**Erosion Control Considerations**

During our field exploration program, we did not observe soil types that would be considered highly susceptible to erosion. Erosion at the site during construction can be minimized by implementing the project erosion control plan, which should include judicious use of straw, bio-bags, silt fences, or other appropriate technology. Where used, erosion control devices should be in place and remain in place throughout site preparation and construction. Areas of exposed soil requiring immediate and/or temporary protection against exposure should be covered with either mulch or erosion control netting/blankets.

**UNCERTAINTIES AND LIMITATIONS**

We have prepared this report for the owner and his/her consultants for use in design of this project only. This report should not be construed as a warranty of the subsurface conditions. Experience has shown that soil and groundwater conditions can vary significantly over small distances. Inconsistent conditions can occur between explorations that may not be detected by a geotechnical study. If, during future site operations, subsurface conditions are encountered which vary appreciably from those described herein, HGSI should be notified for review of the recommendations of this report, and revision of such if necessary.

Sufficient geotechnical monitoring, testing and consultation should be provided during construction to confirm that the conditions encountered are consistent with those indicated by explorations. Recommendations for design changes will be provided should conditions revealed during construction differ from those anticipated, and to verify that the geotechnical aspects of construction comply with the contract plans and specifications.

Within the limitations of scope, schedule and budget, HGSI executed these services in accordance with generally accepted professional principles and practices in the field of geotechnical engineering at the time the report was prepared. No warranty, expressed or implied, is made. The scope of our work did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous or toxic substances in the soil, surface water, or groundwater at this site.

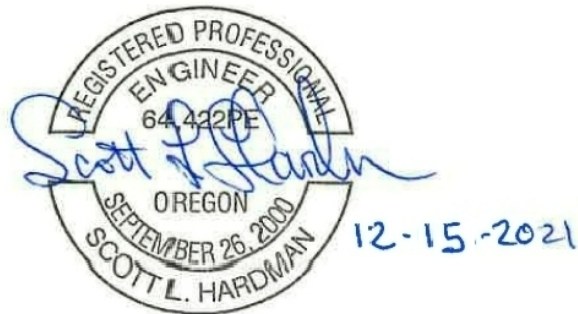


We appreciate this opportunity to be of service.

Sincerely,

**HARDMAN GEOTECHNICAL SERVICES INC.**

Scott L. Hardman, P.E., G.E.  
Geotechnical Engineer



**EXPIRES: 06-30-2023**

- Attachments:
- References
  - Figure 1 – Vicinity Map
  - Figure 2 – Site Plan
  - Figure 3 – DOGAMI LiDAR Mapping
  - Figure 4 – Fill Slope Detail
  - Logs of Test Pits TP-1 through TP-11
  - Logs of Hand Auger Borings HA-1 through HA-6
  - Infiltration Test Data Plots (3 Pages)
  - ASCE Seismic Design Hazards Report (3 Pages)



## REFERENCES

- Hardman Geotechnical Services Inc., 2021, *Geotechnical Evaluation of Landslide Hazards and Slope Stability; Proposed Underground Utility Easement; Frog Pond West-West; Martin, George and Ross Properties; Wilsonville, Oregon*; consultant report dated October 28.
- Madin, I.P., 1990, Earthquake hazard geology maps of the Portland metropolitan area, Oregon: Oregon Department of Geology and Mineral Industries Open-File Report 0-90-2, scale 1:24,000, 22 p.
- Schlicker, H.G. and Finlayson, C.T., 1979, Geology and geologic hazards of northwest Clackamas County, Oregon Department of Geology and Mineral Industries, Bulletin 99, 1:24,000
- Yeats, R.S., Graven, E.P., Werner, K.S., Goldfinger, C., and Popowski, T., 1996, Tectonics of the Willamette Valley, Oregon: in *Assessing earthquake hazards and reducing risk in the Pacific Northwest*, Vol. 1: U.S. Geological Survey Professional Paper 1560, P. 183-222, 5 plates, scale 1:100,000.





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# VICINITY MAP



Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2856

FIGURE 1





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# SITE PLAN AND EXPLORATION LOCATIONS



**Legend**

**TP-X** Backhoe Test Pit Designation and  
Approximate Location

Base Map by Portland Maps

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 20-2642

FIGURE 2



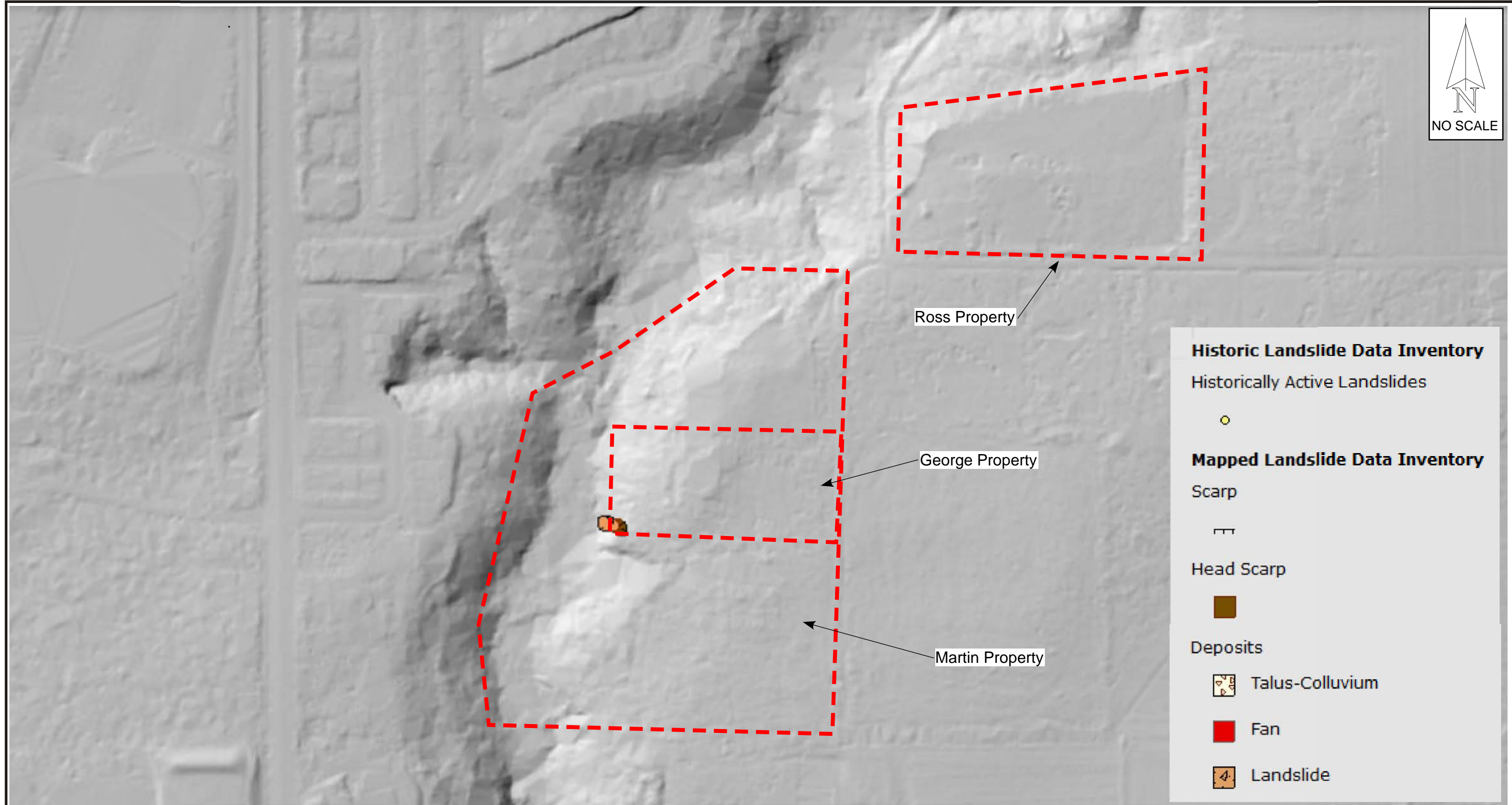
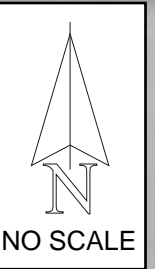


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# DOGAMI LiDAR MAPPING



## LEGEND



Approximate Site Boundary

Base Map from DOGAMI SLIDO Website

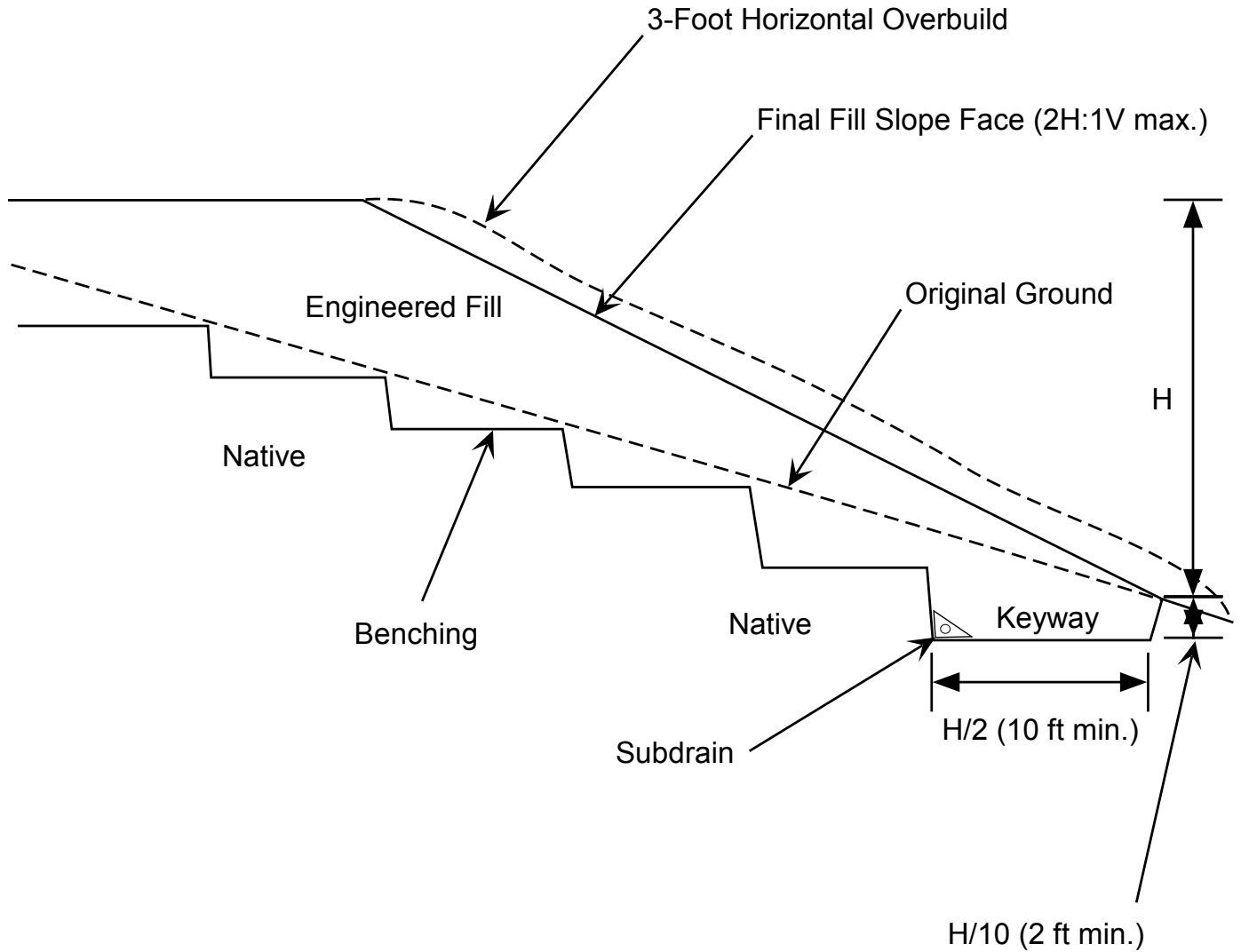
Project No. 21-2824

Frog Pond West-West  
Wilsonville, Oregon

**FIGURE 3**



## TYPICAL KEYWAY, BENCHING & FILL SLOPE DESIGN



Recommended subdrain is minimum 3-inch-diameter ADS Heavy Duty grade (or equivalent), perforated plastic pipe enveloped in a minimum of 3 cubic feet per lineal foot of 2" to 1/2" open-graded gravel drain rock wrapped with geotextile filter fabric (Mirafi 140N or equivalent).

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 1**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Soft, Organic SILT, dark brown, moist, many roots throughout (topsoil)
2	3.0					Stiff, Clayey SILT, light yellowish brown with black and orange mottling, moist, weathered (Colluvium)
3	3.5					Very stiff to hard, Clayey SILT, yellowish brown with trace mottling in upper portion of unit only, slightly moist, unweathered and intact
4	>4.5					
5	>>4.5					
6						
7						
8						Very difficult excavating at 8 feet due to hard materials.
9						Test pit terminated at 8 feet No caving of pit side walls No groundwater or seepage encountered
10						
11						
12						
13						
14						
15						
16						

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LEGEND



S-#



Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Excavated: 10/22/2021

Logged By: SLH

Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 2**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Soft, Organic SILT, dark brown, moist, abundant grass roots (topsoil) ----- Dense, silty angular gravel, gray, moist (old driveway or pull-out area) ----- Very stiff to hard, Clayey SILT, yellowish brown with trace mottling in upper portion of unit only, slightly moist, unweathered and intact
2						
3						
4						
5						
6						
7						
8						Grades to Clayey Silt with some fine sand at 8 feet
9						
10						
11						Test pit terminated at 10 feet No caving of pit sidewalls No groundwater or seepage encountered
12						
13						
14						
15						
16						

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LEGEND



S-#



Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Excavated: 10/22/2021

Logged By: SLH


Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon



Project No. 21-2824

Test Pit No. **TP - 3**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
2						Moist, medium stiff, brown and light grey, clayey SILT (ML), orange and dark brown mottling. [Willamette Formation]
3						
4	4.2					Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling, heavily micaceous. [Willamette Formation]
5						
6						
7						
8			S-1			
9						
10						<i>Test Pit terminated at 10 feet No groundwater or seepage encountered No caving</i>
11						
12						
13						
14						
15						
16						

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LEGEND

 S-#        
 Soil Sample Depth Interval and Designation      Water Level at Time of Excavation

Date Excavated: 12/3/2021  
 Logged By: CSH  
 Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 4**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
2						Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling, micaceous. [Willamette Formation]
3						
4						
5						
6						
7						
8						
9						
10						
11						Saturated, medium stiff, brown, sandy SILT (ML) with clay, heavily micaceous. [Willamette Formation]
12						
13					▽	<i>Test Pit terminated at 13 feet</i> <i>Seepage observed in the bottom of the test pit</i> <i>No caving</i>
14						
15						
16						

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S-#



Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Excavated: 12/3/2021  
 Logged By: CSH  
 Surface Elevation: Unknown



# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 5**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics [Topsoil]
2	3.0					Moist, medium stiff, brown and light grey, silty CLAY (CL), orange and dark brown mottling. [Willamette Formation]
3						Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling. [Willamette Formation]
4						
5						
6						
7						
8						
9						
10						
11						<i>Test Pit terminated at 10 feet No groundwater or seepage encountered No caving</i>
12						
13						
14						
15						
16						

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S-#



Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Excavated: 12/3/2021  
 Logged By: CSH  
 Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 6**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics [Topsoil]
2						Moist, stiff, brown, clayey SILT (ML) with sand, orange and dark brown mottling. [Willamette Formation]
3						
4						
5						
6					Sandiness increasing with depth	
7						Moist, stiff, brown, sandy SILT (ML), orange and dark brown mottling, slightly micaceous. [Willamette Formation]
8						
9						
10						
11						<i>Test Pit terminated at 10 feet</i> <i>No groundwater or seepage encountered</i> <i>No caving</i>
12						
13						
14						
15						
16						

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S-#



Soil Sample Depth  
Interval and Designation

Water Level at  
Time of Excavation

Date Excavated: 12/3/2021

Logged By: CSH

Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 7**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics [Topsoil]
2						Moist, medium stiff, brown and light grey, silty CLAY (CL), orange and dark brown mottling. [Willamette Formation]
3						Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling. [Willamette Formation]
4						
5						
6						
7						
8						
9						Very moist to saturated, medium stiff, brown, silty fine grained SAND (SM), heavily micaceous. [Willamette Formation]
10					▽	
11						
12						<i>Test Pit terminated at 12 feet Seepage observed around 10 feet bgs No caving</i>
13						
14						
15						
16						

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S-#



Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Excavated: 12/3/2021  
 Logged By: CSH  
 Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 8**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
2						Moist, soft, brown silt interbedded with dark brown silt and organics. Strata matrix is disturbed and there are some crushed rock fragments. [Undocumented Fill]
3						
4						Decomposing grass layer and buried topsoil
5						Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling, micaceous. [Willamette Formation]
6						
7						
8						
9						
10						
11						<i>Test Pit terminated at 10 feet No groundwater or seepage encountered No caving</i>
12						
13						
14						
15						
16						

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S-#



Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Excavated: 12/3/2021  
 Logged By: CSH  
 Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 9**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
2						Moist, soft, brown silt interbedded with dark brown silt and organics. Strata matrix is disturbed and there are some crushed rock fragments. [Undocumented Fill]
3						
4	1.8					Decomposing grass layer and buried topsoil
5						Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling, micaceous. [Willamette Formation]
6						
7						
8						
9						
10						
11						<i>Test Pit terminated at 10 feet No groundwater or seepage encountered No caving</i>
12						
13						
14						
15						
16						

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S-#



Soil Sample Depth  
Interval and Designation

Water Level at  
Time of Excavation

Date Excavated: 12/3/2021

Logged By: CSH

Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 10**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
2						Moist, soft, dark brown silt with organics and fractured rock. [Undocumented Fill]
3						
4						
5						
6						Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling, micaceous. [Willamette Formation]
7						
8						
9						
10						
11						<i>Test Pit terminated at 10 feet No groundwater or seepage encountered No caving</i>
12						
13						
14						
15						
16						

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S-#



Soil Sample Depth  
Interval and Designation

Water Level at  
Time of Excavation

Date Excavated: 12/3/2021  
Logged By: CSH  
Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 11**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics [Topsoil]
2						Moist, stiff, brown, clayey SILT (ML) with sand, orange and dark brown mottling. [Willamette Formation]  Sandiness increasing with depth
3						
4						
5						
6						
7						Moist, stiff, brown, sandy SILT (ML), orange and dark brown mottling, slightly micaceous. [Willamette Formation]
8						
9						
10						
11						<i>Test Pit terminated at 10 feet</i> <i>No groundwater or seepage encountered</i> <i>No caving</i>
12						
13						
14						
15						
16						

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S-#



Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Excavated: 12/3/2021  
 Logged By: CSH  
 Surface Elevation: Unknown

# LOG OF HAND AUGER BORING

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Boring No. **HA - 1**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
2						Moist, medium stiff, brown and light grey, clayey SILT (ML), orange and dark brown mottling. [Willamette Formation]
3						
4						
5						Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling, heavily micaceous. [Willamette Formation]
6						<i>Boring terminated at 5 feet No groundwater or seepage encountered No caving</i>
7						
8						
9						
10						

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**LEGEND**



S-#



Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Bored: 12/9/2021

Logged By: CSH

Surface Elevation:



# LOG OF HAND AUGER BORING

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Boring No. **HA - 2**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
0						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
1						Moist, medium stiff, brown and light grey, clayey SILT (ML), orange and dark brown mottling. [Willamette Formation]
2						
3						Moist, stiff to very stiff, brown, sandy SILT (ML), micaceous. [Willamette Formation]
4						
5						
6						<i>Boring terminated at 6 feet No groundwater or seepage encountered No caving</i>
7						
8						
9						
10						

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S-#



Soil Sample Depth  
Interval and Designation

Water Level at  
Time of Excavation

Date Bored: 12/9/2021

Logged By: CSH

Surface Elevation:

# LOG OF HAND AUGER BORING

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Boring No. **HA - 3**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
2						Moist, soft, dark brown silt with organics and fractured rock. [Undocumented Fill]
3						
4						
5						Moist, stiff to very stiff, brown, sandy SILT (ML) [Willamette Formation]
6						<i>Boring terminated at 5 feet No groundwater or seepage encountered No caving</i>
7						
8						
9						
10						

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S-#



Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Bored: 12/9/2021

Logged By: CSH

Surface Elevation:

# LOG OF HAND AUGER BORING

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Boring No. **HA - 4**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics [Topsoil]
2						Moist, medium stiff, brown, clayey SILT (ML) with sand, orange and dark brown mottling. [Willamette Formation]
3						Dry, very stiff, light brown, sandy SILT (ML), orange and dark brown mottling. [Willamette Formation]
4						
5						
6						
7						<i>Test Pit terminated at 6 feet No groundwater or seepage encountered No caving</i>
8						
9						
10						

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**LEGEND**



S-#



Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Bored: 12/9/2021

Logged By: CSH

Surface Elevation:

# LOG OF HAND AUGER BORING

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Boring No. **HA - 5**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics [Topsoil]
2						Moist, medium stiff, brown, clayey SILT (ML) with sand, orange and dark brown mottling. [Willamette Formation]
3						
4						
5						
6						<i>Test Pit terminated at 5 feet No groundwater or seepage encountered No caving</i>
7						
8						
9						
10						

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S-#



Soil Sample Depth  
Interval and Designation

Water Level at  
Time of Excavation

Date Bored: 12/9/2021

Logged By: CSH

Surface Elevation:

# LOG OF HAND AUGER BORING

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Boring No. **HA - 6**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Slightly Moist, Medium Dense, Poorly Graded, Subangular, 1"-0" GRAVEL (GP) in Dark Brown Silty Matrix, Top 3" Highly Organic with Grass Roots <i>[Undocumented Fill]</i>
2						Boring refusal on gravel at 1.1 feet (13 inches) No groundwater or seepage encountered No caving
3						
4						
5						
6						
7						
8						
9						
10						

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S-#



Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Bored: ~~10/07/2021~~ 11/09/2021

Logged By: CSH

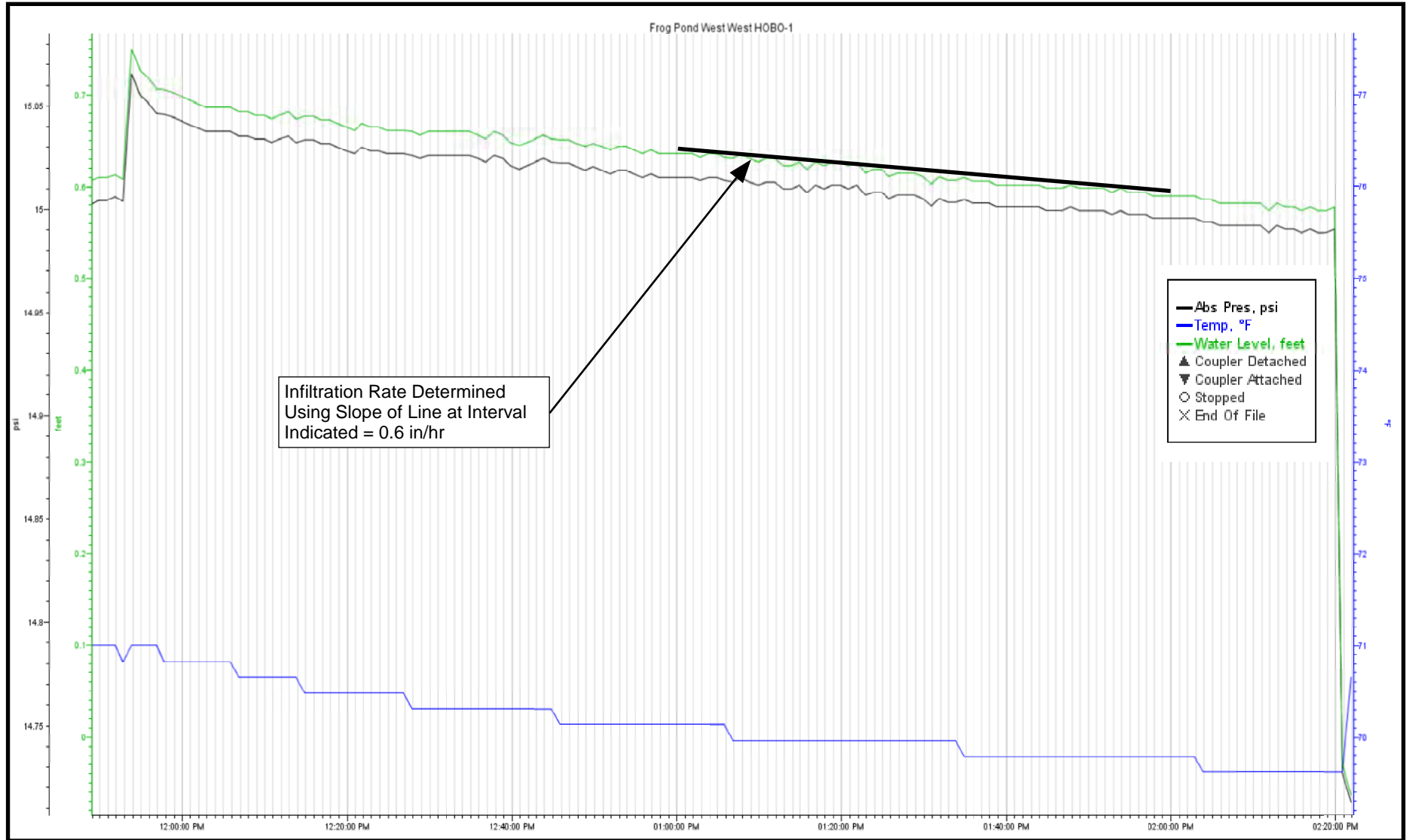
Surface Elevation:



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# INFILTRATION TEST DATA



Project: Frog Pond West West  
Wilsonville, Oregon

Date Tested: 12/7/2021  
Tested By: CSH  
Project No: 21-2824

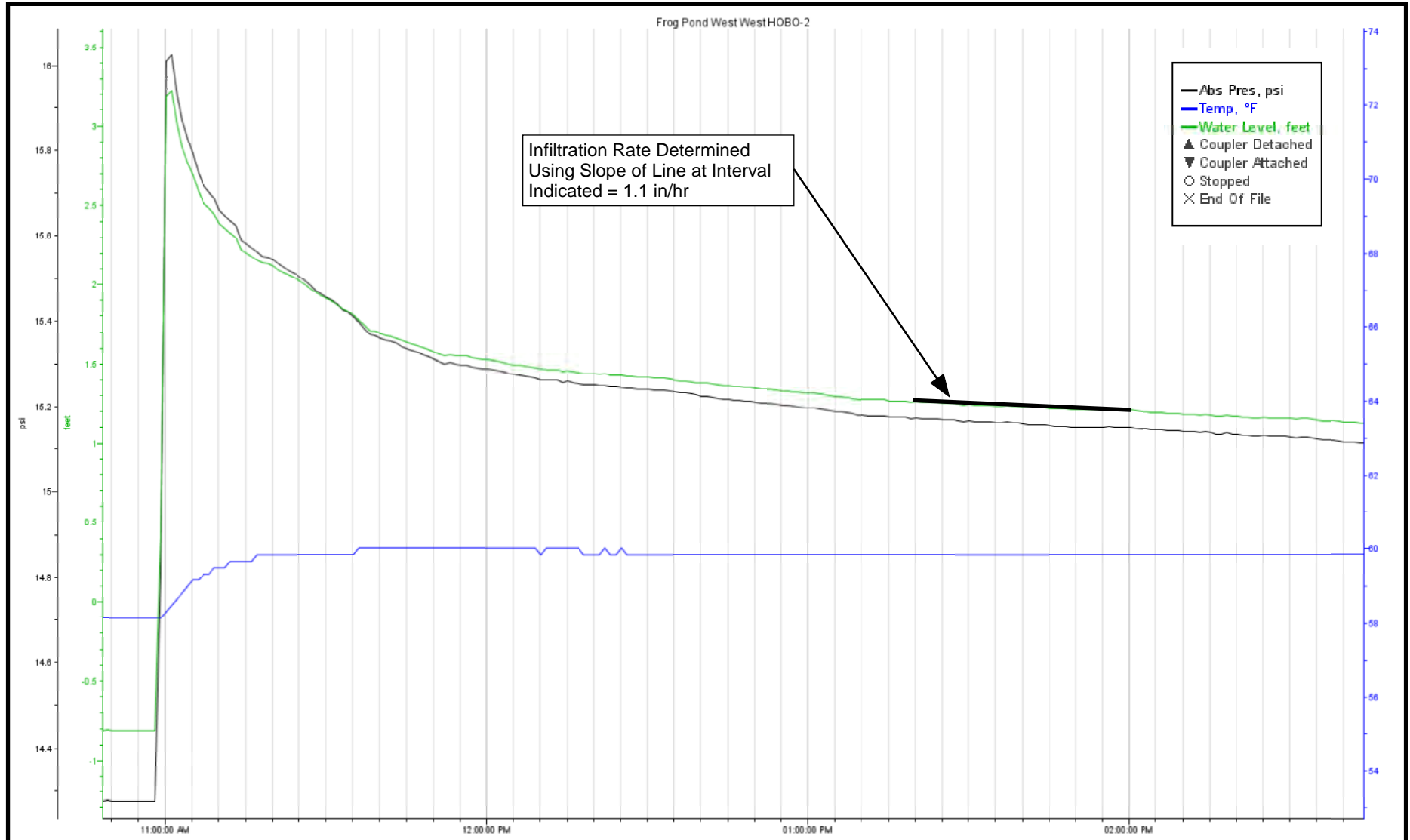
Boring: HA-1  
Depth: 5 Feet



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# INFILTRATION TEST DATA



Project: Frog Pond West West  
Wilsonville, Oregon

Date Tested: 12/7/2021  
Tested By: CSH  
Project No: 21-2824

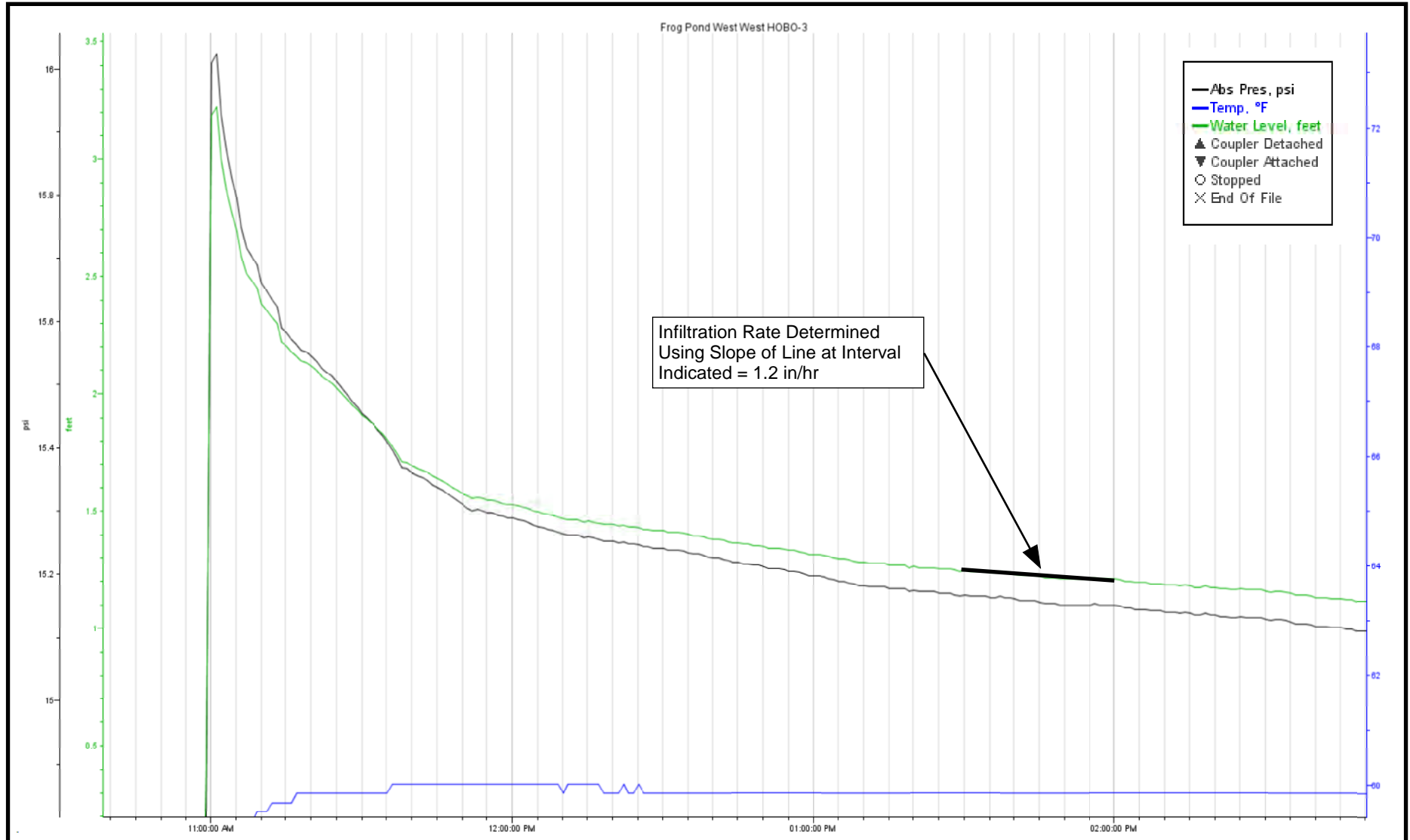
Boring: HA-2  
Depth: 6 Feet



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# INFILTRATION TEST DATA



Project: Frog Pond West West  
Wilsonville, Oregon

Date Tested: 12/7/2021  
Tested By: CSH  
Project No: 21-2824

Boring: HA-3  
Depth: 6 Feet

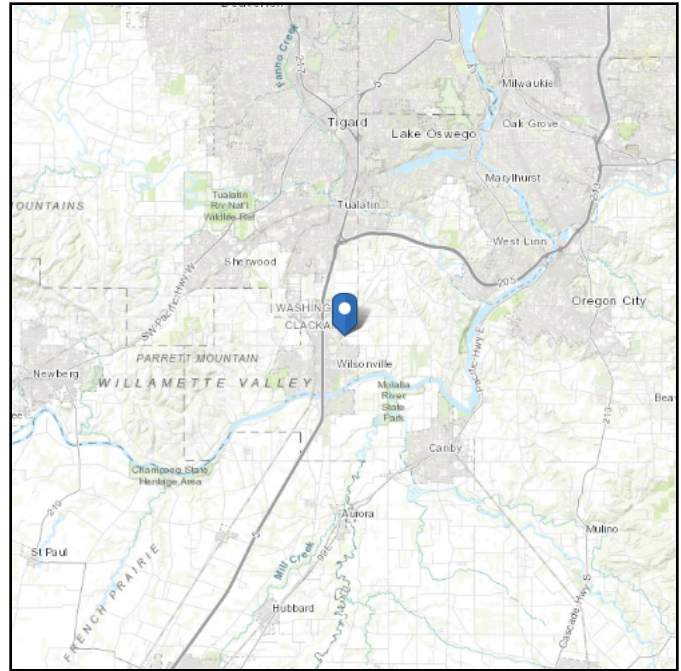
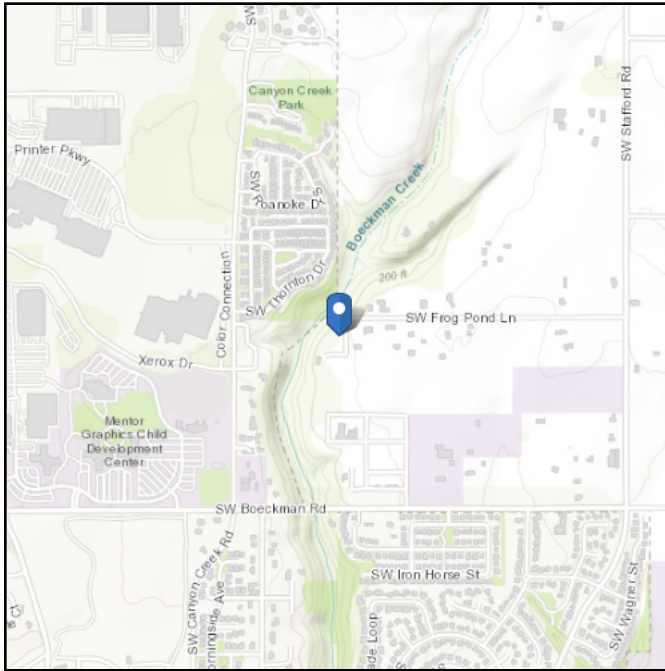


# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** II  
**Soil Class:** D - Stiff Soil

**Elevation:** 216.52 ft (NAVD 88)  
**Latitude:** 45.3218  
**Longitude:** -122.754



**Site Soil Class:** D - Stiff Soil

**Results:**

$S_s$ :	0.82	$S_{D1}$ :	N/A
$S_1$ :	0.381	$T_L$ :	16
$F_a$ :	1.172	PGA :	0.373
$F_v$ :	N/A	PGA <sub>M</sub> :	0.458
$S_{MS}$ :	0.961	$F_{PGA}$ :	1.227
$S_{M1}$ :	N/A	$I_e$ :	1
$S_{DS}$ :	0.641	$C_v$ :	1.21

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

**Data Accessed:** Tue Dec 14 2021

**Date Source:** [USGS Seismic Design Maps](#)

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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# **Appendix C**

DownStream Analysis





## Memorandum

**To:** Keith Buisman, PE  
**From:** Roger Tiffany, EI and Rose Horton, PE  
**Copies:** File  
**Date:** May 17, 2022  
**Subject:** Downstream Impact Analysis of Boeckman Creek  
**Project No.:** 20015

---

### Introduction

Otak has conducted a downstream impact analysis on the downstream storm conveyance system for the proposed Frog Pond Terrace and Frog Pond Overlook developments, per City of Wilsonville 2015 standards. These proposed developments are located adjacent to Frog Pond Lane and east of Boeckman Creek, as shown on Figure 1.



Figure 1 Vicinity Map

The development will meet the City of Wilsonville Public Work Standards Section 301.4.04 which requires flow control from post-development conditions for peak flow rates generated by between 42% of the 2-year storm up to the 10-year storm.

To meet the requirements of City of Wilsonville Public Work Standards Section 301.5.01, a downstream analysis shall include:

- verifying that the downstream system has the capacity to convey the 25-year design storm.
- extending the analysis downstream to a point in the drainage system where the proposed development site contributes 10% or less of the total tributary drainage flow or for one-quarter mile downstream of the approved point of discharge.

Per email communications with Kerry Rappold on March 3, 2022, the downstream analysis should extend down to the flow control structure directly upstream of SW Boeckman Road.

## Existing Conveyance System

The existing conveyance system used in this analysis is shown on Figure 2 (attached), which also includes the drainage basin delineation, time of concentration ( $T_c$ ) flow paths, and runoff node locations represented in the hydraulic model. Cross sections of the open channel system were obtained from LiDAR and field observation. The proposed Frog Pond Terrace and Frog Pond Overlook developments will discharge runoff into the existing Boeckman Creek channel approximately 1,330 feet upstream of the existing flow control structure.

The stretch of channel downstream of the project site was visited on March 16, 2022. The purpose of the field visit was to observe and document existing channel conditions, outfalls, and contributing waterways. Visual documentation of the drainage system along the channel is included in the Photo Log in Appendix A.

## Conveyance Hydrology

Peak runoff rates from the drainage basins delineated in Figure 2 during proposed conditions were calculated using XPSWMM V2021. The Santa Barbara Urban Hydrograph (SBUH) method was used to apply the conveyance design event (25-year recurrence interval, 24-hour duration, NRCS Type 1A rainfall distribution), per Section 301.5.01. Time of Concentration values were calculated for delineated drainage basin using TR-55 equations. Time of Concentration ( $T_c$ ) flow paths are shown in Figure 2 and corresponding calculations for each drainage basin are included in Appendix B. A time of concentration of five minutes, the minimum allowable, was applied to steep and developed basins for a conservative estimate.

The study area is primarily comprised of Aloha silt loam categorized in the hydrologic soil groups (HSG) Type D and Woodburn silt loam categorized as HSG Type C. HSG D soils generally exhibit very slow infiltration rates when thoroughly wet. The steep area of the channel is Xerochrepts and Haploxerolls which is categorized as HSG Type B with moderate infiltration. A Curve Number (CN) of 98 was used for all impervious areas. The pervious areas were open space with good grass cover, thus a CN of 74 (HSG Type C) was used as applicable.

The basins downstream of the proposed project site are developed residential areas. Impervious percentages were estimated based on existing impervious surfaces captured in 2022 aerial imagery.

The upstream flow in Boeckman Creek was obtained from StreamStats (see Appendix B). It is not recommended to mix hydrologic methods and this data should not be used for design. In this case, the StreamStats data was used provide a rough order of magnitude flowrate for the large upstream basin in comparison with the flowrates generated from the proposed development. Table 1 summarizes the 25-year peak flowrates in Boeckman Creek for proposed project conditions calculated in XP-SWMM. The stationing represents the distance upstream from the existing Boeckman Road flow control structure. The existing flow control structure at the end of the analysis is 1,331 feet downstream from the project's proposed discharge location.

**Table 1 Peak 25-Year Flowrates**

Node	Station	Total Contributing Basin Area (ac)	Flow Rate (cfs)
Drainage Node 4	16+95	910	116.62
Drainage Node 3	13+31	978	158.38
Drainage Node 2	5+78	992	160.6
Drainage Node 1	2+00	1,025	173.6

## Downstream Conveyance Modeling Analysis

The stormwater conveyance network was analyzed in XP-SWMM. The conveyance system was modeled to determine whether the existing downstream system has sufficient capacity to support the Frog Pond Overlook and Frog Pond Terrace developments runoff undetained during the 25-year, 24-hour storm event. The inverts are from as-builts of the flow control structure and LiDAR data. Manning's n values of 0.035 or 0.04 were applied to the channel of Boeckman Creek depending on the amount of wood located in the channel along the reach. A Manning's n value of 0.1 was applied to the overbanks. A minimum of one-foot of freeboard between the hydraulic grade line (HGL) and the top of bank was confirmed. The model does not include the effect of the existing flow control structure on the system. Appendix C includes output information from the XP-SWMM model, summarizing the channel network characteristics and results of the hydraulic routing during the design storm.

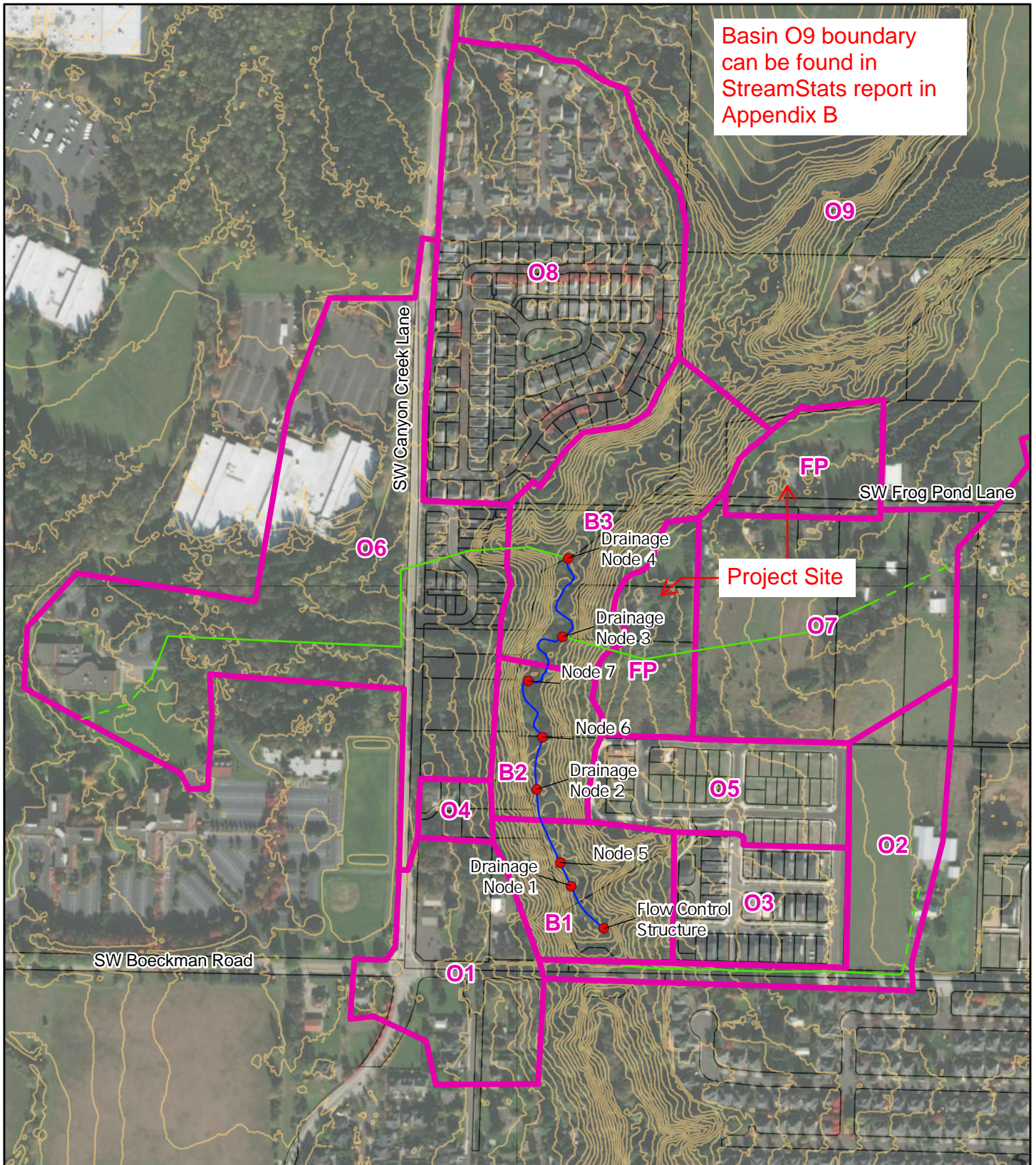
## Conclusions

The downstream stormwater conveyance system was analyzed to confirm conveyance capacity for the proposed development to Boeckman Road. The system consists entirely of open channel upstream of the existing flow control structure at Boeckman Road. A site visit along the downstream reach provided a qualitative assessment of the storm conveyance system and found no evidence of capacity restrictions under existing conditions. The channel was modeled using XP-SWMM software and shows adequate capacity for the proposed flows and the existing flow control structure creates ponding in the downstream reach.

## References

Wilsonville, 2015. *City of Wilsonville Public Works Standards. Section 3, Stormwater & Surface Water Design and Construction Standards*, City of Wilsonville, Revised December 2015.

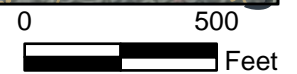




**FIGURE 2**  
**DOWNSTREAM ANALYSIS**  
**BOECKMAN CREEK**  
**WILSONVILLE, OREGON**

**Legend**

- Nodes
- Stream Centerline (Analysis Extent)
- Drainage Basins
- Contours (5 ft)
- Time of Concentration Path
- Shallow Concentrated Flow
- Sheet Flow



Data Sources:  
Date: 4/18/2022  
Disclaimer: This data is not to survey accuracy and is meant for planning purposes only.  
L:\Project\2000\2015\CADD\GIS\MXD\2015-DSA Analysis\2015-DSA Analysis.aprx



**Downstream Analysis of Boeckman Creek**  
**Appendix A**  
Photo Log



**Reach 1 - Flow Control Structure**

Photo looking upstream



- Measured bank full depth – 52"
- Wide activated overbank floodplain
- Minimal wood and vegetation in channel

**Reach 2**

Photo looking upstream



- Measured bank full depth – 30"
- Activated overbank floodplain
- Higher density of wood in channel and beaver dams

### Reach 3

Photo looking downstream



- Measured bank full depth – 48”
- More wood in channel than other reaches

### Reach 4

Photo looking upstream



- Measured bank full depth – 32”
- More wood located in channel than other reaches



## Reach 5

Photo looking downstream



- Measured bank full depth – 24"
- Scattered wood in channel

## Reach 6 – Outfall General Location

Photo looking upstream



- Measured depth 2 ft
- Additional 14" above water surface to TOB at 1:1 slope
- Scattered wood in channel

**Downstream Analysis of Boeckman Creek**  
**Appendix B**  
Hydrology



## DSA Drainage Basin Areas

Boeckman Creek

Basin	XP-SWMM Node	Pervious Curve #	Impervious Area		Total Area	
			Tc	%	(sf)	(ac)
<b>Site Total</b>				390	44,646,105	1,025
O1	1	74	5	30	440,423	10.11
O3	1	74	5	50	288,301	6.62
O5	2	74	5	60	335,041	7.69
O4	2	74	5	30	58,509	1.34
O6	4	74	55.4	50	1,520,186	34.90
O8	3	74	5	80	1,250,809	28.71
B1	1	74	5	0	292,661	6.72
B2	2	74	5	0	206,554	4.74
B3	3	74	5	0	542,471	12.45
O9*	4	74			38,128,714	875.31
O2	1	74	28.2	20	405,690	9.31
O7	3	74	48.4	10	759,013	17.42
FP	3	74	5	60	417,733	9.59

\*Modeled flow rates from Stream Stats

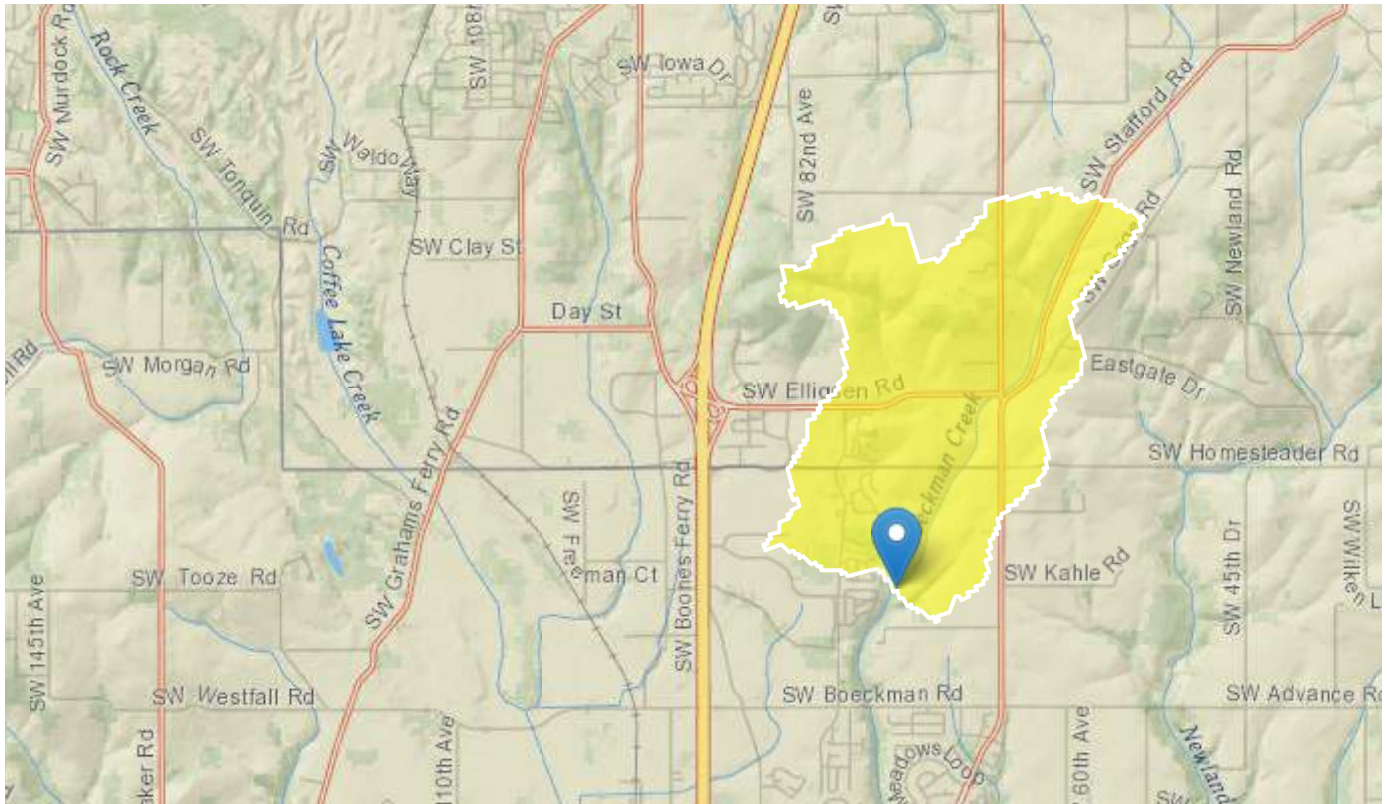
# StreamStats Report - Boeckman Creek

Region ID: OR

Workspace ID: OR20220117180346388000

Clicked Point (Latitude, Longitude): 45.32457, -122.75288

Time: 2022-01-17 10:04:08 -0800



## Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1.59	square miles
I24H2Y	Maximum 24-hour precipitation that occurs on average once in 2 years - Equivalent to precipitation intensity index	1.81	inches
SOILPERM	Average Soil Permeability	0.71	inches per hour
JANMAXT2K	Mean Maximum January Temperature from 2K resolution PRISM 1961-1990 data	46.2	degrees F



Parameter Code	Parameter Description	Value	Unit
WATCAPORC	Available water capacity from STATSGO data using methods from SIR 2005-5116	0.13	inches
ORREG2	Oregon Region Number	10001	dimensionless
BSLOPD	Mean basin slope measured in degrees	4.36	degrees
JANMINT2K	Mean Minimum January Temperature from 2K resolution PRISM PRISM 1961-1990 data	33.2	degrees F
ELEV	Mean Basin Elevation	338	feet
PRECIP	Mean Annual Precipitation	44.6	inches
DRNDENSITY	Basin drainage density defined as total stream length divided by drainage area.	0.63	dimensionless
MINBELEV	Minimum basin elevation	170	feet
MINTEMP	Mean annual minimum air temperature over basin surface area as defined in SIR 2008-5126	42.8	degrees F
JANMINTMP	Mean Minimum January Temperature	33.8	degrees F
MAXTEMP	Mean annual maximum air temperature over basin area from PRISM 1971-2000 800-m grid	62.4	degrees F
LC11DVOPN	Percentage of developed open area from NLCD 2011 class 21	13	percent
LC11WETLND	Percentage of wetlands, classes 90 and 95, from NLCD 2011	0	percent
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	13.4	percent
STRMTOT	total length of all mapped streams (1:24,000-scale) in the basin	1.62	miles

## Peak-Flow Statistics Parameters [Reg 2B Western Interior LT 3000 ft Cooper]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.59	square miles	0.37	7270
BSLOPD	Mean Basin Slope degrees	4.36	degrees	5.62	28.3
I24H2Y	24 Hour 2 Year Precipitation	1.81	inches	1.53	4.48
ELEV	Mean Basin Elevation	338	feet		

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
ORREG2	Oregon Region Number	10001	dimensionless		

Peak-Flow Statistics Disclaimers [Reg 2B Western Interior LT 3000 ft Cooper]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Peak-Flow Statistics Flow Report [Reg 2B Western Interior LT 3000 ft Cooper]

Statistic	Value	Unit
50-percent AEP flood	45.8	ft <sup>3</sup> /s
20-percent AEP flood	68.7	ft <sup>3</sup> /s
10-percent AEP flood	84.7	ft <sup>3</sup> /s
4-percent AEP flood	105	ft <sup>3</sup> /s
2-percent AEP flood	121	ft <sup>3</sup> /s
1-percent AEP flood	137	ft <sup>3</sup> /s
0.2-percent AEP flood	174	ft <sup>3</sup> /s

*Peak-Flow Statistics Citations*

**Cooper, R.M., 2005, Estimation of Peak Discharges for Rural, Unregulated Streams in Western Oregon: U.S. Geological Survey Scientific Investigations Report 2005-5116, 76 p. (<http://pubs.usgs.gov/sir/2005/5116/pdf/sir2005-5116.pdf>)**

Monthly Flow Statistics Parameters [LowFlow Apr Region02 2008 5126]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.59	square miles	3.068	2025.868
PRECIP	Mean Annual Precipitation	44.6	inches	42.7355	101.2128
SOILPERM	Average Soil Permeability	0.71	inches per hour	0.502	3.724

Monthly Flow Statistics Parameters [LowFlow Aug Region02 2008 5126]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.59	square miles	3.068	2025.868
DRNDENSITY	Basin Drainage Density	0.63	dimensionless	0.118	0.876

## Time of Concentration Calculations

Boeckman Creek Downstream Analysis

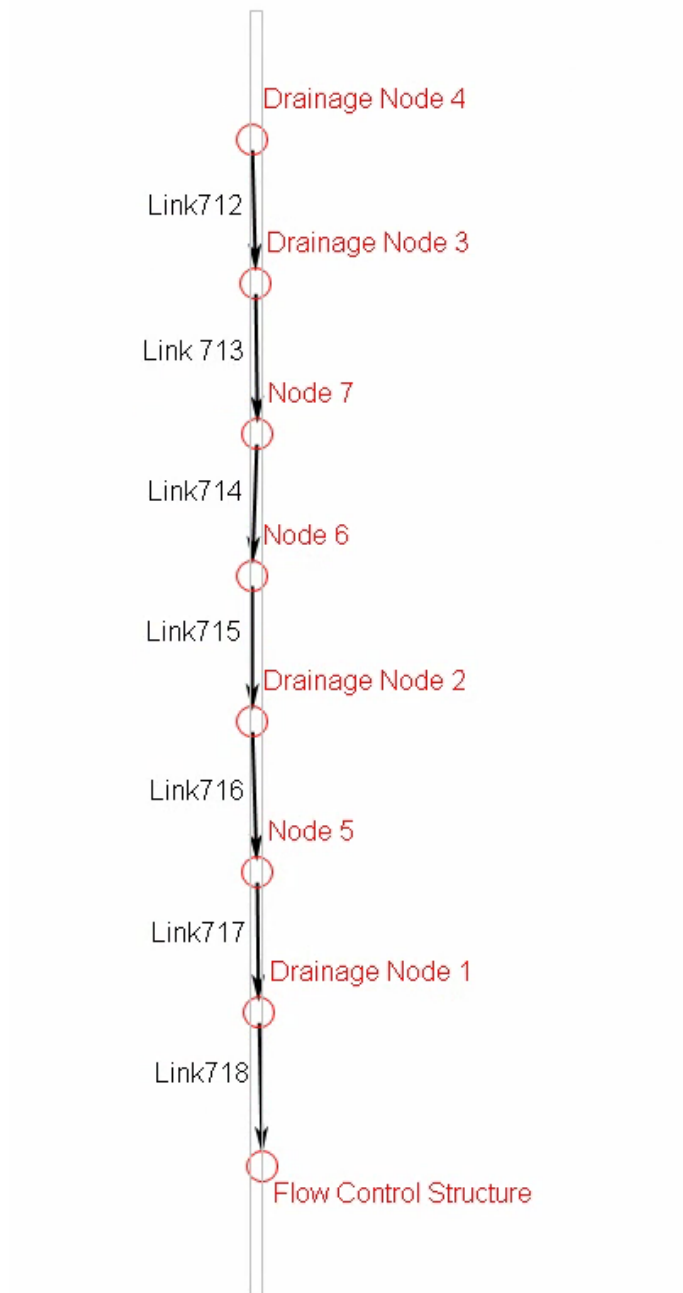
BASINS:		07	06	02
<b>SHEET FLOW</b>				
INPUT				
Surface Description (from Table 3-1)		Short Grass/Woods mix	Short Grass	Short Grass
Manning's Roughness Coefficient		0.25	0.4	0.15
Flow Length, L (<300 ft)	ft	300	300	300
2-Year, 24-Hour Rainfall, P <sub>2</sub>	in	2.5	2.5	2.5
Land Slope, s	ft/ft	0.016	0.027	0.025
OUTPUT				
Travel Time	hr	0.73	0.86	0.41
<b>SHALLOW CONCENTRATED FLOW</b>				
INPUT				
Surface Description (paved or unpaved)		Unpaved		Unpaved
Flow Length, L	ft	1200		900
Watercourse Slope, s	ft/ft	0.075		0.06
OUTPUT				
Average Velocity, V	ft/s	4.42		3.95
Travel Time	hr	0.08		0.06
<b>CHANNEL FLOW</b>				
INPUT				
Cross Sectional Flow Area, a	ft <sup>2</sup>		1.23	
Wetted Perimeter, p <sub>w</sub>	ft		3.93	
Channel Slope, s	ft/ft		0.03	
Manning's Roughness Coefficient			0.013	
Flow Length, L	ft		1925	
OUTPUT				
Average Velocity, V	ft/s		9.15	
Hydraulic Radius, r = a/p <sub>w</sub>	ft		0.31	
Travel Time	hr		0.058	
<b>Basin Time of Concentration, T<sub>c</sub></b>				
	hrs	<b>0.81</b>	<b>0.92</b>	<b>0.47</b>
	min	<b>48.4</b>	<b>55.4</b>	<b>28.2</b>

**Downstream Analysis of Boeckman Creek**  
**Appendix C**  
Model Results



# XP-SWMM Layout

## Boeckman Creek Downstream Analysis



**XP-SWMM RUNOFF DATA**  
**Boeckman Creek Downstream Analysis**  
**Proposed Conditions**

<b>SCS Type IA 25-Year Storm Event</b>							
XP-SWMM Input Data					XP-SWMM Output Data		
Node Name	Total Area (ac)	Impervious %	Pervious Curve Number	Tc (min)	Rainfall Depth (in)	Unit Hydrograph Method	Surface Runoff Flow (cfs)
Drainage Node 1	10.11	30	74	5	3.9	Santa Barbara	6.24
Drainage Node 1	6.62	50	74	5	3.9	Santa Barbara	5.19
Drainage Node 1	6.72	0	74	5	3.9	Santa Barbara	2.65
Drainage Node 1	9.31	20	74	28.2	3.9	Santa Barbara	2.78
Drainage Node 2	7.69	60	74	5	3.9	Santa Barbara	6.70
Drainage Node 2	1.34	30	74	5	3.9	Santa Barbara	0.83
Drainage Node 2	4.74	0	74	5	3.9	Santa Barbara	1.87
Drainage Node 3	28.71	80	74	5	3.9	Santa Barbara	29.94
Drainage Node 3	12.45	0	74	5	3.9	Santa Barbara	4.91
Drainage Node 3	17.42	10	74	48.4	3.9	Santa Barbara	3.43
Drainage Node 3	9.59	60	74	5	3.9	Santa Barbara	8.36
Drainage Node 4	34.90	50	74	55.4	3.9	Santa Barbara	11.55

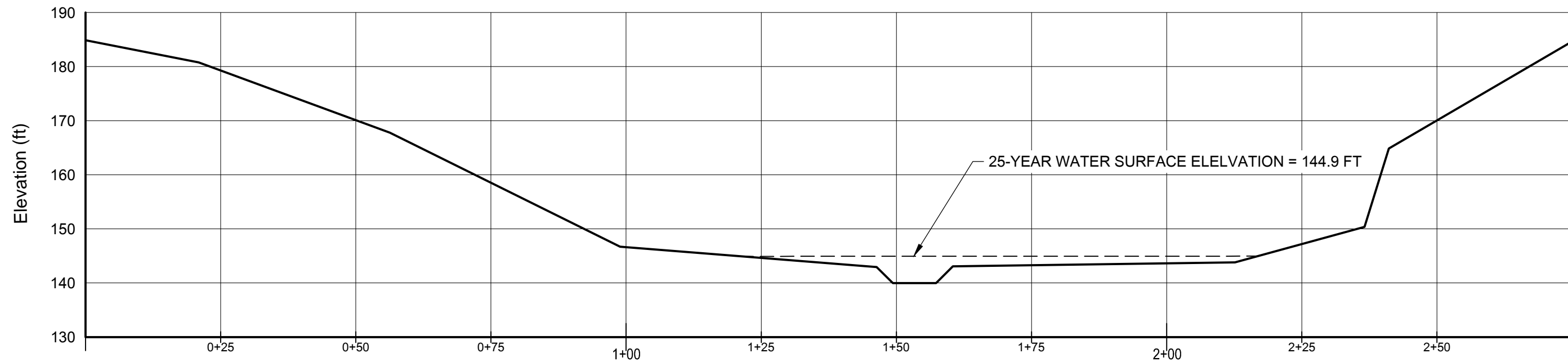
**XP-SWMM HYDRAULICS DATA**  
**Boeckman Creek Downstream Analysis**  
**Proposed Conditions**

**SCS Type IA 25-Year Storm Event**

Location		Channel		Channel Profile								Channel Results				
Link Name	Node Limits		Length ft	Slope %	Ground Elevation (ft)		Invert Elevation (ft)		Max. Water Elevation (ft)		Freeboard (ft)		Max. Flow (cfs)	Max. Velocity (ft/s)	Max. Depth (ft)	y/d0
	From	To			US	DS	US	DS	US	DS	US	DS				
Link712	Drainage Node 4	Drainage Node 3	364.00	0.6	188.19	186.12	143.27	141.20	146.53	144.90	41.66	41.22	116.62	3.66	3.70	0.08
Link 713	Drainage Node 3	Node 7	309.00	0.6	186.12	184.93	141.20	139.42	144.90	143.17	41.22	41.76	158.38	3.74	3.75	0.08
Link715	Node 6	Drainage Node 2	196.00	0.2	186.41	186.00	137.41	137.00	142.07	141.44	44.34	44.56	153.78	3.20	4.66	0.10
Link717	Node 5	Drainage Node 1	93.00	1.0	185.60	184.43	136.60	135.10	139.77	137.15	45.83	47.28	160.56	4.60	3.17	0.07
Link714	Node 7	Node 6	248.00	0.8	184.93	186.41	139.42	137.41	143.17	142.07	41.76	44.34	155.45	2.99	4.66	0.10
Link716	Drainage Node 2	Node 5	285.00	0.1	186.00	185.60	137.00	136.60	141.44	139.77	44.56	45.83	160.61	3.75	4.44	0.09
Link718	Drainage Node 1	Flow Control Structure	200.00	1.6	184.43	181.33	135.10	132.00	137.15	133.96	47.28	47.37	173.66	7.02	2.05	0.04

Boeckman Road surface is higher than elevation 176

Cross Section for Link 713 is directly downstream of the proposed development



Link 713 Cross Section

## **Appendix D**

BMP Sizing Tool Output



## WES BMP Sizing Report

## Project Information

Project Name	Frog Pond Terrace & Frog Pond Overlook
Project Type	Subdivision
Location	7480 SW Frog Pond Lane
Stormwater Management Area	6500
Project Applicant	West Hills Development
Jurisdiction	CCSD1NCSA

## Drainage Management Area

Name	Area (sq-ft)	Pre-Project Cover	Post-Project Cover	DMA Soil Type	BMP
O3 Perv	998	Grass	LandscapeCsoil	C	Swale 4
O3 Imp.	11,467	Grass	ConventionalCo ncrete	C	Swale 4
T13 Perv.	1,775	Grass	LandscapeCsoil	C	Swale 3
T13 Imp.	6,251	Grass	ConventionalCo ncrete	C	Swale 3
T11 Imp.	9,707	Grass	ConventionalCo ncrete	C	Swale 1
T11 Perv.	548	Grass	LandscapeCsoil	C	Swale 1
Pond Basins Imp.	125,358	Grass	ConventionalCo ncrete	C	Pond
Pond Basins Perv.	107,258	Grass	LandscapeCsoil	C	Pond
T12 Imp.	5,835	Grass	ConventionalCo ncrete	C	Swale 2
T12 Perv.	889	Grass	LandscapeCsoil	C	Swale 2
O4 Imp.	10,399	Grass	ConventionalCo ncrete	C	Swale 5
O4 Perv.	815	Grass	LandscapeCsoil	C	Swale 5
FP2 Imp.	2,177	Grass	ConventionalCo ncrete	C	Swale 6
FP2 Perv.	183	Grass	LandscapeCsoil	C	Swale 6
FP3 Imp	3,445	Grass	ConventionalCo ncrete	C	Swale 7
FP3 Perv.	248	Grass	LandscapeCsoil	C	Swale 7

### LID Facility Sizing Details

LID ID	Design Criteria	BMP Type	Facility Soil Type	Minimum Area (sq-ft)	Planned Areas (sq-ft)	Orifice Diameter (in)
Swale 2	FlowControlAndTreatment	Vegetated Swale - Filtration	C2	314.0	336.0	0.8
Swale 1	WaterQuality	Vegetated Swale - Filtration	C2	149.7	342.0	0.6
Swale 3	FlowControlAndTreatment	Vegetated Swale - Filtration	C2	356.9	384.0	0.9
Swale 4	WaterQuality	Vegetated Swale - Filtration	C2	179.5	221.0	0.6
Swale 5	WaterQuality	Vegetated Swale - Filtration	C2	162.1	192.0	0.6
Swale 6	FlowControlAndTreatment	Vegetated Swale - Filtration	C2	113.4	183.0	0.5
Swale 7	FlowControlAndTreatment	Vegetated Swale - Filtration	C2	178.5	248.0	0.6

### Pond Sizing Details

Pond ID	Design Criteria(1)	Facility Soil Type	Max Depth (ft)(2)	Top Area (sq-ft)	Side Slope (1:H)	Facility Vol. (cu-ft)(3)	Water Storage Vol. (cu-ft)(4)	Adequate Size?
Pond	FCWQT	Lined	5.00	7,523.0	3	26,105.1	18,278.3	Yes

1. FCWQT = Flow control and water quality treatment, WQT = Water quality treatment only

2. Depth is measured from the bottom of the facility and includes the three feet of media (drain rock, separation layer and growing media).

3. Maximum volume of the facility. Includes the volume occupied by the media at the bottom of the facility.

4. Maximum water storage volume of the facility. Includes water storage in the three feet of soil media assuming a 40 percent porosity.

# Simple Pond Geometry Configuration

Pond ID: Pond

Design: FlowControlAndTreatment

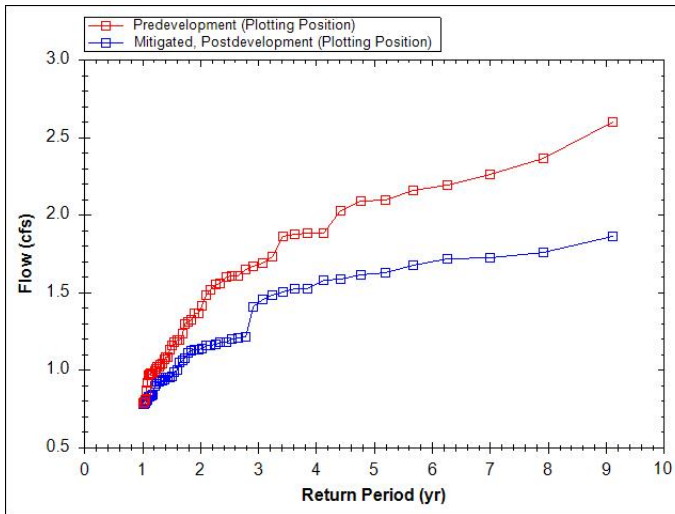
## Shape Curve

Depth (ft)	Area (sq ft)
5.0	7,523.0

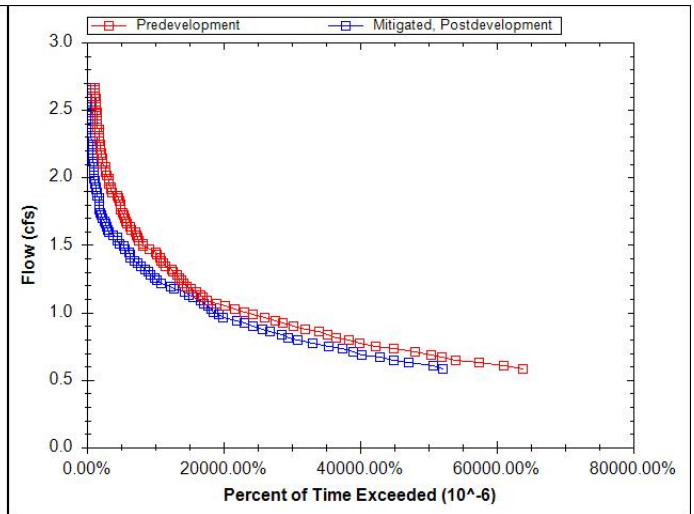
## Outlet Structure Details

Lower Orifice Invert (ft)	0.0
Lower Orifice Dia (in)	3.2
Upper Orifice Invert(ft)	3.4
Upper Orifice Dia (in)	7.9
Overflow Weir Invert(ft)	4.0
Overflow Weir Length (ft)	6.3

Flow Frequency Chart



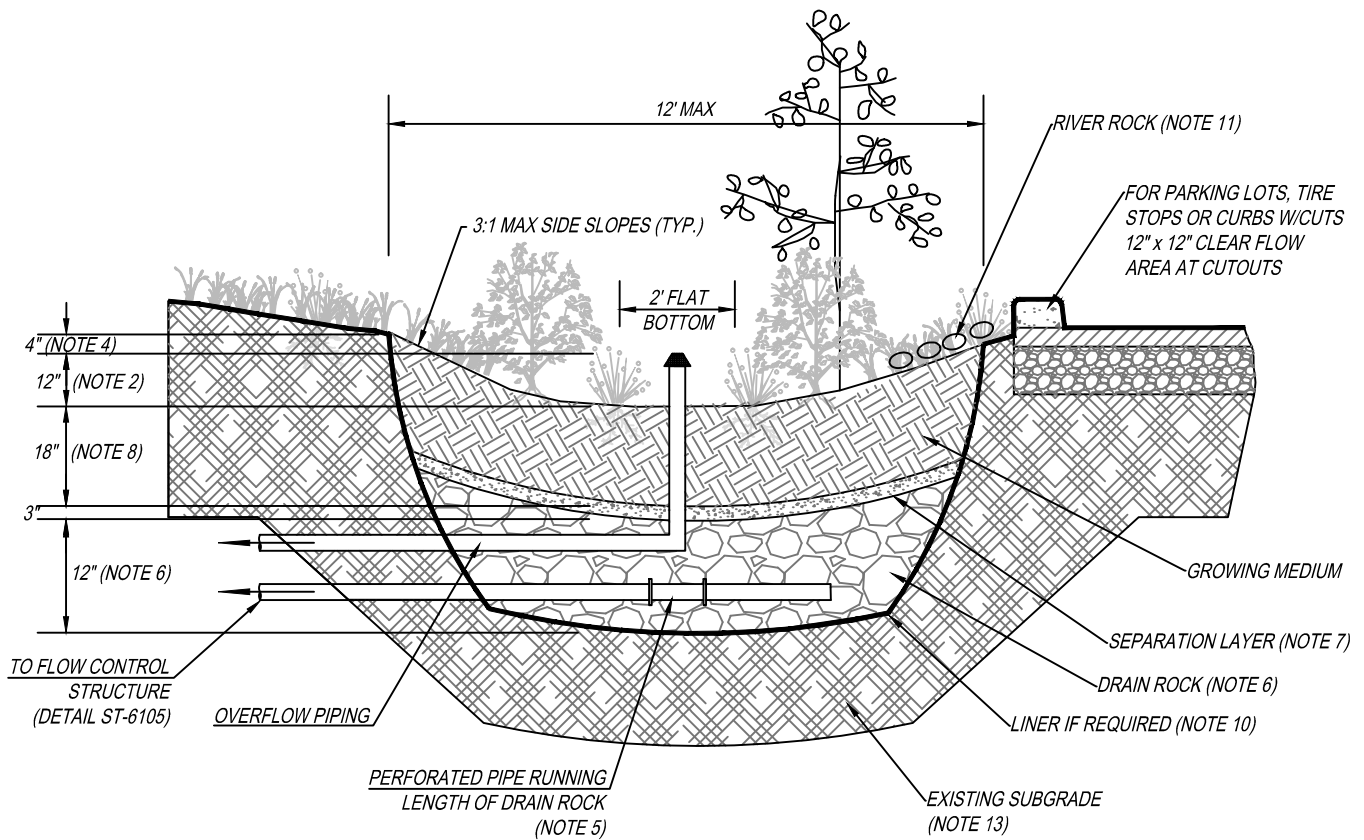
Flow Duration Chart



**Appendix E**  
Operations and Maintenance Plans



This Detail Drawing may not be altered or changed in any manner except by the City Engineer. It is the responsibility of the user to acquire the most current version.



**GENERAL NOTES:**

1. **PROVIDE PROTECTION** FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING AND AFTER CONSTRUCTION. UNLESS REQUIRED BY SITE CONDITIONS, UNLINED SWALES ARE PREFERRED TO ALLOW MAXIMUM INFILTRATION.
2. **DIMENSIONS:**
  - DEPTH OF SWALE (FROM TOP OF GROWING MEDIUM TO OVERFLOW ELEVATION); 12"
  - LONGITUDINAL SLOPE OF SWALE: 6.0% OR LESS
  - FLAT BOTTOM WIDTH: 2' MINIMUM
  - SIDE SLOPES OF SWALE: 3:1 MAXIMUM
3. **LOCATION/SETBACKS:**
  - FILTRATION SWALES SHALL BE 10' FROM FOUNDATIONS AND 5' FROM PROPERTY LINES UNLESS APPROVED BY BUILDING OFFICIAL
4. **OVERFLOW:**
  - INLET ELEVATION SHALL ALLOW FOR 4" OF FREEBOARD, MINIMUM.
  - PROTECT FROM DEBRIS AND SEDIMENT WITH STRAINER OR GRATE.
5. **PIPING:**
  - PERFORATED UNDER-DRAIN PIPING: SHALL BE ABS SCH. 40, CAST IRON, OR PVC SCH.40. MINIMUM DIAMETER IS 6". PIPING SHALL HAVE 1% GRADE AND FOLLOW THE UNIFORM PLUMBING CODE. PVC NOT ALLOWED ABOVE GROUND. WRAP UNDER-DRAIN IN FILTER FABRIC TO REDUCE TRANSPORT OF FINES.
  - OVERFLOW PIPING: SHALL BE ABS SCH. 40, CAST IRON, OR PVC SCH. 40 AND SHALL NOT BE PERFORATED. MINIMUM DIAMETER IS 6". PIPING SHALL HAVE 1% GRADE AND FOLLOW THE UNIFORM PLUMBING CODE. PVC NOT ALLOWED ABOVE GROUND.
6. **DRAIN ROCK:**
  - SIZE: 1 1/2" - 3/4" WASHED
  - DEPTH: 12"
7. **SEPARATION** BETWEEN DRAIN ROCK AND GROWING MEDIUM: SHALL BE A 3" LAYER OF 3/4" - 1/4" OPEN GRADED AGGREGATE.
8. **GROWING MEDIUM:**
  - 18" MINIMUM
  - SEE APPENDIX C FOR SPECIFICATION OR USE SAND/LOAM/COMPOST 3-WAY MIX.
  - FACILITY SURFACE AREA MAY BE REDUCED BY 25% WHEN GROWING MEDIA DEPTH IS INCREASED TO 30" OR MORE.
9. **VEGETATION:** FOLLOW LANDSCAPE PLANS OR REFER TO PLANTING REQUIREMENTS IN APPENDIX A.
10. **WATERPROOF LINER (IF REQUIRED):** SHALL BE 30 MIL PVC OR EQUIVALENT.
11. **INSTALL RIVER ROCK** SPLASH PAD OVER A NON WOVEN GEO TEXTILE FABRIC TO TRANSITION FROM INLETS TO GROWING MEDIUM. SIZE OF ROCK SHALL BE 1" TO 3", 4 SQUARE FEET, 6" DEEP.
12. **CHECK DAMS:** SHALL BE PLACED ACCORDING TO FACILITY DESIGN. REFER TO DETAIL ST-6100 FOR PROFILE AND SPACING.
13. **SEASONAL HIGH GROUNDWATER SEPARATION:**
  - SEPARATION DISTANCE AS REQUIRED BY CITY.

**Vegetated Swale - Filtration**

DRAWING NUMBER: ST-6045

DRAWN BY: SR

SCALE: N.T.S.

FILE NAME: ST-6045.DWG

APPROVED BY: NK

DATE: 6/3/16

**CITY OF WILSONVILLE**



**PUBLIC WORKS STANDARDS**

## Vegetated Swales Operations & Maintenance Plan

What to Look For	What to Do
<b>Structural Components, including inlets and outlets/overflows, shall freely convey stormwater.</b>	
Clogged inlets or outlets	-Remove sediment and debris from catch basins, trench drains, curb inlets and pipes to maintain at least 50% conveyance capacity at all times.
Cracked Drain Pipes	-Replace/seal cracks. Replace when repair is insufficient.
Check Dams	-Maintain 4 - 10 inch deep rock check dams at design intervals.
<b>Vegetation</b>	
Dead or strained vegetation	-Replant per original planting plan, or substitute from Appendix A. -Irrigate as needed. Mulch banks annually. DO NOT apply fertilizers, herbicides, or pesticides.
Tall Grass and Vegetation	-Cut back to 4-6 inches, 1-2 times per year. Remove cuttings
Weeds	-Manually remove weeds. Remove all plant debris.
<b>Growing/Filter Medium, including soil and gravels, shall sustain healthy plant cover and infiltrate within 72 hours.</b>	
Gullies	-Fill, lightly compact, and plant vegetation to disperse flow.
Erosion	-Restore or create outfalls, checkdams, or splash blocks where necessary.
Slope Sippage	-Stabilize Slope.
Ponding	-Rake, till, or amend to restore infiltration rate.

### Annual Maintenance Schedule:

*Summer.* Make any structural repairs. Improve filter medium as needed. Clear drain. Irrigate as needed.

*Fall.* Replant exposed soil and replace dead plants. Remove sediment and plant debris.

*Winter.* Monitor infiltration/flow-through rates. Clear inlets and outlets/overflows to maintain conveyance.

*Spring.* Remove sediment and plant debris. Replant exposed soil and replace dead plants. Mulch.

*All seasons.* Weed as necessary.

**Maintenance Records:** Record date, description, and contractor (if applicable) for all structural repairs, landscape maintenance, and facility cleanout activities. Keep work orders and invoices on file and make available upon request of the inspector.

**Access:** Maintain ingress/egress to design standards.

**Infiltration/Flow Control:** All facilities shall drain within 72 hours. Record time/date, weather, and site conditions when ponding occurs.

**Pollution Prevention:** All sites shall implement best management practices to prevent hazardous or solid wastes or excessive oil and sediment from contaminating stormwater. Contact \_\_\_\_\_ for immediate assistance responding to spills. Record time/date, weather, and site conditions if site activities contaminate stormwater.

**Vectors (Mosquitoes & Rodents):** Stormwater facilities shall not harbor mosquito larvae or rats that pose a threat to public health or that undermine the facility structure. Monitor standing water for small wiggling sticks perpendicular to the water's surface.

Note holes/burrows in and around facilities. Call Clackamas County Vector Control for immediate assistance to eradicate vectors. Record time/date, weather, and site conditions when vector activity observed.

### Vegetated Swale O & M Plan

DRAWING NUMBER: ST-6055

DRAWN BY: SR

SCALE: N.T.S.

FILE NAME: ST-6055.DWG

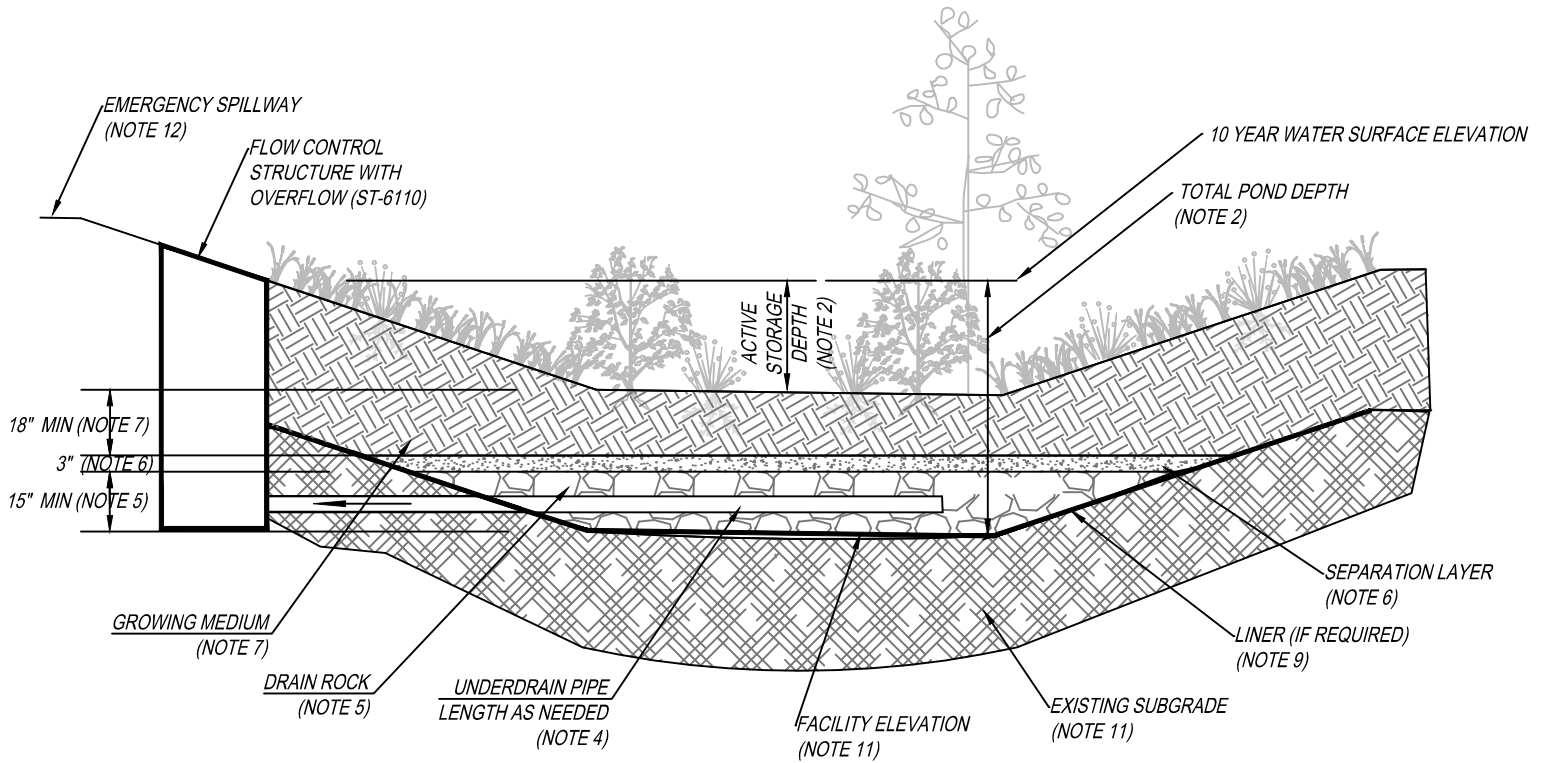
APPROVED BY: NK

DATE: 10/8/14

CITY OF  
WILSONVILLE



PUBLIC WORKS STANDARDS



**GENERAL NOTES:**

1. **PROVIDE PROTECTION** FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING AND AFTER CONSTRUCTION. UNLESS REQUIRED BY SITE CONDITIONS, UNLINED PONDS ARE PREFERRED TO ALLOW MAXIMUM INFILTRATION.
2. **DIMENSIONS:**
  - ACTIVE STORAGE DEPTH: (FROM TOP OF GROWING MEDIUM TO OVERFLOW ELEVATION); PER FACILITY SIZING MODEL
  - TOTAL POND DEPTH: 4' MINIMUM, PER FACILITY SIZING MODEL
  - BOTTOM SLOPE: 2.0% OR LESS
  - SIDE SLOPES OF DETENTION POND: 3:1 MAXIMUM
3. **LOCATION/SETBACKS:**
  - DETENTION POND SHALL BE 10' FROM FOUNDATIONS AND 5' FROM PROPERTY LINES UNLESS APPROVED BY BUILDING OFFICIAL.
4. **PIPING:**
  - PERFORATED UNDER-DRAIN PIPING: SHALL BE ABS SCH. 40, CAST IRON OR PVC SCH. 40. 6" MINIMUM DIAMETER. PIPING SHALL HAVE 1% GRADE AND FOLLOW THE UNIFORM PLUMBING CODE. PVC NOT ALLOWED ABOVE GROUND. WRAP UNDER-DRAIN PIPE IN FILTER FABRIC TO REDUCE TRANSPORT OF FINES.
  - OVERFLOW PIPING: SHALL BE ABS SCH. 40, CAST IRON OR PVC SCH. 40 AND SHALL NOT BE PERFORATED. MINIMUM DIAMETER IS 6". PIPING SHALL HAVE 1% GRADE AND FOLLOW THE UNIFORM PLUMBING CODE. PVC NOT ALLOWED ABOVE GROUND.
5. **DRAIN ROCK:**
  - SIZE: 1 1/2" - 3/4"-0 WASHED
  - DEPTH: 15" MINIMUM
6. **SEPARATION** BETWEEN DRAIN ROCK AND GROWING MEDIUM: SHALL BE A 3" LAYER OF 3/4" - 1/4" OPEN GRADED AGGREGATE.
7. **GROWING MEDIUM:**
  - 18" MINIMUM
  - SEE APPENDIX C FOR SPECIFICATION OR USE SAND/LOAM/COMPOST 3-WAY MIX.
8. **VEGETATION:** FOLLOW LANDSCAPE PLANS OR REFER TO PLANTING REQUIREMENTS IN APPENDIX A.
9. **WATERPROOF LINER (IF REQUIRED):** SHALL BE 30 MIL PVC OR EQUIVALENT FOR DETENTION POND.
10. **INSTALL RIVER ROCK** SPLASH PAD OVER A NON WOVEN GEO TEXTILE FABRIC TO TRANSITION FROM INLETS TO GROWING MEDIUM. SIZE OF ROCK SHALL BE 1" TO 3", 4 SQUARE FEET 6" DEEP.
11. **SEASONAL HIGH GROUNDWATER SEPARATION:**
  - SEPARATION DISTANCE AS REQUIRED BY CITY.
12. **EMERGENCY SPILLWAY** SIZED TO CONVEY THE 100 YEAR DESIGN STORM (S-2275). SEE PUBLIC WORKS STANDARDS 301.4.09

**Detention Pond**

**CITY OF  
WILSONVILLE**



DRAWING NUMBER: ST-6060

DRAWN BY: SR

SCALE: N.T.S.

FILE NAME: ST-6060.DWG

APPROVED BY: NK

DATE: 6/3/16

**PUBLIC WORKS STANDARDS**

## Detention Pond Operations & Maintenance Plan

Detention Pond removes pollutants through several processes: sedimentation, filtration, and biological processes. The facility owner must keep a log, recording all inspection dates, observations, and maintenance activities. The following items shall be inspected and maintained as stated:

What to Look For	What to Do
<b>Structural Components, including inlets and outlets/overflows, shall freely convey stormwater.</b>	
Clogged inlets or outlets	-Remove sediment and debris from catch basins, trench drains, curb inlets and pipes to maintain at least 50% conveyance capacity at all times.
Cracked Drain Pipes	-Repair/seal cracks. Replace when repair is insufficient.
Check Dams	-Maintain 4 - 10 inch deep rock check dams at design intervals.
<b>Vegetation shall cover 90% of the facility.</b>	
Dead or strained vegetation	-Replant per original planting plan, or substitute from Appendix A. -Irrigate as needed. Mulch banks annually. DO NOT apply fertilizers, herbicides, or pesticides.
Tall Grass and Vegetation	-Cut back grass and prune overgrowth 1-2 times per year. Remove cuttings.
Weeds	-Manually remove weeds. Remove all plant debris.
<b>Growing/Filter Medium, including soil and gravels, shall sustain healthy plant cover and infiltrate within 72 hours.</b>	
Gullies	-Fill, lightly compact, and plant vegetation to disperse flow.
Erosion	-Replace splash blocks or inlet gravel/rock.
Slope Sippage	-Stabilize 3:1 Slopes/banks with plantings from Appendix A
Ponding	-Rake, till, or amend to restore infiltration rate.

### Annual Maintenance Schedule:

All facility components, vegetation, and source controls shall be inspected for proper operations and structural stability. These inspections shall occur, at a minimum, quarterly for the first 2 years from the date of installation, and 2 times per year thereafter, and within 48 hours after each major storm event.

**Access:** Maintain ingress/egress to design standards.

**Infiltration/Flow Control:** All facilities shall drain within 72 hours. Record time/date, weather, and site conditions when ponding occurs.

**Pollution Prevention:** All sites shall implement best management practices to prevent hazardous or solid wastes or excessive oil and sediment from contaminating stormwater. Contact \_\_\_\_\_ for immediate assistance responding to spills. Record time/date, weather, and site conditions if site activities contaminate stormwater.

**Vectors (Mosquitoes & Rodents):** Stormwater facilities shall not harbor mosquito larvae or rats that pose a threat to public health or that undermine the facility structure. Monitor standing water for small wiggling sticks perpendicular to the water's surface. Note holes/burrows in and around facilities. Call Clackamas County Vector Control for immediate assistance to eradicate vectors. Record time/date, weather, and site conditions when vector activity observed.

### Detention Pond O & M Plan

DRAWING NUMBER: ST-6065

DRAWN BY: SR

SCALE: N.T.S.

FILE NAME: ST-6065.DWG

APPROVED BY: NK

DATE: 10/8/14

CITY OF  
WILSONVILLE



PUBLIC WORKS STANDARDS



## STORMWATER FACILITIES OPERATIONS AND MAINTENANCE CHECKLIST

<b>Problem</b>	<b>Frequency</b>	<b>Trigger</b>	<b>Preferred Condition</b>
<i>Sediment Accumulation in Treatment Area</i>	<i>Monthly from November through April Annually Required</i>	<i>Sediment depth exceeds 3 inches</i>	<i>Sediment removed from vegetated treatment area: level side to side and drains freely toward outlet; no standing water within 24 hours of any major storm (1" in 24 hours)</i>
<i>Erosion Scouring</i>	<i>Monthly from November through April Annually Required</i>	<i>Monthly from November through April Annually Required</i>	<i>Repair ruts or bare areas by filling with topsoil during dry season; regrade and replant large bare areas.</i>
<i>Standing Water</i>	<i>Monthly from November through April and after any major storm (1 inch in 24 hours)</i>	<i>Standing water in the planter between storms that does not drain freely</i>	<i>Remove sediment or trash blockages; improve end to end grade so there is no standing water 24 hours after any major storm (1 inch in 24 hours)</i>
<i>Flow not Distributed Evenly</i>	<i>Monthly from November through April Annually Required</i>	<i>Flows unevenly distributed through planter width due to uneven or clogged flow spreader</i>	<i>Level the spreader and clean so that flows spread evenly over entire planter width</i>
<i>Settlement/ Misalignment</i>	<i>Annually Required</i>	<i>Failure of planters has created safety, function, or design problem</i>	<i>Planter replaced or repaired to design standards</i>
<i>Constant Baseflow</i>	<i>Monthly from November through April Annually Required</i>	<i>Small, continual flow of water through the planter even after weeks without rain; planter bottom has an eroded, muddy channel</i>	<i>Add a low-flow pea gravel drain the length of the planter or bypass the baseflow around the planter</i>
<i>Vegetation</i>	<i>Monthly from November through April Annually Required</i>	<i>Vegetation blocking more than 10% of the inlet pipe opening</i>	<i>No vegetation blocking the inlet pipe opening</i>
<i>Poor Vegetation Coverage</i>	<i>Monthly Annually Required</i>	<i>Grass or other vegetation is sparse, or bare in more than 10% of the planter area</i>	<i>Determine cause of poor growth and correct the condition; replant with plants (per Appendix A) as needed to meet facility standards</i>
<i>Invasive Vegetation</i>	<i>Monthly Annually Required</i>	<i>No invasive vegetation is planted or permitted to remain</i>	<i>no invasive vegetation present; remove excessive weeds. Control if complete eradication is not feasible</i>
<i>Rodents</i>	<i>Monthly Annually Required</i>	<i>Evidence of rodents or rodent damage</i>	<i>No rodents; functioning facility</i>
<i>Insects</i>	<i>Annually Required</i>	<i>Insects such as wasps and hornets that interfere with maintenance activities</i>	<i>Harmful Insects removed</i>
<i>Trash and Debris</i>	<i>Monthly and after any major storm (1 inch in 24 hours) Annually Required</i>	<i>Visual evidence of trash, debris or dumping</i>	<i>Trash and Debris removed from facility</i>
<i>Contamination and Pollution</i>	<i>Monthly from November through April Annually Required</i>	<i>Any evidence of oil, gasoline, contamination or other pollutants</i>	<i>No contaminants or pollutants present; coordinate removal/cleanup with local water quality response agency</i>
<i>Obstructed Inlet/Outlet</i>	<i>Monthly and after any major storm event (1 inch in 24 hours) Annually Required</i>	<i>Inlet/outlet areas clogged with sediment, vegetation or debris</i>	<i>Clear inlet and outlet; obstructions removed</i>
<i>Excessive Shading</i>	<i>Monthly from November through April Annually Required</i>	<i>Vegetation growth is poor because unlight does not reach planter</i>	<i>Trim over-hanging limbs and/or remove brushy vegetation as needed</i>
<i>Vegetation</i>	<i>Monthly from November through April Annually Required</i>	<i>Specified or approved grass grows so tall that it competes with shrubs and/or becomes a fire danger</i>	<i>String trim non-wetland grasses to 4 inch to 6 inch and remove clippings; protect woody vegetation</i>

### Stormwater Facilities Operations & Maintenance Checklist

DRAWING NUMBER: ST-6115

DRAWN BY: SR

SCALE: N.T.S.

FILE NAME: ST-6115.DWG

APPROVED BY: NK

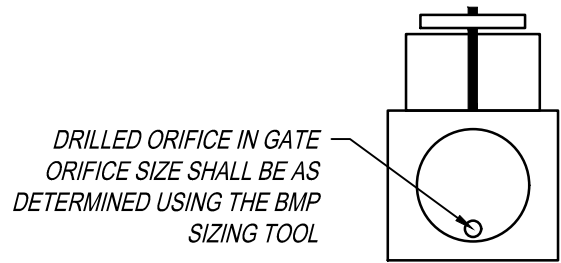
DATE: 10/3/14

CITY OF  
WILSONVILLE

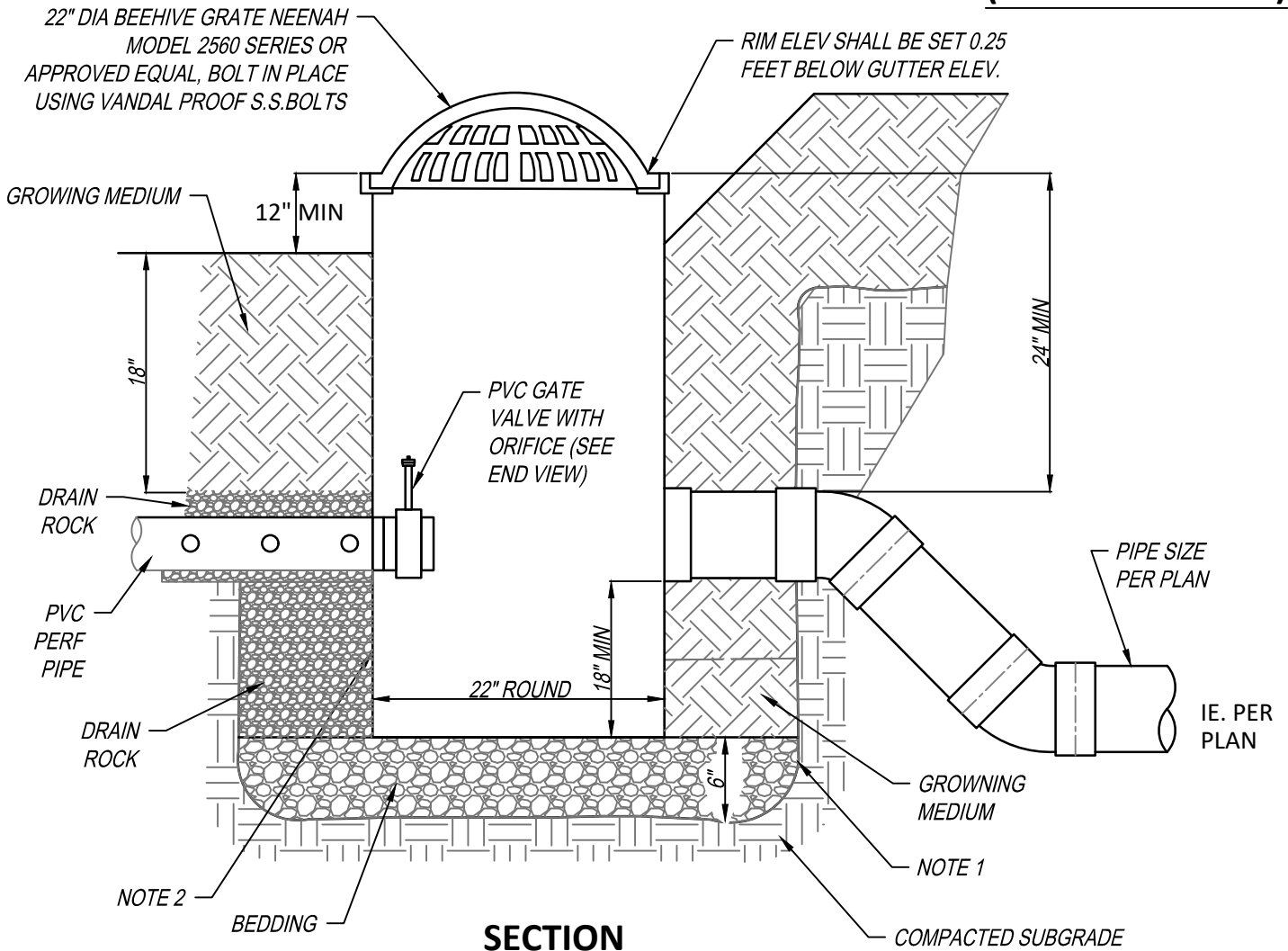


PUBLIC WORKS STANDARDS

This Detail Drawing may not be altered or changed in any manner except by the City Engineer. It is the responsibility of the user to acquire the most current version.




**END VIEW  
(PVC GATE VALVE)**



**NOTES:**

1. CONTRACTOR TO WIDEN EXCAVATION AS REQUIRED TO OBTAIN COMPACTION WITH CONTRACTORS COMPACTION EQUIPMENT.
2. 10 GA. STEEL PLATE, BITUMINOUS COATED BASIN AS MANUFACTURED BY GIBSON STEEL, GRATEMASTER OR APPROVED EQUAL.
3. BEDDING SHALL BE 6" OF COMPACTIONED 3/4"-0 CRUSHED ROCK BASE MATERIAL.

<b>Beehive Overflow Inlet</b>			<b>CITY OF WILSONVILLE</b>    <b>PUBLIC WORKS STANDARDS</b>
DRAWING NUMBER: ST-6120	DRAWN BY: SR	SCALE: N.T.S.	
FILE NAME: ST-6120.dwg	APPROVED BY: NK	DATE: 2/15/18	

## **Appendix C**

Transportation Evaluation Memorandum dated  
February 7, 2022 by DKS Associates



# TECHNICAL MEMORANDUM

DATE: February 7, 2022

TO: Amy Pepper | City of Wilsonville

FROM: Scott Mansur, P.E., PTOE | DKS Associates  
 Jenna Bogert, P.E. | DKS Associates  
 Travis Larson, E.I. | DKS Associates



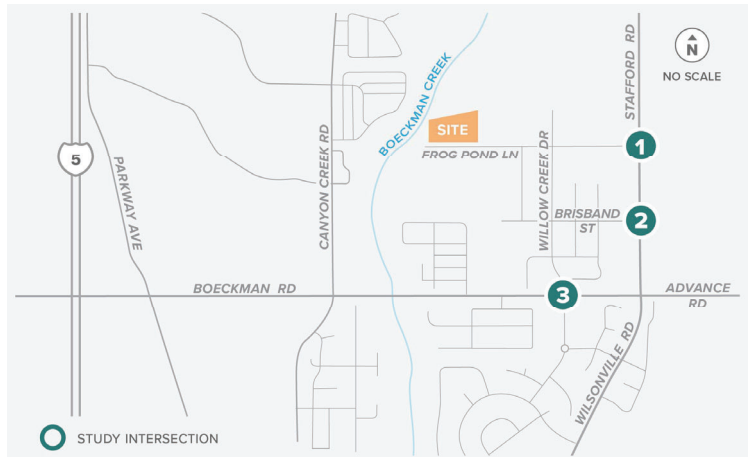
SUBJECT: Frog Pond West Overlook Subdivision Transportation Evaluation P19006-022

## INTRODUCTION

This memorandum evaluates the trip generation associated with the proposed Frog Pond West Overlook housing development to be located on the north side of Frog Pond Lane at 7315 Frog Pond Lane in Wilsonville, Oregon. The developer desires to construct 12 single-family homes as part of the Frog Pond West Master Plan.<sup>1</sup> The property is in unincorporated Clackamas County but within the City’s Urban Growth Boundary (UGB), and as part of the project will be annexed to the City of Wilsonville.

The purpose of this memorandum is to provide the estimated vehicle trip generation for the proposed development, to identify potential operational impacts to the gateway intersections of the Frog Pond West area, and to evaluate the proposed site plan for potential safety issues and consistency with City planning documents. The study intersections are listed below and shown in Figure 1.

- Stafford Road/ Frog Pond Lane
- Stafford Road/ Brisband Street
- Boeckman Road/ Willow Creek Drive



**FIGURE 1: STUDY AREA**

The intersections listed above were selected for analysis as they are the most impacted by the increase in vehicle trips from the development and are the gateways to the Frog Pond West area. Other study intersections, such as Stafford Road/65th Avenue and Canyon Creek Road/Boeckman

<sup>1</sup> Frog Pond West Master Plan, City of Wilsonville, July 17, 2017.

Road, were not included in this analysis as the trips through those intersections would be insignificant (around 5 peak hour trips or less).

Additionally, the Stafford Road/65th Avenue intersection was not included in this analysis as it was found to already fail to meet County standards under existing 2021 conditions, as noted in the Frog Pond Crossing TIA<sup>2</sup> and Frog Pond Vista TIA<sup>3</sup>. As noted in both of those reports, an intersection improvement has already been identified in the County’s Capital Improvement Project List<sup>4</sup>.

## TRIP GENERATION

The Institute of Transportation Engineers (ITE) trip generation rates for Single-Family Detached Housing (210) were used to estimate the site’s trip generation, which is based on the number of lots in the development.<sup>5</sup> As one existing home will be removed from the site during construction, the trips from that home have been removed from the total trips. As shown in Table 1, the proposed development is expected to generate a net total of 128 weekday daily trips and 13 PM peak hour trips (8 in, 5 out).

**TABLE 1: VEHICLE TRIP GENERATION**

LAND USE	ITE DESCRIPTION (CODE)	UNITS	PM PEAK TRIP RATE <sup>A</sup>	PM PEAK TRIPS			WEEKDAY
				IN	OUT	TOTAL	
NEW HOMES	SINGLE-FAMILY DETACHED HOUSING (210)	12 Lots	1.17 trips/lot	9	5	14	143
EXISTING HOME REMOVED	SINGLE-FAMILY DETACHED HOUSING (210)	1 Lot	1.00 trips/lot	-1	-0	-1	-15
<b>TOTAL NET NEW TRIPS</b>				<b>8</b>	<b>5</b>	<b>13</b>	<b>128</b>

<sup>A</sup> PM peak trip rate is back-calculated from the fitted curve equation

## PROJECT TRIP DISTRIBUTION

The project trips were distributed based on data from the Wilsonville Travel Demand Model and previous Frog Pond traffic analyses.<sup>6</sup> It is estimated that 50% of trips utilize Stafford Road to/from the north, 35% of trips utilize Boeckman Road to/from the west, 10% of trips utilize Wilsonville Road to/from the south, and 5% of trips utilize Advance Road to/from the east. The project trips and distribution are shown in Figure 2 on the following page.

<sup>2</sup> Wilsonville Frog Pond West Crossing Subdivision, Transportation Impact Study, DKS Associates, August 2021.

<sup>3</sup> Wilsonville Frog Pond West Vista Subdivision, Transportation Impact Study, DKS Associates, August 2021.

<sup>4</sup> Clackamas County Comprehensive Plan, Table 5-3a, Amended January 18, 2017

<sup>5</sup> Trip Generation Manual, 11th Edition, Institute of Transportation Engineers, 2021.

<sup>6</sup> Wilsonville Frog Pond West Oaks Subdivision, Transportation Impact Analysis, DKS Associates, November 2021.

## PROJECT TRIPS THROUGH CITY OF WILSONVILLE INTERCHANGE AREAS

The project trips through the two City of Wilsonville I-5 interchange areas were estimated based on the trip generation and distribution assumptions. Approximately 5% (1 PM trip) of the project trips are expected to travel through the I-5/Wilsonville Road interchange area and 5% (1 PM trip) are expected to travel through the I-5/Elligsen Road interchange area.

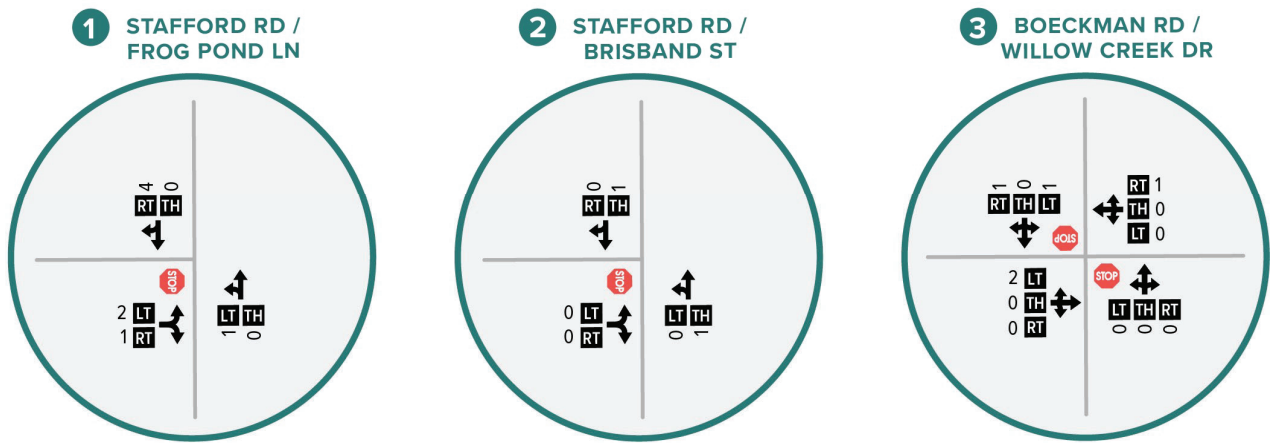
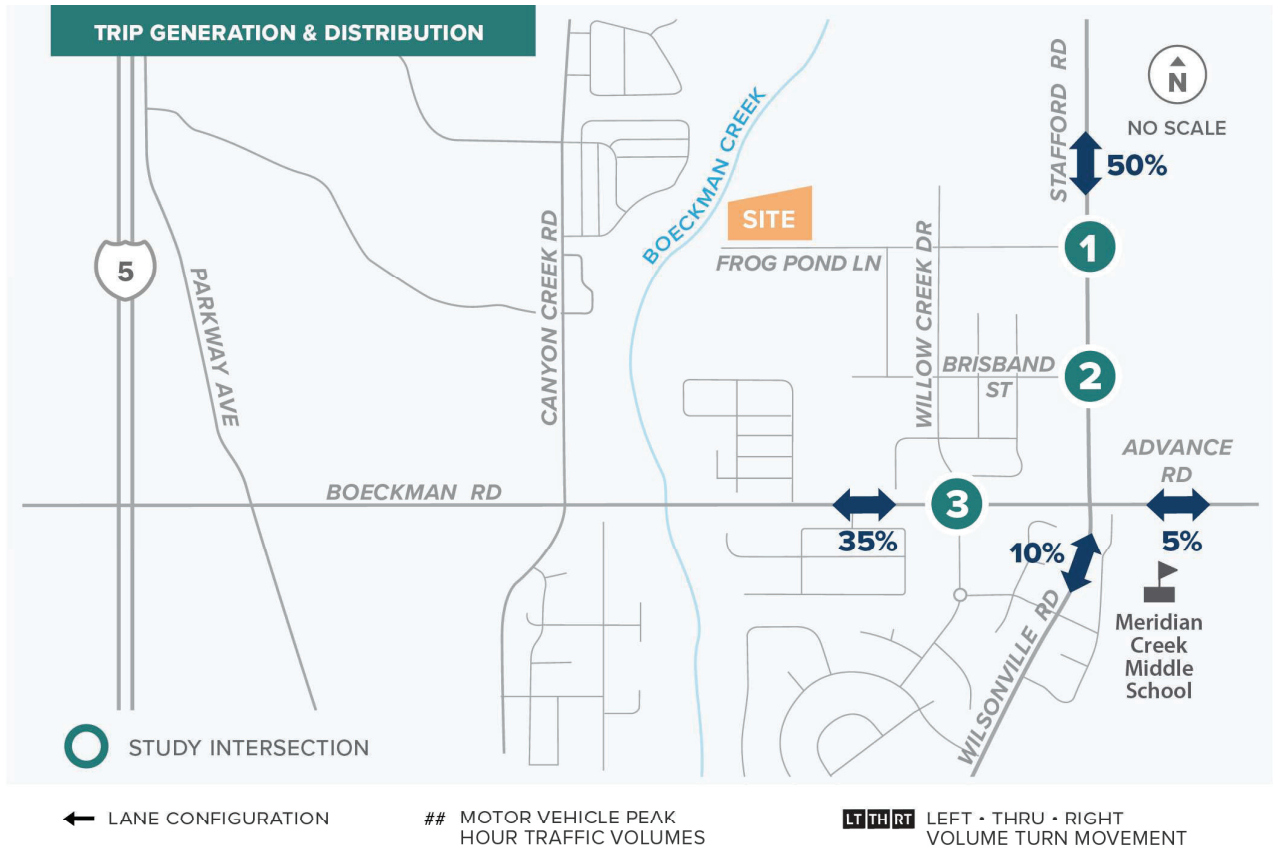


FIGURE 2: PROJECT TRIPS AND DISTRIBUTION

## INTERSECTION ANALYSIS

This section contains the intersection analysis at the identified study intersections and includes a discussion of the volume development. Intersection operations were determined for the analysis scenario *Existing + Project + Stage II*.

### EXISTING TRAFFIC VOLUMES

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Recent turning movement count data from September 30<sup>th</sup>, 2021, during the PM peak period (4:00-6:00 pm) was utilized for this transportation study for the three study intersections. These counts were then evaluated for any necessary factoring to represent typical existing PM peak volumes.

In July 2021, ODOT released their final COVID Monitoring Traffic Report, which indicated that statewide traffic levels were approximately back to “pre-COVID” levels (plus or minus 5%). Other local agencies in the area (including City of Wilsonville) had anecdotally noted similar observations on the local street system. Due to this fact, and that the historical traffic counts were collected when West Linn-Wilsonville schools were back to full-time, in-person attendance, no COVID adjustment factor was applied to the traffic counts.

These historical counts were then factored up to 2022 conditions by assuming a yearly growth rate of 2%. This yearly growth rate is a typical growth rate used in Wilsonville traffic impact analyses and has been calculated using the Wilsonville Travel Demand model.

### STAGE II TRAFFIC VOLUMES

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Stage II development trips were included in the intersection analysis. Stage II trips represent approved developments that have not yet been constructed. The list of these developments was provided by City staff and is included in the appendix.<sup>7</sup> For this analysis, the Stage II trips also included the Frog Pond West Crossing, Vista, Oaks, Estates, and Terrace housing developments. A list of all these developments is also included in the appendix.

### INTERSECTION OPERATIONS

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Intersection operations were analyzed for the PM peak hour during the Existing + Project + Stage II scenario. The traffic volumes are shown in Figure 3. The operations were determined based on the Highway Capacity Manual (HCM) 6th Edition methodology.<sup>8</sup> The volume to capacity (v/c) ratio, delay, and level of service (LOS) of each study intersection are listed in Table 2.

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<sup>7</sup> Email from Daniel Pauly, City of Wilsonville, January 7, 2022.

<sup>8</sup> Highway Capacity Manual, 6th Edition, Transportation Research Board, 2017.

**TABLE 2: EXISTING + PROJECT + STAGE II INTERSECTION OPERATIONS – PM PEAK**

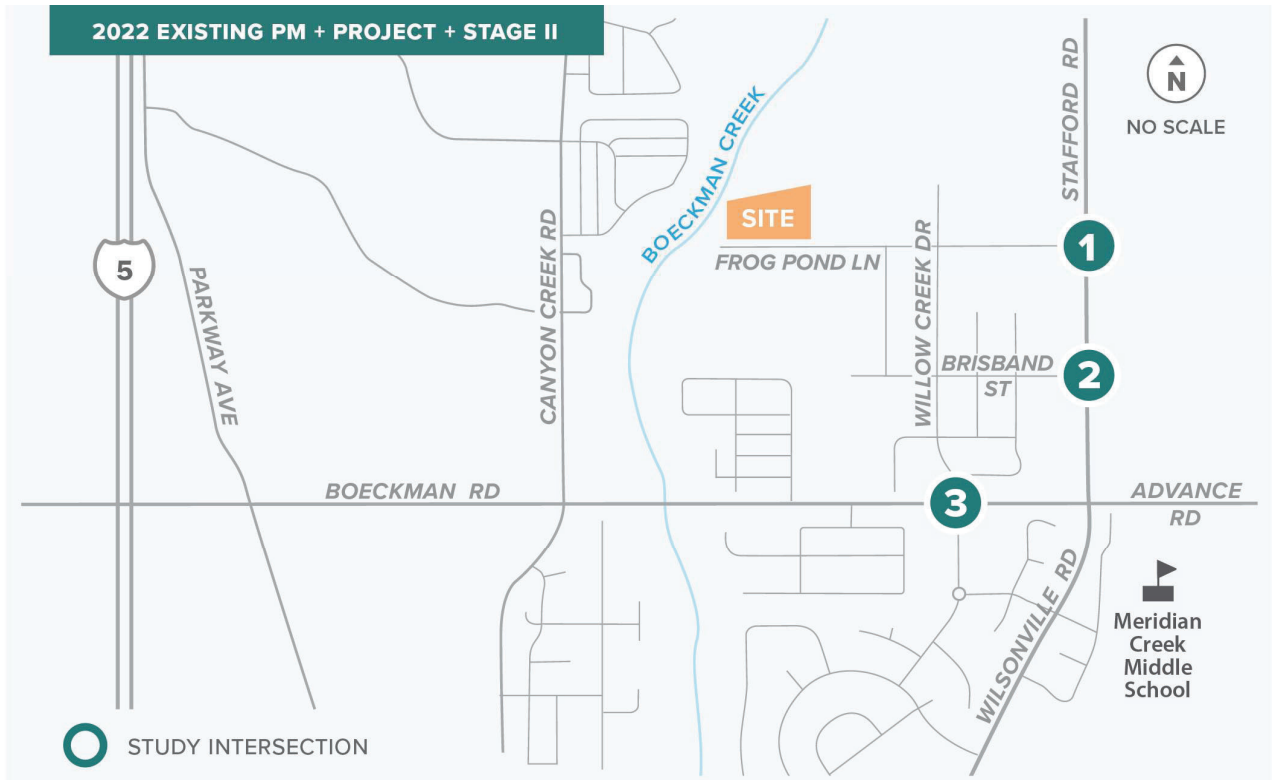
INTERSECTION	OPERATING STANDARD	PM PEAK HOUR		
		V/C	DELAY	LOS
<b>TWO-WAY STOP CONTROLLED</b>				
STAFFORD RD/ FROG POND LN	LOS D	0.28	29.6	A/D
STAFFORD RD/ BRISBAND ST	LOS D	0.14	23.9	A/C
BOECKMAN RD/ WILLOW CREEK DR	LOS D	0.16	25.4	A/D

**TWO-WAY STOP CONTROLLED INTERSECTION:**

Delay = Critical Movement Delay (secs)  
v/c = Critical Movement Volume-to-Capacity Ratio  
LOS = Critical Levels of Service (Major/Minor Road)

As shown, all study intersections meet the City of Wilsonville’s operating standard for the Existing + Project + Stage II PM peak hour condition.





← LANE CONFIGURATION

## MOTOR VEHICLE PEAK HOUR TRAFFIC VOLUMES

LT TH RT LEFT • THRU • RIGHT VOLUME TURN MOVEMENT

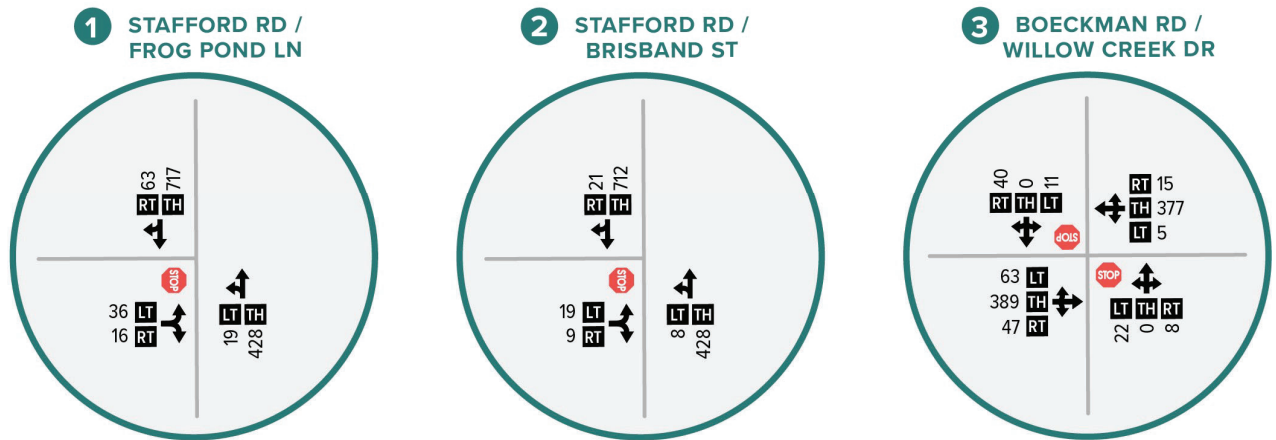


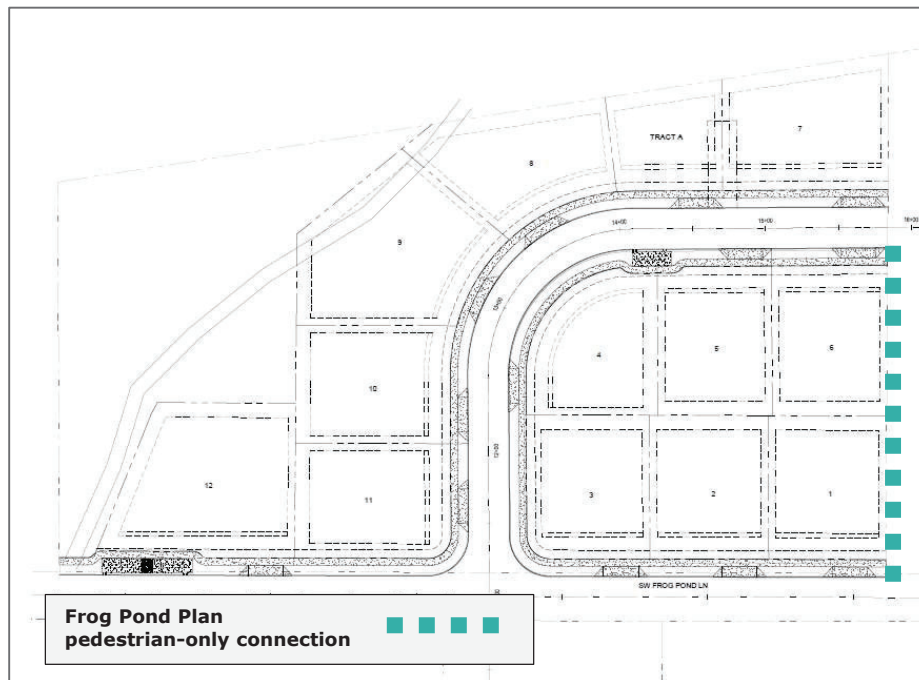
FIGURE 3: EXISTING + PROJECT + STAGE II PM PEAK HOUR TRAFFIC VOLUMES

## SITE REVIEW

This section reviews the provided site plan to determine consistency with the Frog Pond West Master Plan and alignment with the Wilsonville Development Code and Construction Standards.

### FROG PONG WEST MASTER PLAN CONSISTENCY

The proposed street layout generally matches the framework plan as laid out in the Frog Pond West Master Plan.<sup>9</sup> The local street pattern appears to be consistent except for the identification of a north-south pedestrian-only connection between the internal east-west local street and Frog Pond Lane. Figure 4 provides the proposed the street layout and the approximate location of the desired pedestrian-only connection based on the Frog Pond Master Plan. The City and developer should coordinate to assure that the pedestrian connection is accommodated on the east edge of the property, to be shared with the property to the west.



**FIGURE 4: MASTER PLAN PEDESTRIAN CONNECTION**

### ACCESS SPACING

The proposed project is required to comply with access spacing requirements as laid out in the City Transportation System Plan.<sup>10</sup> The access points for the new development are all on local streets, for which there is no spacing requirements prescribed by the City.

<sup>9</sup> Figure 19, Frog Pond West Master Plan, City of Wilsonville, July 17, 2017.

<sup>10</sup> Table 3-2, Wilsonville Transportation System Plan, Amended November 2020.

## **SITE CIRCULATION**

The proposed project provides adequate site circulation when considering the entirety of the Frog Pond West Master Plan. The proposed site will have access to Stafford Road via Frog Pond Lane and access to Boeckman Road via Willow Creek Drive.

## **STREETS**

The Frog Pond West Master Plan provides the street type plan and required cross sections for all streets in the Frog Pond West neighborhood.<sup>11</sup> All proposed streets within and fronting this development are classified as local streets and the developer will be responsible for building all streets up to standards. Local streets include on-street parking, sidewalks, planter strips, and a public utility easement. No dedicated bicycle facilities are required.

## **SIGHT DISTANCE**

Adequate sight distance should be provided at the proposed alleys and internal streets. Objects (e.g., buildings, fences, walls, or vegetation) located near the intersections may inhibit sight distance for drivers attempting to turn out of a minor street onto the major street. Prior to occupancy, sight distance at any proposed access point or local street connection will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon to assure that buildings, signs, or landscaping does not restrict sight distance.

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<sup>11</sup> Figures 19-28, Frog Pond West Master Plan, City of Wilsonville, July 17, 2017.

## SUMMARY OF PROJECT IMPACTS

The key findings of the trip generation memo for the Frog Pond West Overlook development are summarized below.

- The project will consist of 12 single-family home lots as part of the Frog Pond West Master Plan. The parcel currently contains one single-family home.
- The proposed development is expected to generate a net total of 13 PM peak hour trips (8 in, 5 out).
- Approximately one (5%) trip is expected to travel through the I-5/Wilsonville Road interchange area and one (5%) trip is expected to travel through the I-5/Elligsen Road interchange area.
- All three study intersections will meet the City's peak hour operating standard under Existing + Project + Stage II PM peak hour conditions.
- Based on the provided site plan, the site is generally consistent with the Frog Pond West Master Plan and meets applicable Wilsonville Development Codes and Construction Standards. However, a pedestrian connection as shown in the Frog Pond Master Plan is missing within the property. The City and developer should coordinate to assure that the pedestrian connection is accommodated on the east edge of the property, to be shared with the property to the west.
- The developer will be responsible for building the internal local streets within the property and local half street improvements along the property frontage that meet the Frog Pond Master Plan cross section standards.
- Prior to occupancy, sight distance at any proposed access point or local street connection will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon to assure that buildings, signs, or landscaping does not restrict sight distance.

### **Attachments:**

- A. Traffic Count Data
- B. Stage II List
- C. HCM Reports – Existing + Project + Stage II
- D. Site Plan

## A. TRAFFIC COUNT DATA

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ALL TRAFFIC DATA SERVICES

(303) 216-2439

www.alltrafficdata.net

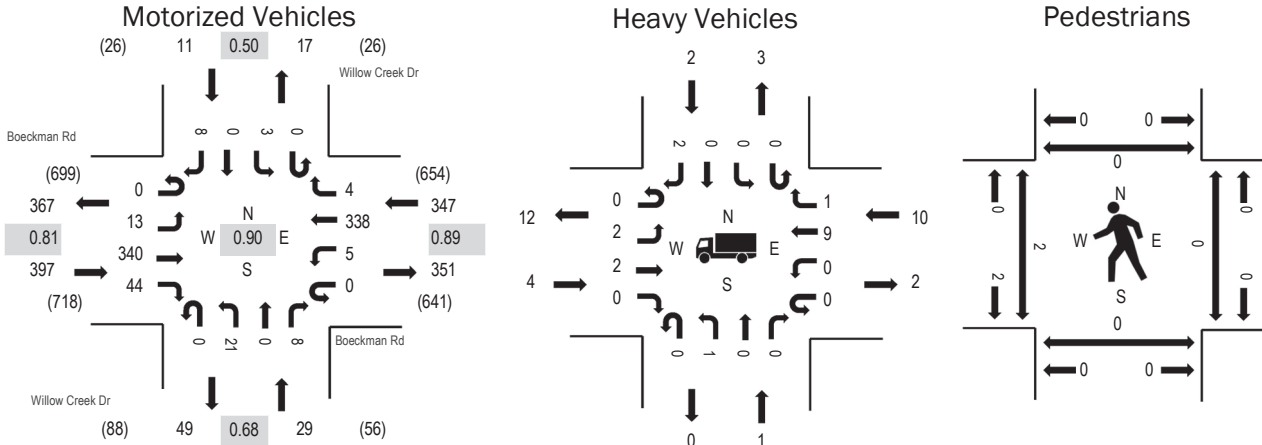
**Location:** 3 Willow Creek Dr & Boeckman Rd PM

**Date:** Thursday, September 30, 2021

**Peak Hour:** 04:45 PM - 05:45 PM

**Peak 15-Minutes:** 05:00 PM - 05:15 PM

**Peak Hour**



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.0%	0.81
WB	2.9%	0.89
NB	3.4%	0.68
SB	18.2%	0.50
All	2.2%	0.90

**Traffic Counts - Motorized Vehicles**

Interval Start Time	Boeckman Rd Eastbound				Boeckman Rd Westbound				Willow Creek Dr Northbound				Willow Creek Dr Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	2	19	2	0	0	45	0	0	3	0	0	0	1	0	0	72	700
4:05 PM	0	0	16	2	0	1	23	0	0	3	0	1	0	0	0	0	46	697
4:10 PM	0	0	28	4	0	0	23	0	0	2	0	1	0	0	0	1	59	723
4:15 PM	0	1	24	2	0	0	18	3	0	1	0	0	0	0	0	2	51	741
4:20 PM	0	1	30	2	0	0	18	0	0	2	0	1	0	1	0	2	57	749
4:25 PM	0	1	22	5	0	1	33	0	0	0	0	0	0	1	0	1	64	754
4:30 PM	0	0	23	2	0	0	30	0	0	1	0	0	0	1	0	2	59	736
4:35 PM	0	0	27	1	0	1	18	0	0	1	0	0	0	0	0	1	49	744
4:40 PM	0	0	23	3	0	1	16	0	0	2	0	0	0	0	0	0	45	756
4:45 PM	0	0	29	1	0	1	27	1	0	1	0	1	0	0	0	1	62	784
4:50 PM	0	1	22	3	0	1	33	0	0	3	0	2	0	0	0	2	67	773
4:55 PM	0	1	35	6	0	0	25	0	0	0	0	2	0	0	0	0	69	773
5:00 PM	0	2	36	9	0	0	20	0	0	2	0	0	0	0	0	0	69	754
5:05 PM	0	1	30	2	0	0	36	0	0	2	0	0	0	1	0	0	72	
5:10 PM	0	1	33	7	0	0	34	0	0	2	0	0	0	0	0	0	77	
5:15 PM	0	1	24	3	0	0	27	1	0	2	0	1	0	0	0	0	59	
5:20 PM	0	2	25	0	0	1	31	0	0	1	0	0	0	0	0	2	62	
5:25 PM	0	0	22	0	0	0	20	1	0	1	0	0	0	1	0	1	46	
5:30 PM	0	0	28	8	0	0	28	0	0	1	0	1	0	0	0	1	67	
5:35 PM	0	3	25	2	0	2	25	1	0	3	0	0	0	0	0	0	61	
5:40 PM	0	1	31	3	0	0	32	0	0	3	0	1	0	1	0	1	73	
5:45 PM	0	1	23	2	0	1	20	0	0	3	0	0	0	1	0	0	51	
5:50 PM	0	0	22	4	0	1	35	0	0	4	0	0	0	0	0	1	67	
5:55 PM	0	0	25	4	0	0	19	0	0	2	0	0	0	0	0	0	50	
Count Total	0	19	622	77	0	11	636	7	0	45	0	11	0	8	0	18	1,454	
Peak Hour	0	13	340	44	0	5	338	4	0	21	0	8	0	3	0	8	784	

### Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	1	0	1	4:00 PM	0	0	0	0	0	4:00 PM	0	9	0	0	9
4:05 PM	0	0	2	0	2	4:05 PM	0	0	0	0	0	4:05 PM	0	10	0	0	10
4:10 PM	0	0	1	0	1	4:10 PM	0	0	0	0	0	4:10 PM	0	1	0	0	1
4:15 PM	1	0	0	0	1	4:15 PM	0	0	0	0	0	4:15 PM	0	10	0	0	10
4:20 PM	0	0	2	0	2	4:20 PM	0	0	0	0	0	4:20 PM	0	1	0	0	1
4:25 PM	1	0	2	0	3	4:25 PM	0	0	0	0	0	4:25 PM	0	5	0	0	5
4:30 PM	0	0	1	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	3	0	0	3
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	1	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	1	1	2	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	0	0	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	1	0	1	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	2	1	1	0	4	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	1	0	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	1	0	1	0	2	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	1	1	2	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	3	0	3	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	2	0	0	0	2
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	2	0	0	0	2
5:50 PM	0	0	0	1	1	5:50 PM	0	0	0	0	0	5:50 PM	0	1	0	0	1
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	6	1	19	3	29	Count Total	0	0	0	0	0	Count Total	4	40	0	0	44
Peak Hour	4	1	10	2	17	Peak Hour	0	0	0	0	0	Peak Hour	2	0	0	0	2



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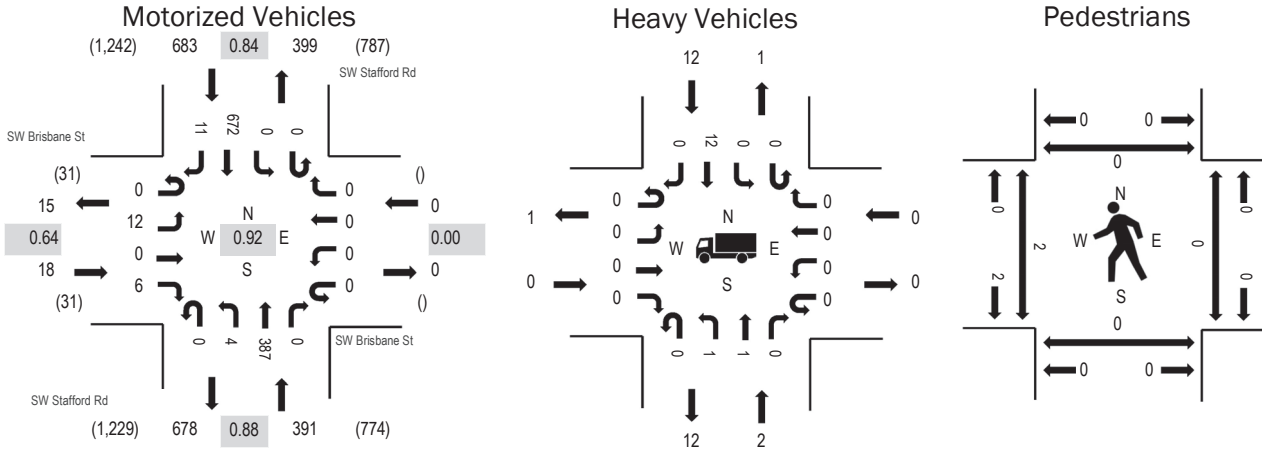
**Location:** 5 SW Stafford Rd & SW Brisbane St PM

**Date:** Thursday, September 30, 2021

**Peak Hour:** 04:45 PM - 05:45 PM

**Peak 15-Minutes:** 05:20 PM - 05:35 PM

**Peak Hour**



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.64
WB	0.0%	0.00
NB	0.5%	0.88
SB	1.8%	0.84
All	1.3%	0.92

**Traffic Counts - Motorized Vehicles**

Interval Start Time	SW Brisbane St Eastbound				SW Brisbane St Westbound				SW Stafford Rd Northbound				SW Stafford Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	0	0	0	0	0	0	0	37	0	0	0	49	0	86	986
4:05 PM	0	1	0	0	0	0	0	0	0	0	41	0	0	0	33	0	75	981
4:10 PM	0	1	0	0	0	0	0	0	0	1	34	0	0	0	46	0	82	992
4:15 PM	0	0	0	1	0	0	0	0	0	0	30	0	0	0	42	0	73	998
4:20 PM	0	2	0	0	0	0	0	0	0	0	38	0	0	0	48	2	90	1,010
4:25 PM	0	1	0	0	0	0	0	0	0	0	35	0	0	0	44	0	80	1,017
4:30 PM	0	1	0	2	0	0	0	0	0	1	21	0	0	0	48	2	75	1,042
4:35 PM	0	1	0	1	0	0	0	0	0	0	34	0	0	0	44	0	80	1,062
4:40 PM	0	1	0	0	0	0	0	0	0	1	29	0	0	0	43	3	77	1,068
4:45 PM	0	0	0	1	0	0	0	0	0	0	30	0	0	0	60	0	91	1,092
4:50 PM	0	1	0	0	0	0	0	0	0	0	33	0	0	0	55	0	89	1,089
4:55 PM	0	1	0	1	0	0	0	0	0	0	31	0	0	0	53	2	88	1,077
5:00 PM	0	2	0	0	0	0	0	0	0	0	35	0	0	0	41	3	81	1,061
5:05 PM	0	3	0	1	0	0	0	0	0	0	34	0	0	0	48	0	86	
5:10 PM	0	1	0	2	0	0	0	0	0	0	43	0	0	0	42	0	88	
5:15 PM	0	0	0	0	0	0	0	0	0	0	28	0	0	0	55	2	85	
5:20 PM	0	1	0	0	0	0	0	0	0	0	27	0	0	0	66	3	97	
5:25 PM	0	0	0	1	0	0	0	0	0	1	29	0	0	0	74	0	105	
5:30 PM	0	0	0	0	0	0	0	0	0	2	32	0	0	0	61	0	95	
5:35 PM	0	0	0	0	0	0	0	0	0	0	32	0	0	0	54	0	86	
5:40 PM	0	3	0	0	0	0	0	0	0	1	33	0	0	0	63	1	101	
5:45 PM	0	0	0	0	0	0	0	0	0	0	35	0	0	0	52	1	88	
5:50 PM	0	1	0	0	0	0	0	0	0	0	23	0	0	0	51	2	77	
5:55 PM	0	0	0	0	0	0	0	0	0	1	22	0	0	0	47	2	72	
Count Total	0	21	0	10	0	0	0	0	0	8	766	0	0	0	1,219	23	2,047	
Peak Hour	0	12	0	6	0	0	0	0	0	4	387	0	0	0	672	11	1,092	



### Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	2	0	1	3	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	2	0	1	3	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	2	0	0	2	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	2	0	1	3	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	2	2	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	2	2	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	1	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	1	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	1	1	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	1	1	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	1	1	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	1	0	2	3	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	1	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	1	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	1	0	2	3	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	1	1	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	1	1	5:40 PM	0	0	0	0	0	5:40 PM	2	0	0	0	2
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	2	0	0	0	2
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	0	10	0	20	30	Count Total	0	0	0	0	0	Count Total	4	0	0	0	4
Peak Hour	0	2	0	12	14	Peak Hour	0	0	0	0	0	Peak Hour	2	0	0	0	2



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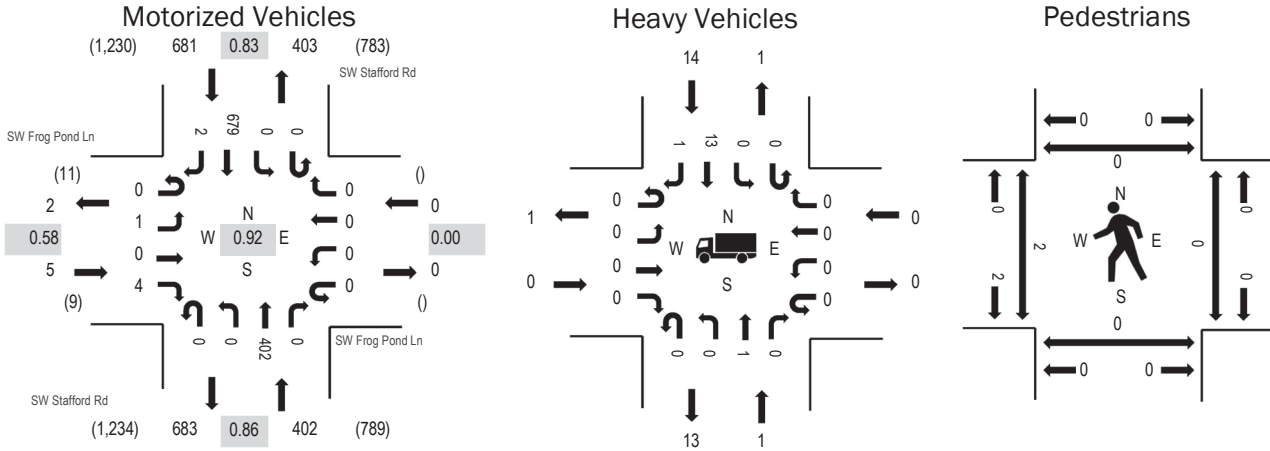
**Location:** 6 SW Stafford Rd & SW Frog Pond Ln PM

**Date:** Thursday, September 30, 2021

**Peak Hour:** 04:45 PM - 05:45 PM

**Peak 15-Minutes:** 05:20 PM - 05:35 PM

**Peak Hour**



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.58
WB	0.0%	0.00
NB	0.2%	0.86
SB	2.1%	0.83
All	1.4%	0.92

**Traffic Counts - Motorized Vehicles**

Interval Start Time	SW Frog Pond Ln Eastbound				SW Frog Pond Ln Westbound				SW Stafford Rd Northbound				SW Stafford Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	1	0	0	0	0	0	1	38	0	0	0	47	0	87	971
4:05 PM	0	0	0	0	0	0	0	0	0	0	39	0	0	0	31	0	70	965
4:10 PM	0	0	0	0	0	0	0	0	0	1	33	0	0	0	48	0	82	983
4:15 PM	0	0	0	0	0	0	0	0	0	1	28	0	0	0	41	0	70	988
4:20 PM	0	0	0	0	0	0	0	0	0	1	39	0	0	0	52	0	92	1,004
4:25 PM	0	0	0	1	0	0	0	0	0	0	36	0	0	0	43	0	80	1,011
4:30 PM	0	0	0	1	0	0	0	0	0	2	19	0	0	0	44	1	67	1,036
4:35 PM	0	0	0	0	0	0	0	0	0	0	36	0	0	0	47	1	84	1,060
4:40 PM	0	0	0	0	0	0	0	0	0	0	33	0	0	0	44	0	77	1,064
4:45 PM	0	0	0	0	0	0	0	0	0	0	29	0	0	0	59	0	88	1,088
4:50 PM	0	0	0	2	0	0	0	0	0	0	34	0	0	0	57	0	93	1,084
4:55 PM	0	0	0	1	0	0	0	0	0	0	31	0	0	0	49	0	81	1,066
5:00 PM	0	0	0	0	0	0	0	0	0	0	38	0	0	0	43	0	81	1,057
5:05 PM	0	0	0	1	0	0	0	0	0	0	36	0	0	0	50	1	88	
5:10 PM	0	0	0	0	0	0	0	0	0	0	46	0	0	0	41	0	87	
5:15 PM	0	0	0	0	0	0	0	0	0	0	32	0	0	0	53	1	86	
5:20 PM	0	1	0	0	0	0	0	0	0	0	28	0	0	0	70	0	99	
5:25 PM	0	0	0	0	0	0	0	0	0	0	29	0	0	0	76	0	105	
5:30 PM	0	0	0	0	0	0	0	0	0	0	31	0	0	0	60	0	91	
5:35 PM	0	0	0	0	0	0	0	0	0	0	32	0	0	0	56	0	88	
5:40 PM	0	0	0	0	0	0	0	0	0	0	36	0	0	0	65	0	101	
5:45 PM	0	0	0	0	0	0	0	0	0	1	33	0	0	0	50	0	84	
5:50 PM	0	0	0	1	0	0	0	0	0	0	24	0	0	0	50	0	75	
5:55 PM	0	0	0	0	0	0	0	0	0	0	22	0	0	0	50	0	72	
Count Total	0	1	0	8	0	0	0	0	0	7	782	0	0	0	1,226	4	2,028	
Peak Hour	0	1	0	4	0	0	0	0	0	0	402	0	0	0	679	2	1,088	

### Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	2	0	1	3	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	1	1	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	2	0	1	3	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	2	0	1	3	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	2	0	2	4	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	0	0	0	1	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	0	1	2	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	1	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	2	2	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	1	1	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	1	1	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	2	2	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	1	0	2	3	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	1	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	1	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	2	2	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	1	1	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	1	1	5:40 PM	0	0	0	0	0	5:40 PM	2	0	0	0	2
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	2	0	0	0	2
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	2	9	0	22	33	Count Total	0	0	0	0	0	Count Total	4	0	0	0	4
Peak Hour	0	1	0	14	15	Peak Hour	0	0	0	0	0	Peak Hour	2	0	0	0	2

## B. STAGE II LIST

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Updated by D. Pauly 01.07.22

Stage II Approved									
Project	Land Use	Status	Size	Total PM Peak Trips	Trip Allocation Percentage		Net New (Primary + Diverted) PM Peak Hour Trips not yet active		
					Internal	Pass-By	In	Out	Total
Hydro-Temp: Recent agreement with the City, the project is vested and so are the traffic trips	Office/Flex-Space	Not built	60.8 KSF				44	46	90
Mercedes Benz (Phase 2)	Auto Dealership	Not built					20	26	46
Shredding Systems (SQFT does not including paint canopy and another canopy)	Industrial/Commercial	Under construction	66.8 KSF				20	46	66
Town Center Ph III and trip dedication to Miller Paint store <i>Uses marked with "*" have not been built and PM peak hr trip sum exceeds remaining vested trip level by 2 trips. It has yet to be determined how to allocate trips between remaining buildings.</i>	*High Turnover Restaurant (Pad 1)	Not built	7.5 KSF				24	17	47*
	Remaining Approved Total								47
Wilsonville Road Business Park Phase II	Phase 2 - office (2-story building on west parcel)	Partially Built	21.7 KSF				15	71	86
Frog Pond-Stafford Meadows (Phase 2 and 3a of 10/18 study)	Residential	Partially Built, 32 homes built and occupied	46 units				9	5	14
Frog Pond-Frog Pond Meadows (Phase 3B, 4A, 4B of 10/18 Study)	Residential	Partially Built, 14 homes built and occupied	74 units				37	23	60
Frog Pond Ridge	Residential	Under construction, no homes built or occupied	71 units				43	28	71
Frog Pond-Morgan Farm	Residential	Partially Built, 50 homes built and occupied	80 units				18	12	30
Fir Avenue Commons	Residential	Partially Built, 6 homes built and occupied	10 units				2	2	4
Magnolia Townhomes	Residential	Under construction	6 units				3	2	5
Aspen Meadows II	Residential	Under construction, 3 homes sold and occupied	5 units				1	1	2
Canyon Creek III	Residential	Approved	5 units (traffic study was for 11)				2	3	5
Coffee Creek Logistics	Industrial/Commercial	Under construction	115K				16	41	57
PW Complex on Boberg	Public	Approved	15,800 office, 17,900 warehouse				11	39	50
DAS North Valley Complex	Public/Industrial	Approved	174,700 sf				5	15	20

Stage II Approved – Villebois

Project	Phase	Status	Land Use					Total PM Peak Trips	Trip Allocation Percentage		Net New (Primary + Diverted) PM Peak Hour Trips not yet active		
			SF	Town.	Apt.	Retail	School		Internal	Pass-By	In	Out	Total
North (Entirety)	Residential	Partially built, 364 homes sold and occupied	451								53	34	87
Central	Residential	Partially Built, 991 homes (102 single family, 319 condo/row homes, 365 apartments) occupied	102	391	510						60	30	90

Pending Projects for Which Traffic Analysis has been completed (except Villebois)

Project	Land Use	Status	Size	Total PM Peak Trips	Trip Allocation Percentage			Net New (Primary) PM Peak Hour Trips		
					Internal	Pass-By	Diverted	In	Out	Total
Frog Pond Crossing								19	9	28
Frog Pond Vista								27	17	44
Frog Pond Estates								11	7	18
Boones Ferry Gas Station/Convenience Store	Commercial	under review	3,460 sf store, 12 gas pumps	240		134		53	53	106

## C. HCM REPORTS – EXISTING + PROJECT + STAGE II

---

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	36	16	19	428	717	63
Future Vol, veh/h	36	16	19	428	717	63
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	50
Mvmt Flow	39	17	21	465	779	68

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1322	815	849	0	-	0
Stage 1	815	-	-	-	-	-
Stage 2	507	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	174	381	798	-	-	-
Stage 1	439	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	167	380	797	-	-	-
Mov Cap-2 Maneuver	167	-	-	-	-	-
Stage 1	422	-	-	-	-	-
Stage 2	608	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	29.6	0.4	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	797	-	202	-	-
HCM Lane V/C Ratio	0.026	-	0.28	-	-
HCM Control Delay (s)	9.6	0	29.6	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	1.1	-	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	9	8	428	712	21
Future Vol, veh/h	19	9	8	428	712	21
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	25	0	2	0
Mvmt Flow	21	10	9	465	774	23

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1271	788	799	0	0
Stage 1	788	-	-	-	-
Stage 2	483	-	-	-	-
Critical Hdwy	6.4	6.2	4.35	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.425	-	-
Pot Cap-1 Maneuver	187	394	731	-	-
Stage 1	452	-	-	-	-
Stage 2	625	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	183	393	730	-	-
Mov Cap-2 Maneuver	183	-	-	-	-
Stage 1	443	-	-	-	-
Stage 2	624	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.9	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	730	-	221	-	-
HCM Lane V/C Ratio	0.012	-	0.138	-	-
HCM Control Delay (s)	10	0	23.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-



Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	63	389	47	5	377	15	22	0	8	11	0	40
Future Vol, veh/h	63	389	47	5	377	15	22	0	8	11	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	15	1	0	0	3	25	5	0	0	0	0	25
Mvmt Flow	70	432	52	6	419	17	24	0	9	12	0	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	436	0	0	484	0	0	1062	1046	458	1043	1064	430
Stage 1	-	-	-	-	-	-	598	598	-	440	440	-
Stage 2	-	-	-	-	-	-	464	448	-	603	624	-
Critical Hdwy	4.25	-	-	4.1	-	-	7.15	6.5	6.2	7.1	6.5	6.45
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.335	-	-	2.2	-	-	3.545	4	3.3	3.5	4	3.525
Pot Cap-1 Maneuver	1058	-	-	1089	-	-	199	230	607	209	225	579
Stage 1	-	-	-	-	-	-	484	494	-	600	581	-
Stage 2	-	-	-	-	-	-	573	576	-	489	481	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1058	-	-	1089	-	-	170	208	607	191	203	578
Mov Cap-2 Maneuver	-	-	-	-	-	-	170	208	-	191	203	-
Stage 1	-	-	-	-	-	-	440	449	-	545	577	-
Stage 2	-	-	-	-	-	-	524	572	-	438	437	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.1			25.4			15.4		
HCM LOS							D			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	210	1058	-	-	1089	-	-	402
HCM Lane V/C Ratio	0.159	0.066	-	-	0.005	-	-	0.141
HCM Control Delay (s)	25.4	8.6	0	-	8.3	0	-	15.4
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0	-	-	0.5

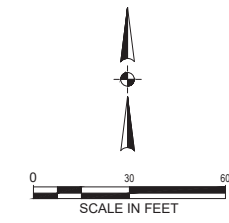
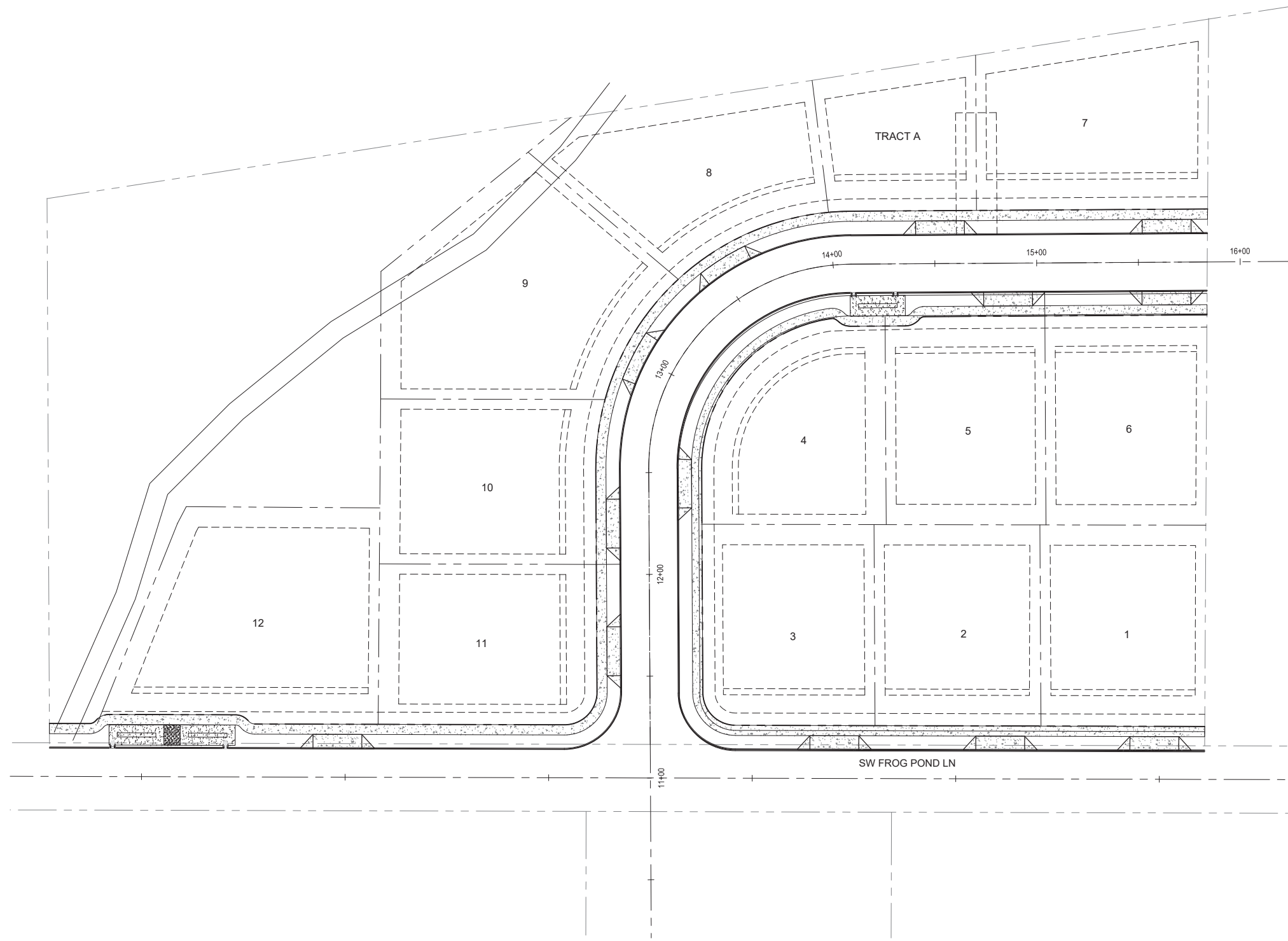
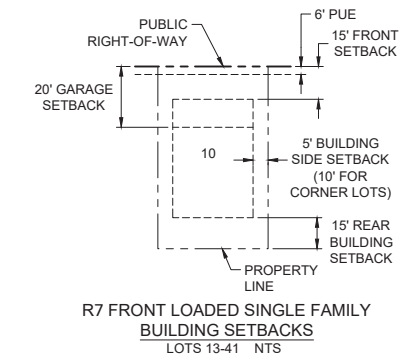
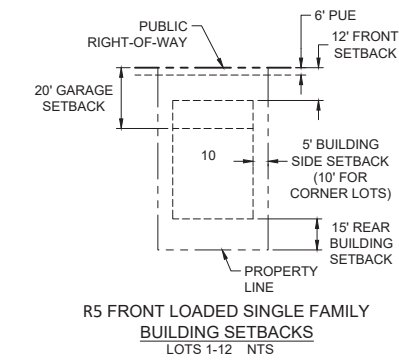
## D. SITE PLAN

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**LEGEND**

PROPERTY LINE	---
CENTER LINE	---
LOT LINE	---
LOT SETBACK	---
LOT NUMBER / NAME	16
EASEMENT LINE	---
STANDARD CURB	---
SIDEWALK	---
RETAINING WALL	---
INTERSECTION SIGHT DISTANCE	[x] x=DESIGN SPEED(MPH)x10'/MPH
TYPICAL STREET CROSS SECTION (SEE SHEET P2.10)	A P2.10
PUBLIC RAIN GARDEN	---
DRIVEWAY	---
CURB RAMP	---



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**FROG POND OVERLOOK**  
XX DETACHED SINGLE FAMILY LOTS  
CITY OF WILSONVILLE, OREGON

**SITE PLAN**

#	DATE	DESCRIPTION

REVISIONS
NAVD88 DATUM
OTAK CAD DRAWN BY KJB
CHECKED BY
LAND USE SUBMITTAL STATUS
OCTOBER 15, 2021 DATE
20141 PROJECT NUMBER

**P2.00**  
© 2021 OTAK, INC.  
If this drawing is not 22" x 34", it has been reduced/enlarged. Scale accordingly.

## **Appendix D**

Abbreviated Significant Resource Impact Report (SRIR)  
dated May 2022 by AKS Engineering & Forestry, LLC



# Frog Pond Overlook Abbreviated Significant Resource Impact Report (SRIR)

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**Date:** May 2022

**Prepared for:** West Hills Land Development, LLC  
3330 NW Yeon Avenue  
Portland, OR 97210

**Prepared by:** AKS Engineering & Forestry, LLC  
Lex Francis, Natural Resource Specialist  
Stacey Reed, PWS, Senior Wetland Scientist  
503-563-6151 | stacey@aks-eng.com

**Site Information:** 7315 SW Frog Pond Lane  
Wilsonville, OR 97070  
Clackamas County Assessor's Map 3 1 W 12D  
Tax Lot 700

**AKS Job Number:** 7005



12965 SW Herman Road, Suite 100  
Tualatin, OR 97062  
(503) 563-6151

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- Figure 6:** PHS Natural Resources Inventory Map
- Figure 7:** Natural Resource Existing Conditions
- Figure 8:** Natural Resource Site Plan

## Appendices

- Appendix A:** Wetland Determination Data Forms
  - Appendix B:** Representative Site Photographs
  - Appendix C:** VECO Data Form
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## Introduction

AKS Engineering & Forestry, LLC (AKS) was contracted by West Hills Land Development, LLC to prepare an Abbreviated Significant Resource Impact Report (SRIR) for the Frog Pond Overlook residential development (Project) located at 7315 SW Frog Pond Lane in Wilsonville, Clackamas County, Oregon. The Project site consists of Tax Lot 700 of Clackamas County Assessor's Map 3 1 W 12D (Figures 1 and 2). The Project site is located within the Frog Pond West Neighborhood of the Frog Pond Urban Growth Boundary (UGB), added to the City of Wilsonville (City) in 2002. The Frog Pond Overlook residential project consists of single-family residential community with proposed trails, and a stormwater facility.

Primary Protected Water Feature Boeckman Creek was documented off-site to the northwest of the project site. An intermittent tributary also runs off-site to the north and is a Secondary Protected Water Feature. A small portion of the northwest corner of the site is mapped as a Significant Resource Overlay Zone (SROZ) on the City of Wilsonville's (City's) 2009 SROZ map and governed by the City's SROZ Ordinance, Section 4.139.00 of the Wilsonville Development Code (WDC). Slopes adjacent to Boeckman Creek are less than 25 percent, requiring the Metro's Title 3 Vegetated Corridor setback to extend 50 feet from the edge of the Primary Protected Water Feature. Slopes adjacent to the intermittent tributary (referred to as Boeckman Creek Tributary) are greater than 25 percent, requiring a 50-foot buffer from the edge of the Secondary Protected Water Feature. A 25-foot-wide Significant Resource (SR) Impact Area buffer extends from the edge of the outer SROZ boundary for both features.

No impacts will occur to the off-site Protected Water Features (Boeckman Creek and the intermittent tributary) or to the Area of Limited Conflicting Use (ALCU) and Riparian Corridor Area, per the SROZ Ordinance. The SR Impact Area on site will also not be impacted as a result of this Project.

This report has been prepared to meet Section 4.139.06 of the City's SROZ Ordinance and describes the requirements listed under Section 4.139.06(.01)(A) through -4.139.06(.01)(I), updated June 2020.

## Background Information / Physical Analysis

Topography on the majority of the site has a gentle (less than 5 percent overall) slope northwest toward Boeckman Creek. Slopes in the western portion of the site vary between 20 to 25 percent towards Boeckman Creek and the intermittent tributary. The project site is surrounded by large-lot residential areas to the south, east, and north, with some forested areas along the Boeckman Creek area.

The following soil units are mapped within the Project area, according to the Natural Resources Conservation Service (NRCS) Clackamas County Area Soil Survey Map and Clackamas County Hydric Soils List (Figure 3):

- (Unit 91C) Woodburn silt loam, 8 to 15 percent slopes; Non-hydric
- (Unit 91B) Woodburn silt loam, 3 to 8 percent slopes; Non-hydric

One single-family residence with detached structures and open lawn areas is centrally located on the site. The remainder of the site is undeveloped and forested.

Geology of the site contains Qs-alluvium and Pleistocene age glacial-outburst flood sediment containing silt, sand, and gravel. The site also contains glaciofluvial sediments from the Cascade Range including Willamette silt, Linn gravel, lacustrine deposits, and older alluvium.

---

Vegetation within the upper portion of the study area was dominated by maintained lawn space, and ornamental vegetation associated with the residence. The upland forest community in the northwest portion of the site was dominated by Douglas-fir (*Pseudotsuga menziesii*; FACU), big-leaf maple (*Acer macrophyllum*; FACU), beaked hazelnut (*Corylus cornuta*; FACU), English holly (*Ilex aquifolium*; FACU), large sweet vernal grass (*Anthoxanthum odoratum*; FACU), common velvet grass (*Holcus lanatus*; FAC), California dewberry (*Rubus ursinus*; FACU), and scattered Oregon white oak (*Quercus garryana*; FACU).

### **Wetlands and Waters Mapping**

#### **Wilsonville Local Wetland and Riparian Inventory Maps**

The Project site is mapped on the City of Wilsonville's 1998 Local Wetland Inventory (LWI), as shown on Figure 4. A wetland associated with Boeckman Creek is shown on the LWI map in a small portion of the northwest corner of the study area. AKS determined this wetland likely does not exist. Boeckman Creek did not extend on site.

#### **Natural Resources Inventory Pacific Habitat Services (PHS) Map**

According to the 2014 PHS Natural Resource Inventory for the Frog Pond Master Plan, Significant Natural Resource Riparian Areas are mapped in the northwest corner of the study area (Figure 6). No significant Tree Groves are mapped on the site. Figure 6 illustrates the potential Metro Title 3 and Title 13 resources on the site.

#### **City of Wilsonville Significant Resource Overlay Zone (SROZ) Map**

According to the City's 2009 SROZ map, the northwest corner of the site is within SROZ. The section below describes the SROZ field-delineated map verification for the site. Our SROZ delineation on site closely resembles the Riparian Areas boundary shown on the PHS 2014 Natural Resource Inventory. Our delineation determined on-site SROZ is generally consistent with the City's 2009 SROZ map (Figure 5) and the PHS 2014 Natural Resource Inventory (Figure 6).

### **SROZ Delineation Methodology**

Natural Resource Specialists Lex Francis and Margret Harburg conducted a site visit on June 29, 2021 to delineate the extent of mapped SROZ. The methodology used to determine the presence of wetlands followed the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (Wakeley et al., 2010). The *National Wetland Plant List* (USACE, 2018) was used to assign wetland indicator status for the appropriate region. One wetland determination plot was taken on standard Wetland Determination Data Forms to document site conditions (Appendix A). The plot was taken at the lowest topographic setting at the site. AKS determined that no wetlands or waters were present on site.

Hand mapping of off-site Protected Water Features (Boeckman Creek and the intermittent tributary) was required as off-site reconnaissance was not permitted. Up to date LiDAR and survey data provided by OTAK, Inc. (OTAK) determined the contours adjacent to the Protected Water Features, which were used to determine the appropriate buffer widths.

Representative site photographs are included in Appendix B. A list of literature cited and referenced is included at the end of the report.



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## **Waters (Primary and Secondary Protected Water Features)**

### **Off-site Boeckman Creek**

According to the Pacific States Marine Fisheries Commission's (PSMFC's) StreamNet, Boeckman Creek is mapped as having a direct connection to the Willamette River, a Navigable Water of the US. According to the current Oregon Department of State Lands (DSL) Essential Salmonid Habitat (ESH) mapping, and StreamNet, off-site Boeckman Creek downstream segments south of SW Wilsonville Road are documented as containing coastal cutthroat trout.

### **Off-site Intermittent Tributary**

This tributary is not mapped on StreamNet, or as an ESH stream; however, it has a direct connection to Boeckman Creek, which is documented as containing native fish.

### **Upland**

Plot 1 was taken at the lowest elevation within the study area, near off-site Boeckman Creek. Vegetation was dominated by Douglas-fir, big-leaf maple, vine maple (*Acer circinatum*; FAC), English holly, pineland swordfern (*Polystichum munitum*; FACU), and English ivy (*Hedera helix*; FACU). Soils were a silt loam and were described as a 10YR 3/3 throughout with no redoximorphic features. Soils were dry and lacked indicators of hydrology. Therefore, this plot was determined to meet upland parameters. The drier than normal precipitation conditions prior to the site visit did not pose naturally problematic situations for this determination.

### **Riparian Corridor and Area of Limited Conflicting Use (ALCU)**

The riparian corridor boundary and ALCU were established per Section 4.139.00 of the City's SROZ Ordinance, and as defined in Figure NR-2: Riparian Corridor Type NR-2 (stream-riparian ecosystem). The slopes adjacent to Boeckman Creek and the intermittent tributary generally do not exceed 25 percent, requiring ALCU/vegetated corridor to extend 50 feet past the break in slope to less than 25 percent. Slope measurements and the extent of SROZ are shown on the attached Natural Resource Existing Conditions, Figure 7. The riparian corridor and ALCU are located off site with only a small portion of the 25-foot-wide SR Impact Area extending on site. The existing vegetation community was documented at vegetated corridor (VECO) Plot A (Appendix C).

Vegetation in the riparian corridor consists of a predominantly native forest dominated by Douglas-fir, big-leaf maple, English holly, pineland swordfern, and English ivy. The SROZ met *marginal* condition due to the less than 50 percent canopy cover, and high percentage of invasive vegetation species.

## **Project**

The Project consists of a residential subdivision located in the Frog Pond West community. The Project will not encroach into the off-site ALCU or the adjacent on-site SR Impact Area, as shown on the Natural Resource Site Plan (Figure 8). Project development includes a 15-foot-wide public trail. The public trail will provide access and connectivity among neighborhoods and promote recreational and education opportunity adjacent the riparian habitat.

No development activities will occur within areas defined by Section 4.139.04(.08) of the City's SROZ Ordinance, therefore conformance to City code is under compliance for this project.

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## Report Preparer and Qualifications



Lex Francis  
Natural Resource Specialist  
Field Work, Report Preparation

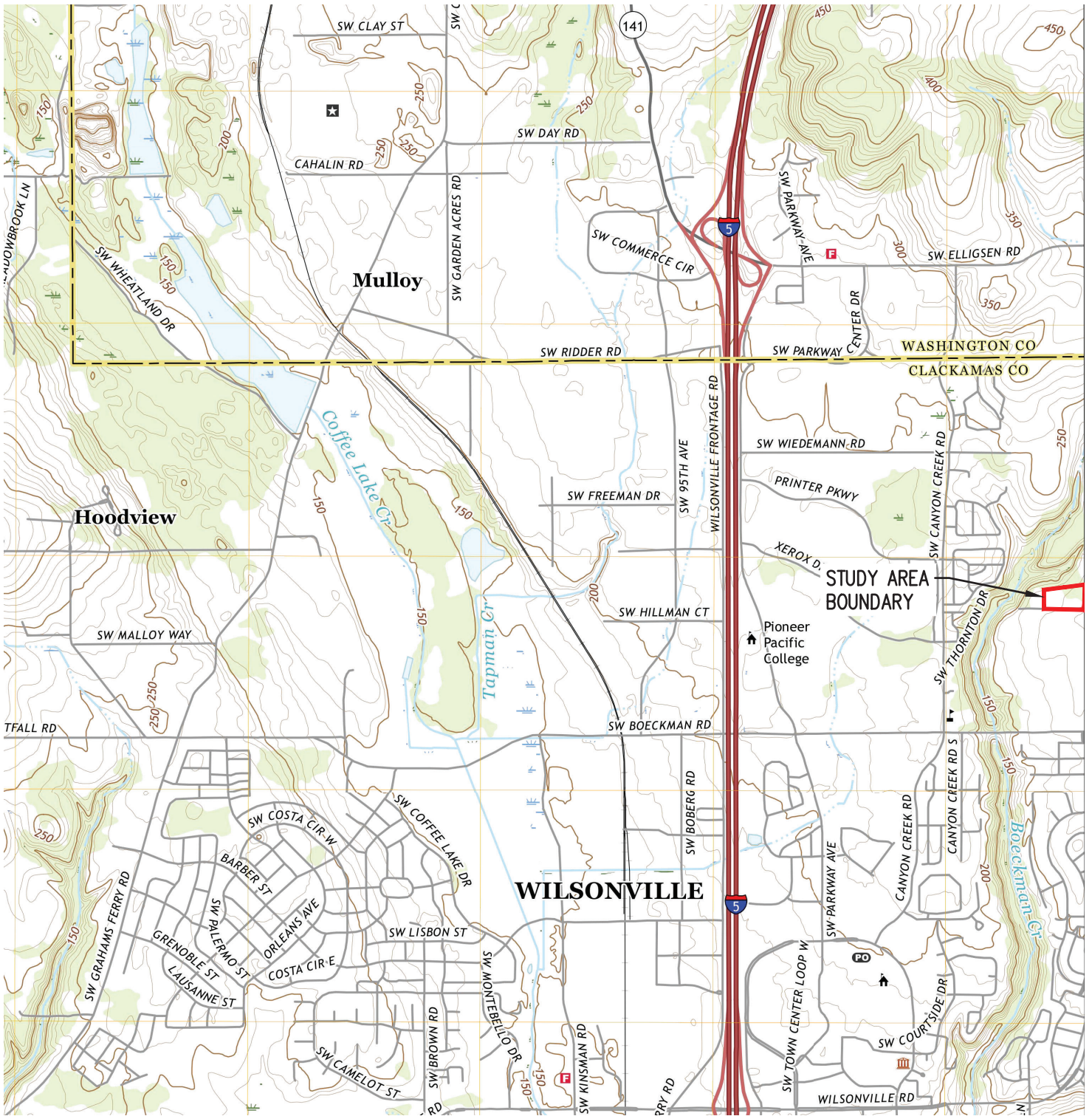


Stacey Reed, PWS  
Senior Wetland Scientist  
Report QA/QC  
*Stacey Reed is a certified Professional Wetland Scientist (PWS) with more than 20 years of experience delineating wetlands and waters, conducting wetland and stream function and value assessments, and preparing natural resource assessments throughout Oregon.*

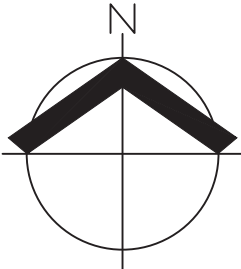
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## Literature Cited and Referenced

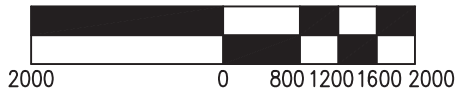
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USGS 7.5' TOPOGRAPHIC SERIES  
 QUADRANGLE: SHERWOOD, OR (2020)



SCALE: 1" = 2000 FEET



DATE: 02/11/2022

USGS VICINITY MAP FROG POND OVERLOOK ABBREVIATED SIGNIFICANT RESOURCE IMPACT REPORT		<b>FIGURE</b> <b>1</b>
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151    WWW.AKS-ENG.COM		DRWN: RAS CHKD: SKT AKS JOB: 7005





EFU

SEE MAP 3 1W 12

CENTER SEC

601  
13.13 Ac.  
7475

500  
13.33 Ac.  
6901  
6905

STUDY AREA  
BOUNDARY

R 3 1W 12CA  
**-27 UR**

700  
3.67 Ac.  
7315

800  
3.00 Ac.  
7115  
7117

2800  
9.30 Ac.  
7480

1100  
9.00 Ac.  
7400

1101  
1.00 Ac.  
7320

1200  
1.25 Ac.  
7252

1400  
5.00 Ac.  
7130

1501  
4.06 Ac.  
7070

1500  
5.94 A

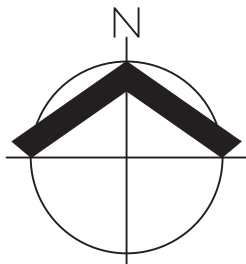
2801  
2.00 Ac.  
7500

1/16 COR

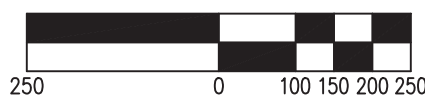
**RRFF5**

**3.**

CLACKAMAS COUNTY  
TAX LOT 700  
TAX MAP 3S 1W 12D



SCALE: 1" = 250 FEET



DATE: 12/23/2021

TAX MAP (MAP 3S 1W 12D)  
FROG POND OVERLOOK ABBREVIATED SIGNIFICANT RESOURCE IMPACT REPORT

FIGURE  
**2**

AKS ENGINEERING & FORESTRY, LLC  
12965 SW HERMAN RD, STE 100  
TUALATIN, OR 97062  
503.563.6151 WWW.AKS-ENG.COM

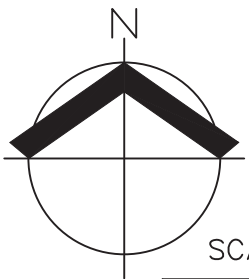


DRWN: RAS  
CHKD: SKT  
AKS JOB:  
7005

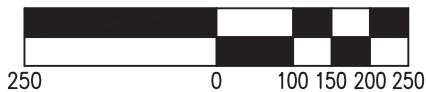


MAP UNIT SYMBOL	MAP UNIT NAME
91B	WOODBURN SILT LOAM, 3% TO 8% SLOPES; NON-HYDRIC
91C	WOODBURN SILT LOAM, 8% TO 15% SLOPES, NON-HYDRIC

NRCS WEB SOIL SURVEY FOR  
CLACKAMAS COUNTY



SCALE: 1" = 250 FEET



DATE: 02/11/2022

NRCS SOIL SURVEY MAP  
FROG POND OVERLOOK ABBREVIATED SIGNIFICANT RESOURCE IMPACT REPORT

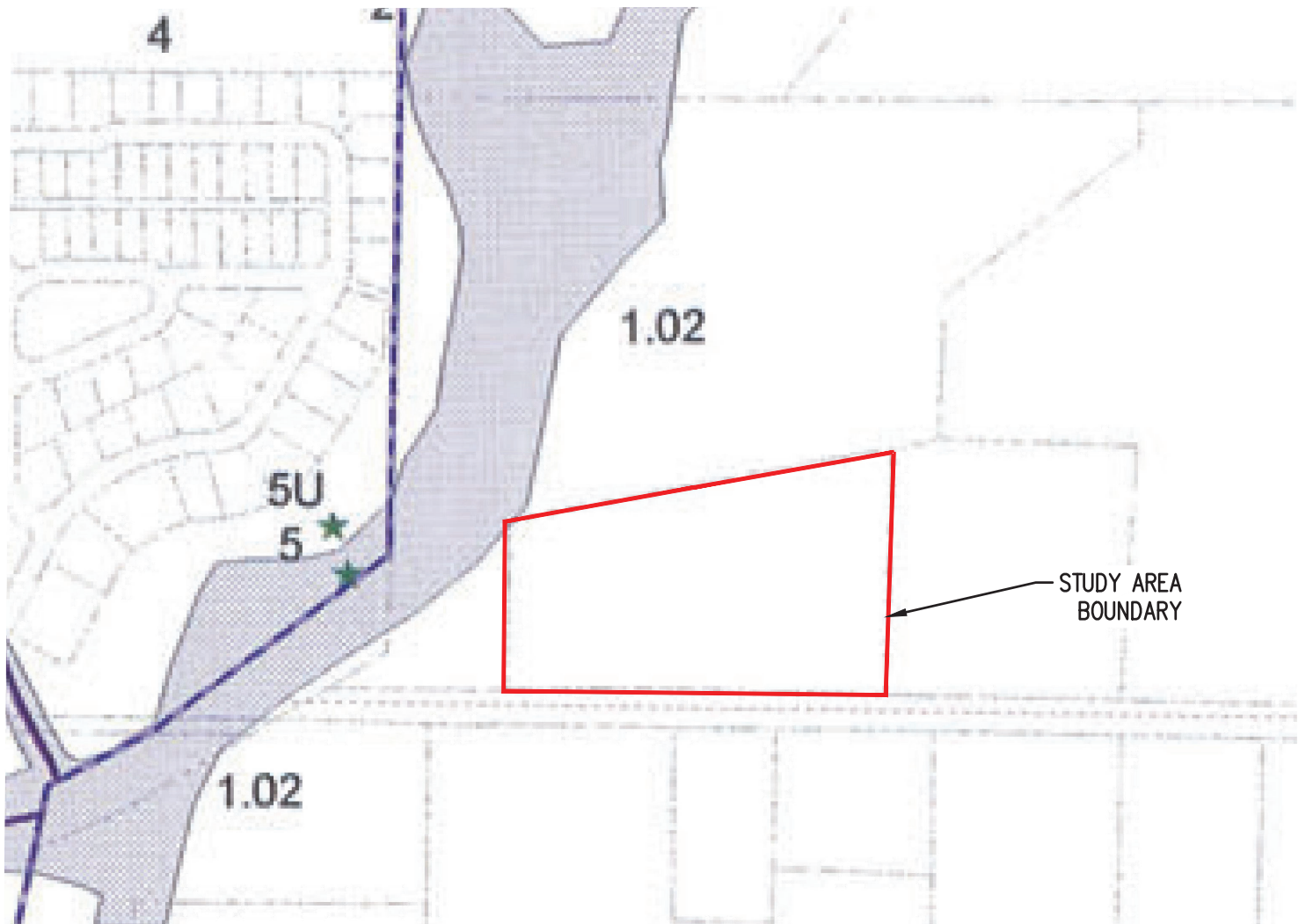
FIGURE  
**3**

AKS ENGINEERING & FORESTRY, LLC  
12965 SW HERMAN RD, STE 100  
TUALATIN, OR 97062  
503.563.6151 WWW.AKS-ENG.COM



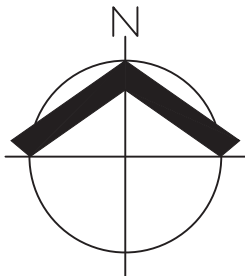
DRWN: RAS  
CHKD: SKT  
AKS JOB:  
7005





LEGEND	
	WETLANDS
	TAX LOTS
	STREAMS
	INTERMITTENT PERENNIAL
	UGB
	CULVERT LOCATIONS
	RAILROAD
	STREETS
	CLACKAMAS/WASHINGTON COUNTY LINE
	VIEWPOINTS
	WETLANDS MAPPED OFF-SITE
	SAMPLE PLOT LOCATIONS
	1.01 - WETLAND SITE ID
	6.03d - DELINEATED WETLAND SITE ID
	4.15R - RIPARIAN SITE ID
	1.04U - UPLAND SITE ID
	* 95 - SAMPLE PLOT ID

CITY OF WILSONVILLE  
 LOCAL WETLAND AND RIPARIAN  
 CORRIDOR INVENTORY MAP (1999)



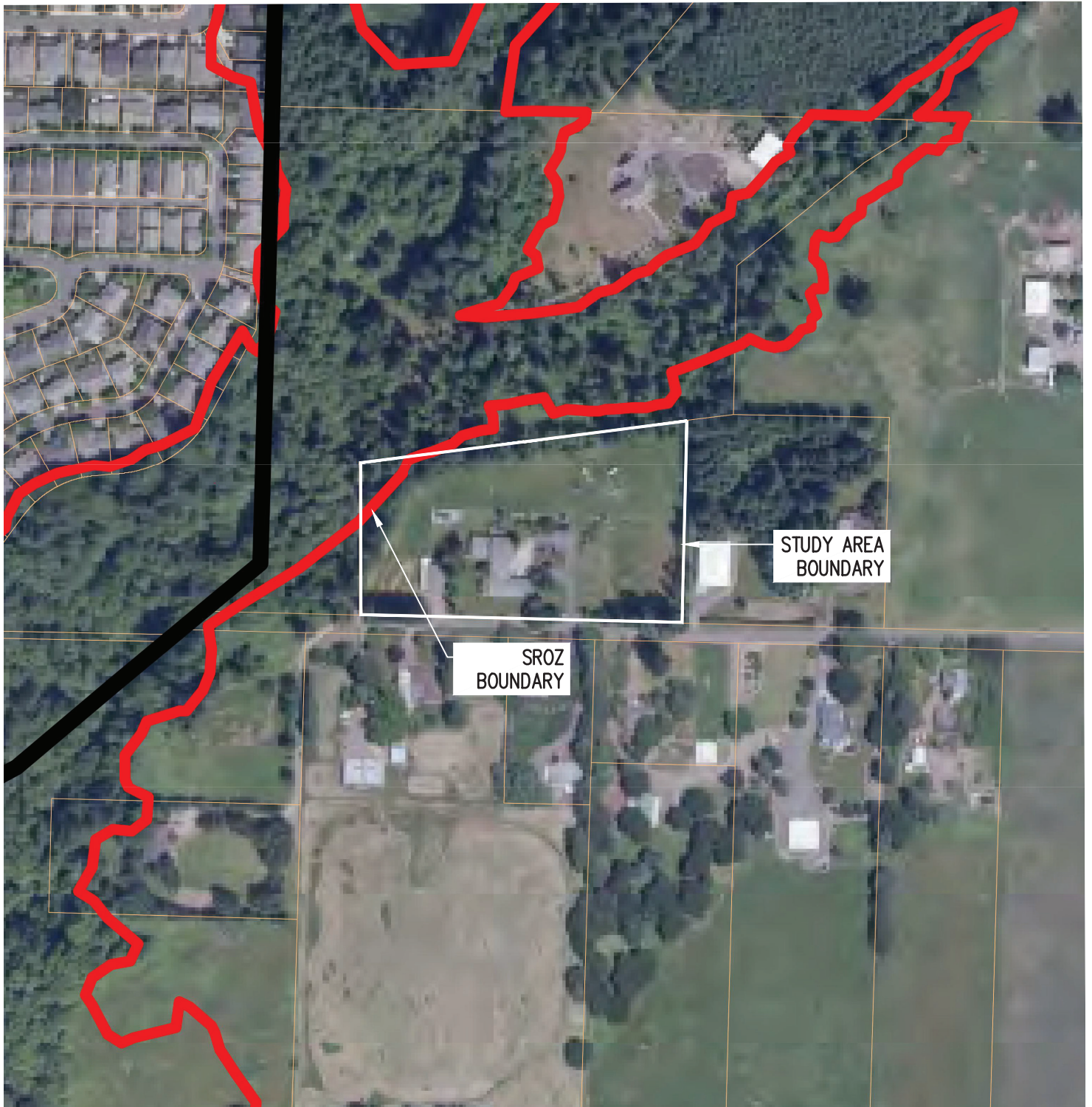
SCALE: 1" = 250 FEET



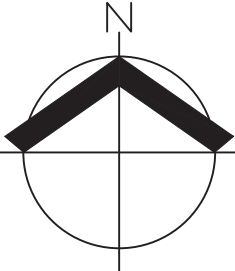
DATE: 02/11/2022

LOCAL WETLAND INVENTORY MAP FROG POND OVERLOOK ABBREVIATED SIGNIFICANT RESOURCE IMPACT REPORT		FIGURE <b>4</b>
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151    WWW.AKS-ENG.COM		DRWN: RAS CHKD: SKT AKS JOB: 7005





CITY OF WILSONVILLE SIGNIFICANT RESOURCE OVERLAY ZONE (2009)



SCALE: 1" = 250 FEET

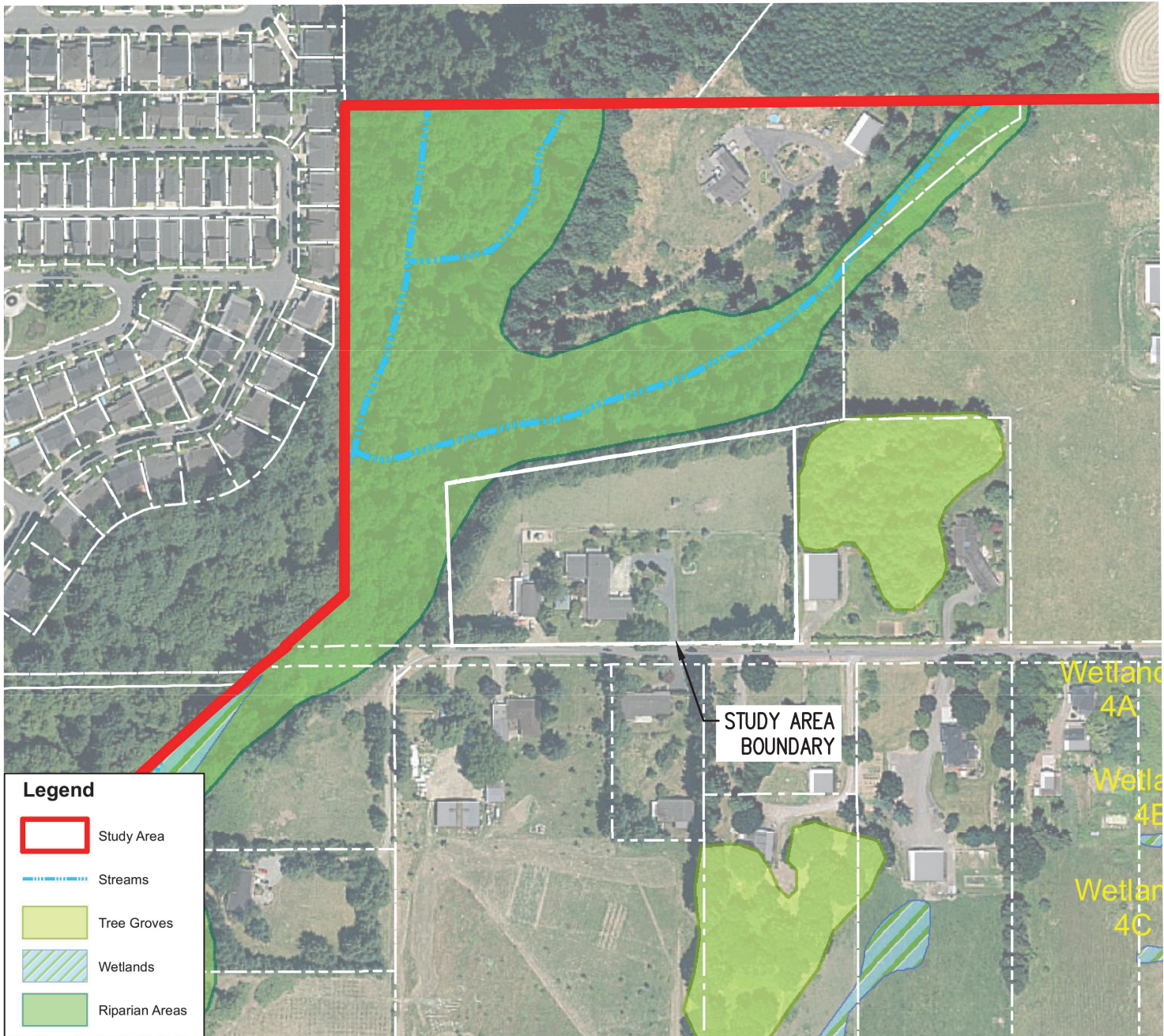


DATE: 02/11/2022

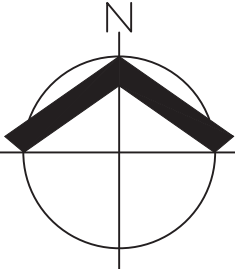
SIGNIFICANT RESOURCE OVERLAY ZONE MAP FROG POND OVERLOOK ABBREVIATED SIGNIFICANT RESOURCE IMPACT REPORT		FIGURE <b>5</b>
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151    WWW.AKS-ENG.COM		DRWN: RAS CHKD: SKT AKS JOB: 7005



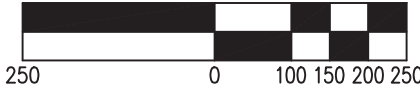




PACIFIC HABITAT SERVICES FROG POND  
NATURAL RESOURCE INVENTORY (2014)



SCALE: 1" = 250 FEET



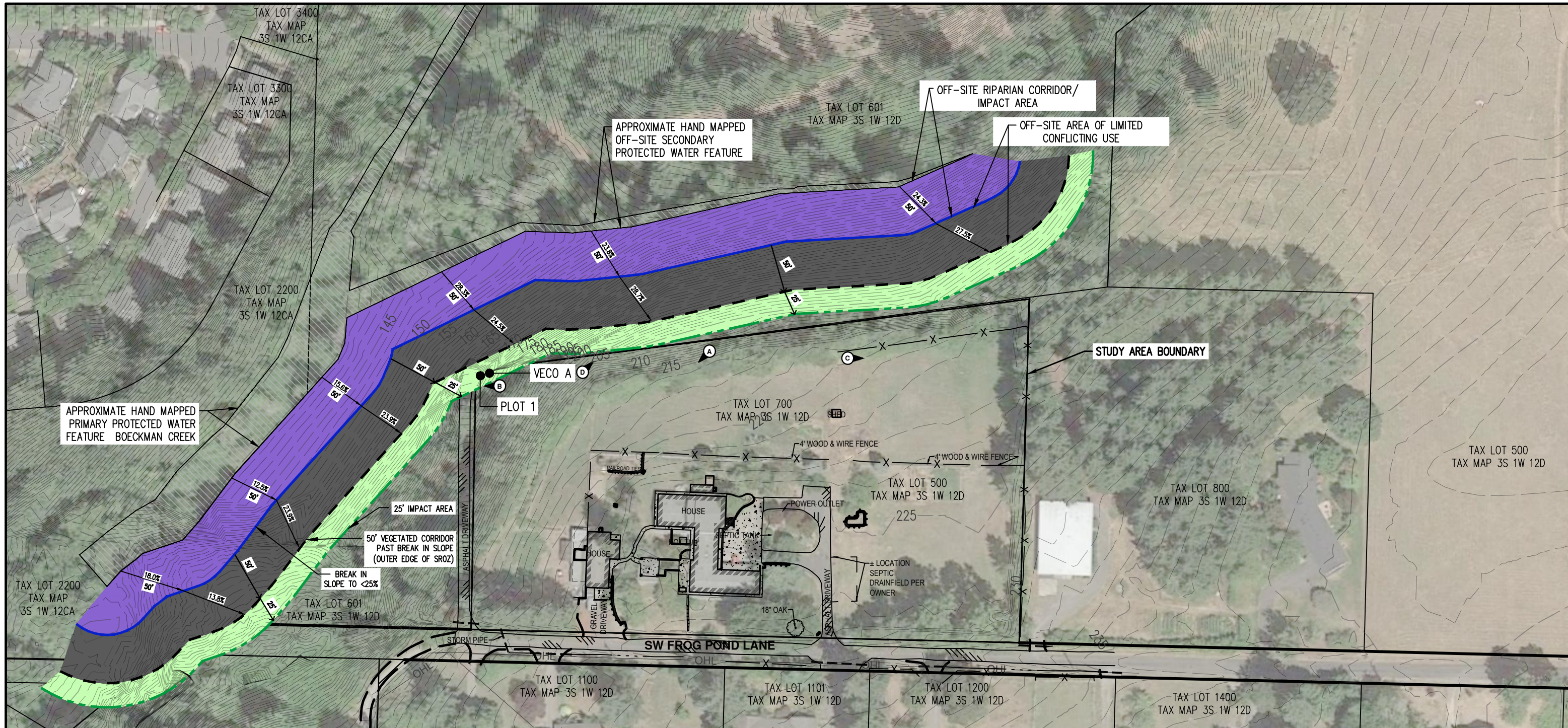
DATE: 02/11/2022

NATURAL RESOURCE INVENTORY MAP  
FROG POND OVERLOOK ABBREVIATED SIGNIFICANT RESOURCE IMPACT REPORT  
AKS ENGINEERING & FORESTRY, LLC  
12965 SW HERMAN RD, STE 100  
TUALATIN, OR 97062  
503.563.6151 WWW.AKS-ENG.COM



FIGURE  
**6**  
DRWN: RAS  
CHKD: SKT  
AKS JOB:  
7005





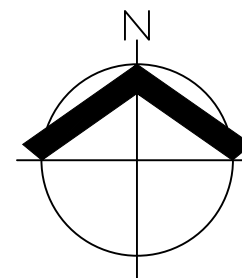
GOOGLE EARTH AERIAL (MAY 2019)

**LEGEND (COLOR COLPY)**

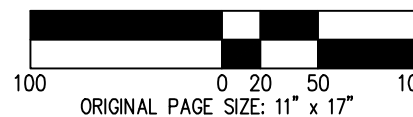
**ON-SITE 25' SIGNIFICANT RESOURCE (SR) IMPACT AREA: 562 SF± (0.01 ACRES±)**  
 WETLAND AND WATER BOUNDARIES SHOWN ARE APPROXIMATE AND HAND MAPPED. WETLAND DELINEATION REQUIRED FOR SITE DEVELOPMENT.

1-FOOT INTERVAL GROUND CONTOURS DERIVED FROM NOAA LIDAR

EXISTING CONDITIONS AND TREE SURVEY WAS CONDUCTED BY OTAK. A FULL TREE INVENTORY OF THE SITE WAS NOT COMPLETED.



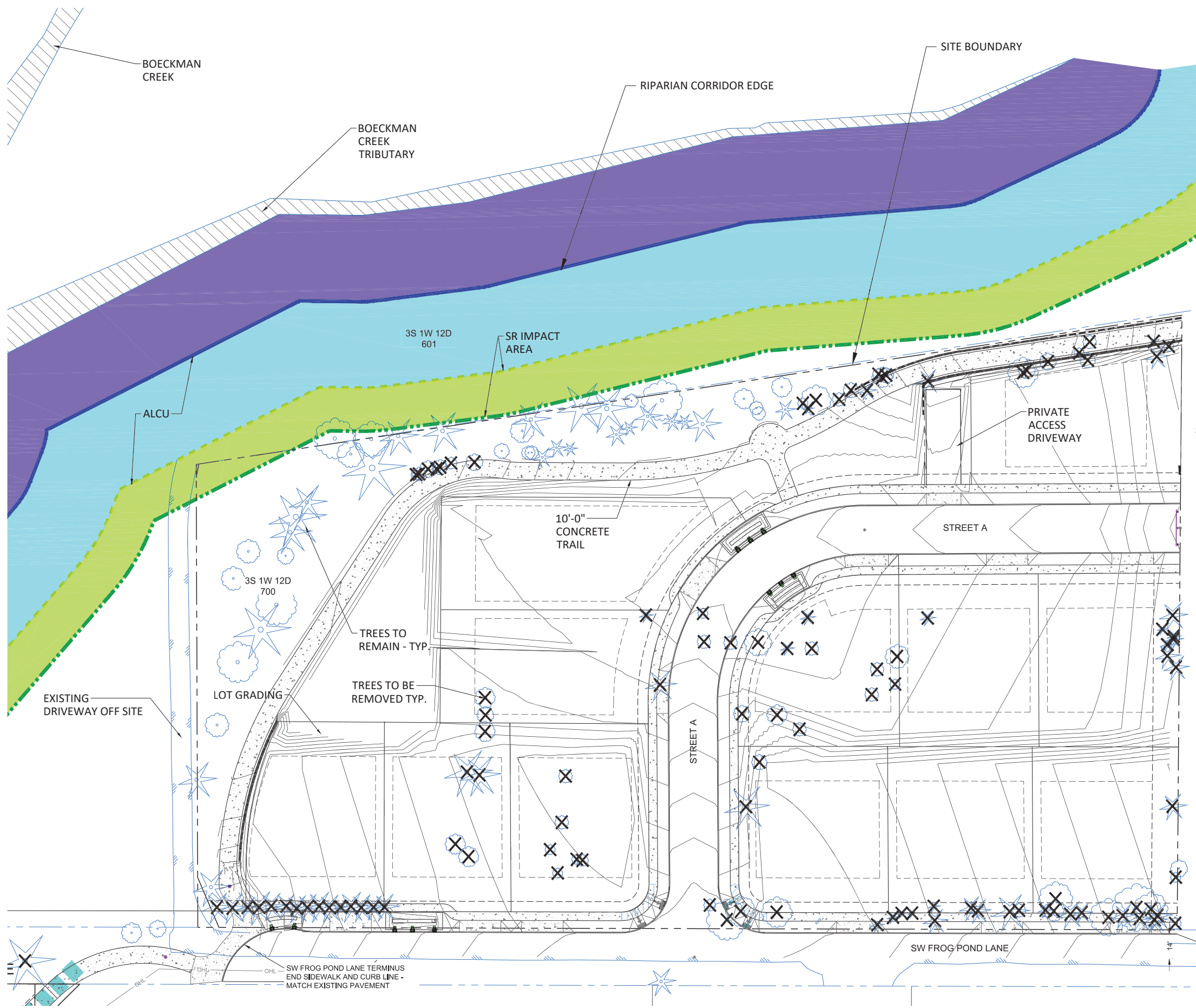
SCALE: 1" = 100 FEET



DATE: 02/14/2022

<b>NATURAL RESOURCES EXISTING CONDITIONS MAP</b>	<b>FIGURE 7</b>
<b>FROG POND OVERLOOK ABBREVIATED SIGNIFICANT RESOURCE IMPACT REPORT</b>	
<b>AKS ENGINEERING &amp; FORESTRY, LLC</b> 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151 WWW.AKS-ENG.COM	
DRWN: RAS CHKD: SKT AKS JOB: 7005	<b>AKS</b>





**Legend**

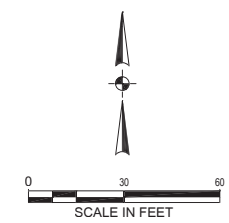
- OFF-SITE PRIMARY AND SECONDARY PROTECTED WATER FEATURES
- SIGNIFICANT RESOURCE IMPACT AREA TO REMAIN (566 SF)
- OFFSITE RIPARIAN IMPACT AREA TO REMAIN
- OFFSITE AREA OF LIMITED CONFLICTING USE TO REMAIN
- EXISTING CONIFEROUS TREE >6" TO REMAIN - TYP.
- EXISTING DECIDUOUS TREE >6" TO REMAIN - TYP.
- EXISTING CONIFEROUS TREE >6" TO BE REMOVED - TYP.
- EXISTING DECIDUOUS TREE >6" TO BE REMOVED - TYP.

Plotted: Mon, 16, 2022, 10:48am, keth.boulaman...

**FROG POND OVERLOOK**  
**ABBREVIATED SIGNIFICANT**  
**RESOURCE IMPACT REPORT**  
**SITE PLAN**

REVISIONS		
#	DATE	DESCRIPTION

NAVD88 DATUM  
 OTAK CAD DRAWN BY KJB  
 SRIR IMPACT REPORT STATUS CHECKED BY KJB  
 FEBRUARY 14, 2022 DATE  
 20015 PROJECT NUMBER  
**EX 1**  
 © 2021 OTAK, INC.  
If this drawing is not 22" x 34", it has been reduced/enlarged. Scale accordingly.



**Appendix A:**  
**Wetland Determination Data Forms**

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**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region**

Project/Site: Frog Pond Overlook City/County: Willsonville/ Clackamas County Sampling Date: 6/29/2021  
 Applicant/Owner: West Hills Land Development, LLC State: OR Sampling Point: 1  
 Investigator(s): Lex Francis, Margret Harburg Section, Township, Range: Sec. 12, T.3S., R.1 W., W.M.  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5-10%  
 Subregion (LRR): A. Northwest Forests and Coast Lat: 45.323015 Long: -122.753327 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Woodburn silt loam (Unit 91C), 8 to 15 percent slopes; Non-Hydric NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

**Precipitation:**  
 According to the NWS Portland weather station, 0.00 inches of rainfall was received on the day of the site visit and 0.15 inches within the two weeks prior. Drier than normal precipitation conditions.

**Remarks:**  
 Plot located in lowest elevation area in NW corner of the study area.

**VEGETATION**

Tree Stratum (Plot Size: 30' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Pseudotsuga menziesii</u>	<u>35%</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Acer macrophyllum</u>	<u>20%</u>	<u>Yes</u>	<u>FACU</u>
3. <u>Alnus rubra</u>	<u>5%</u>	<u>No</u>	<u>FAC</u>
4. _____	_____	_____	_____
	<u>60%</u> = Total Cover		
Sapling/Shrub Stratum (Plot Size: 10' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer circinatum</u>	<u>15%</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Ilex aquifolium</u>	<u>10%</u>	<u>Yes</u>	<u>FACU</u>
3. <u>Symphoricarpos albus</u>	<u>5%</u>	<u>No</u>	<u>FACU</u>
4. <u>Oemleria cerasiformis</u>	<u>5%</u>	<u>No</u>	<u>FACU</u>
5. <u>Corylus cornuta</u>	<u>3%</u>	<u>No</u>	<u>FACU</u>
	<u>38%</u> = Total Cover		
Herb Stratum (Plot Size: 5' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Polystichum munitum</u>	<u>35%</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Trillium ovatum</u>	<u>3%</u>	<u>No</u>	<u>FACU</u>
3. <u>Vancouveria hexandra</u>	<u>3%</u>	<u>No</u>	<u>NOL</u>
4. <u>Hydrophyllum tenuipes</u>	<u>3%</u>	<u>No</u>	<u>FAC</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
	<u>44%</u> = Total Cover		
Woody Vine Stratum (Plot Size: 10' r or _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Hedera helix</u>	<u>56%</u>	<u>Yes</u>	<u>FACU</u>
2. _____	_____	_____	_____
	<u>56%</u> = Total Cover		
% Bare Ground in Herb Stratum	<u>56%</u>		

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 17% (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>23</u>	x 3 =	<u>69</u>
FACU species	<u>137</u>	x 4 =	<u>548</u>
UPL species	<u>3</u>	x 5 =	<u>15</u>
Column Totals:	<u>163</u> (A)		<u>632</u> (B)
Prevalence Index = B/A =			<u>3.88</u>

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 5 - Wetland Non-Vascular Plants<sup>1</sup>  
 Problematic Hydrophytic Vegetation (Explain)<sup>1</sup>

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

**Remarks:**



**Appendix B:**  
**Representative Site Photographs**

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**Photo A.** General on site conditions of maintained area, oriented southwest.



**Photo B.** Upland vegetation in the vicinity of Plot 1 oriented west toward off site driveway.



**Photo C.** General site conditions oriented east.



**Photo D.** General vegetation condition showing high percentage of invasive *Hedera helix*, and dense canopy cover. Photo oriented northeast.



## **Appendix C:** **VECO Data Form**

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**Vegetated Corridor (VECO) Condition Assessment for CWS Natural Resource Assessment**

<b>Site:</b>	<u>Frog Pond Overlook</u>		
<b>Job Number:</b>	<u>7005</u>		
<b>Investigators:</b>	<u>Lex Francis and Margret Harburg</u>		
<b>Date:</b>	<u>June 29, 2021</u>		
<b>Community:</b> Douglas Fir and Vine Maple			
<b>Location:</b> NW corner of Study Area			
<b>Plot ID:</b> VECO A			
Tree species, % Cover, Native, Invasive - 30 foot radius, >5% cover:			60%
* <i>Pseudotsuga menziesii</i>	Douglas-fir	<i>native</i>	35%
<i>Acer macrophyllum</i>	big-leaf maple	<i>native</i>	20%
* <i>Alnus rubra</i>	red alder	<i>native</i>	5%
Shrub species, % Cover, Native, Invasive - 30 foot radius, >5% cover:			38%
* <i>Acer circinatum</i>	vine maple	<i>native</i>	15%
* <i>Ilex aquifolium</i>	English holly	<i>native</i>	10%
<i>Symphoricarpos albus</i>	common snowberry	<i>native</i>	5%
<i>Oemleria cerasiformis</i>	oso-berry	<i>native</i>	5%
<i>Corylus cornuta</i>	beaked hazelnut	<i>native</i>	3%
Herb Species, % Cover, Native, Invasive - 10 foot radius, >5% cover:			100%
* <i>Hedera helix</i>	English ivy	<i>invasive</i>	56%
* <i>Polystichum munitum</i>	pineland sword fern	<i>native</i>	35%
<i>Trillium ovatum</i>	western trillium	<i>native</i>	3%
<i>Vancouveria hexandra</i>	white insideout flower	<i>native</i>	3%
<i>Hydrophyllum tenuipes</i>	Pacific waterleaf	<i>native</i>	3%
		<i>non-native</i>	56%
		<i>native</i>	127%
* Dominant			
		Total Cover	198%
	Absolute areal cover		
<b>% Tree canopy:</b>	<b>60%</b>		
% Cover by natives:	142%		
% Invasive:	56%		
% Non-native:	0%		
	<hr/>		
	198%		
<b>Corridor Condition:</b>	Marginal		

## **Appendix E**

Arborist Report and Tree Plan dated May 18, 2022, by  
Portland Tree Consulting.



### **Frog Pond Overlook (Ross Property) Arborist Report**

This Tree Plan is required by Section 4.610.40. Type C Permit as part of the site development application for the Frog Pond Overlook Subdivision in Wilsonville, Oregon. Trees were tied and diameters measured by licensed Otak surveyors. Species, crown diameters, and health and condition were inventoried by an ISA Certified Arborist. The attached Tree Table includes all trees that are 6 inches in diameter and larger on or close to the property. There are one hundred fifty-four trees, and the Tree Table delineates those to be protected and those to be removed. Root protection zones (RPZs) for protected trees are listed in the Tree Table. Protected trees have metal identification tags that will remain until final inspection of the project.

The forty-eight trees being preserved during development will be cordoned off with fencing built at the edge of root protection zones before construction activity begins. Fencing will consist of 6-foot high metal chain link secured with 8-foot metal posts. Without authorization, none of the following is allowed within a root protection zone:

1. New buildings;
2. Grade change or cut and fill, during or after construction;
3. New impervious surfaces;
4. Utility or drainage field placement;
5. Staging or storage of materials and equipment during construction;
6. Vehicle maneuvering during construction.

With supervision by an arborist, ground disturbance and construction may occur inside RPZs after authorization from the City. This ensures that development activities contemplated by the owner are done without endangering protected trees.

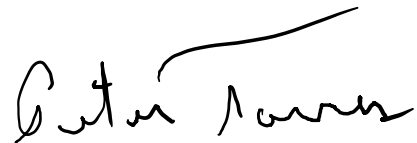
There will be one hundred six trees removed from the property. Section 4.620.00. requires that each removed tree be replaced with a 2-inch caliper tree within one year of removal.

Replacement trees shall be chosen for the site from an approved tree species list supplied by the City and shall be state Department of Agriculture Nursery Grade No. 1 or better. The species and locations will be determined by the landscape designer. Replacement trees must be staked, fertilized, and mulched, and shall be guaranteed by the permit grantee for two years after the planting date. Alternatively, the owner may invoke Section 4.629.00.(06.) and pay the value of the replacement trees to the City Tree Fund if they cannot be planted at the site due to spatial limitations.

This Tree Plan meets the requirements of the tree preservation code, and the owners will observe all laws, rules, and regulations. Trees to be removed should be verified and marked and tree protection measures should be inspected and approved before any clearing or grading work begins. It is the owner's responsibility to implement this tree plan and to monitor the construction process to its conclusion. Deviations can result in tree damage, liability, and violations of the City Code.

**Portland Tree Consulting** PO Box 19042 Portland, OR 97280  
503.421.3883 [peter@torresusa.com](mailto:peter@torresusa.com) CCB 230301

1. Client warrants any legal description provided to the Consultant is correct and titles and ownerships to property are good and marketable. Consultant shall not be responsible for incorrect information provided by Client.
2. Consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
3. The Consultant shall not be required to give testimony or attend court or hearings unless subsequent contractual arrangements are made, including additional fees.
4. The report and any values expressed therein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
5. Sketches, drawings and photographs in the report are intended as visual aids and may not be to scale. The reproduction of information generated by others will be for coordination and ease of reference. Inclusion of such information does not warrant the sufficiency or accuracy of the information by the Consultant.
6. Unless expressed otherwise, information in the report covers only items that were examined and reflects the condition at the time of inspection. The inspection is limited to visual examination of accessible items without laboratory analysis, dissection, excavation, probing, or coring, unless otherwise stated.
7. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the plants or property in question may not arise in the future.
8. The report is the completed work product. Any additional work, including production of a site plan, addenda and revisions, construction of tree protection measures, tree work, or inspection of tree protection measures, for example, must be contracted separately. Loss or alteration of any part of the report invalidates the entire report.
9. Any action or proceeding seeking to enforce any provision of this Agreement shall be brought against any of the parties in Multnomah County Circuit Court of the State of Oregon, or, when applicable, in the United States District Court for the District of Oregon. Each party consents to the jurisdiction of such courts (and of the appropriate appellate courts) and waives any objection to such venue.



Peter Torres

Master of Forestry ASCA RCA 372 ISA Certified Arborist PN-0650B TRAQ

## **Appendix F**

Geotechnical Report dated December 15, 2021 by  
Hardman Geotechnical Services Inc,





# HARDMAN GEOTECHNICAL SERVICES INC.

Practical, Cost-Effective  
Engineering Solutions

December 15, 2021

HGSI Project No. 21-2824

Dan Grimberg / Kristi Hosea

**West Hills Land Development**

3330 NW Yeon Avenue, Suite 200

Portland, Oregon 97210

Via e-mail (pdf format); hard copies mailed upon request

**Subject: GEOTECHNICAL ENGINEERING AND INFILTRATION TESTING REPORT  
FROG POND WEST-WEST  
MARTIN, GEORGE AND ROSS PROPERTIES  
WILSONVILLE, OREGON**

This report presents the results of a geotechnical engineering study conducted by Hardman Geotechnical Services Inc. (HGSI) for Frog Pond West-West (Martin, George and Ross Properties) in Wilsonville, Oregon (Figure 1). The purpose of this study was to evaluate subsurface conditions at the site and to provide geotechnical recommendations for site development.

## **SITE DESCRIPTION AND PROPOSED DEVELOPMENT**

The project totals about 15.07 acres, as summarized below. Please note that the parcel addresses and acreages were taken from the Clackamas County GIS website and are only as accurate as the information provided.

<b>Property</b>	<b>Tax Lot No.</b>	<b>Address</b>	<b>Acreage</b>	<b>House Constructed Date</b>
Ross	31W12D 00700	7315 SW Frog Pond Ln	4.09	1964
George	31W12D 02801	7500 SW Frog Pond Ln	2.00	1972
Martin	31W12D 02800	No address	8.98	--

The Ross and George properties are currently occupied by residential homes, with several detached shops, garages and barns. Existing facilities are present only within the eastern, more flat-lying portion of the overall site. The areas surrounding the homes and other structures are landscaped with lawn, shrubbery and ornamental or fruit-bearing trees. No structures are present on the Martin property, which is overgrown with blackberries, etc. Along the western edge of the site is an area of steep slopes descending down to Boeckman Creek. The steep slope is vegetated with large deciduous and evergreen trees, and undergrowth.



December 15, 2021

HGSI Project No. 21-2824

Preliminary plans indicate the site will be developed into a 31-lot residential subdivision that will include two separate tracts with the intention of having one or both serve as water quality/detention facilities. The actual number of lots may vary as project design progresses. Site development will also include construction of on-site streets and underground utilities. All of the proposed development is within the eastern, flat to gently sloping portion of the site. The steep slopes in the western portion of the site are to remain open space.

In the northwest portion of the site, a temporary access easement extends near the top of the steep slope area. HGSI has studied potential landslide hazards and slope stability specific to this area, in a previous report (HGSI, 2021). The report concludes that the planned utility lines and temporary access way can be safely constructed, with a low-height soldier pile wall along the downslope (northwest) portion of the easement to protect against surficial soil sloughing/erosion.

## **REGIONAL GEOLOGY AND SEISMIC SETTING**

The subject site lies within the heart of the Portland Basin, a broad structural depression situated between the Coast Range on the west and the Cascade Range on the east. The Portland Basin is a northwest-southwest trending structural basin produced by broad regional downwarping of the area. The Portland Basin is approximately 20 miles wide and 45 miles long and is filled with consolidated and unconsolidated sedimentary rocks of late Miocene, Pliocene and Pleistocene age.

Geologic maps indicate the subject site is underlain by Quaternary age (last 1.6 million years) Willamette Silt, fine flood deposits that mantles basalt bedrock (Madin, 1990). This generally consists of massive fine sand and silt deposited following repeated catastrophic flooding events in the Willamette Valley, the last of which occurred between 15,000 and 10,000 years ago. In localized areas, the light brown sandy silts include buried paleosols that developed between depositional events. Regionally, the total thickness of catastrophic flood deposits range from 5 feet to greater than 100 feet.

The Willamette Formation is underlain by residual soil formed by in place weathering of the underlying Columbia River Basalt Formation (Madin, 1990). The Miocene aged (about 14.5 to 16.5 million years ago) Columbia River Basalts are a thick sequence of lava flows which form the crystalline basement of the Tualatin Valley. The basalts are composed of dense, finely crystalline rock that is commonly fractured along blocky and columnar vertical joints. Individual basalt flow units typically range from 25 to 125 feet thick and interflow zones are typically vesicular, scoriaceous, brecciated, and sometimes include sedimentary rocks.

At least three major fault zones capable of generating damaging earthquakes are known to exist in the region. These include the Portland Hills Fault Zone, Gales Creek-Newberg-Mt. Angel Structural Zone, and the Cascadia Subduction Zone. These potential earthquake source zones are included in the determination of seismic design values for structures, as presented in the *Seismic Design* section. None of the known faults extend beneath the site.

## **FIELD EXPLORATION**

### **Test Pits and Exploratory Hand Auger Borings**

The site-specific exploration for this study was conducted on October 22, 2021 and December 3 and 9, 2021. On October 22, 2021 HGSI oversaw the excavation of two test pits using a medium-sized excavator in the area of the temporary easement (Figure 2). Test pits TP-3 through TP-11 were excavated on December 3, 2021, using a rubber-tired backhoe with extend-a-hoe attachment. Six hand auger borings (HA-1 through HA-6) were drilled on December 3 and 9, 2021 by HGSI staff using hand auger tools. Explorations were conducted at the approximate locations shown on the attached Site Plan, Figure 2.

Explorations were conducted under the full-time observation of HGSI personnel. Soil samples obtained from the borings were classified in the field and representative portions were placed in relatively air-tight plastic bags. These soil samples were then returned to the laboratory for further examination. Pertinent information including soil sample depths, stratigraphy, soil engineering characteristics, and groundwater occurrence was recorded. Soils were classified in general accordance with the Unified Soil Classification System.

Summary exploration logs are attached to this report. The stratigraphic contacts shown on the individual exploration logs represent the approximate boundaries between soil types. The actual transitions may be more gradual. The soil and groundwater conditions depicted are only for the specific dates and locations reported, and therefore, are not necessarily representative of other locations and times.

### **Infiltration Testing**

On December 3, 2021, HGSI performed falling head infiltration tests using the open-hole method in hand auger borings HA-1, HA-2 and HA-3. The infiltration testing was performed by measuring the water level at one-minute intervals using HOBOTM data loggers, which measures water pressure corrected for temperature and barometric pressure. See attached HOBOTM water level data logger plot. The infiltration rate was determined based on the slope of the water depth line near the end of the test. Table 1 presents the results of the falling head infiltration tests.

**Table 1. Summary of Infiltration Test Results**

<b>Boring</b>	<b>Depth (feet)</b>	<b>Soil Type</b>	<b>Infiltration Rate (in/hr)</b>	<b>Hydraulic Head Range during Testing (inches)</b>
HA-1	5	Silt with Clay (ML)	0.6	7.8 – 6.6
HA-2	6	Fine Sandy Silt (ML)	1.1	15 - 14
HA-3	6	Fine Sandy Silt (ML)	1.2	14 – 13

The average of the three infiltration tests is 1.0 inches/hour. Reported values are ultimate and should be adjusted using an appropriate factor of safety for design purposes.

### **SUBSURFACE CONDITIONS**

The following discussion is a summary of subsurface conditions encountered in our explorations. For more detailed information regarding subsurface conditions at specific exploration locations, refer to the attached hand auger logs. Also, please note that subsurface conditions can vary between exploration locations, as discussed in the *Uncertainty and Limitations* section below.

#### **Soil**

On-site soils are anticipated to consist of undocumented fill, topsoil, colluvium, and Willamette Formation soils as described below.

***Undocumented Fill*** – In the northeast portion of the Ross Property, we encountered an area of undocumented fill. Test Pits TP-8, TP-9 and TP-10; and hand auger boring HA-3 encountered undocumented fill extending to 4.5 to 5 feet bgs. Between the fill and native soils a zone of old

topsoil was encountered in all three of the test pits. Undocumented fill consisted generally of soft silt with trace organics, and trace amounts of crushed rock and other erratic material.

**Topsoil** – Beginning at the surface level, all explorations encountered a zone of topsoil about 6 to 12 inches thick. The topsoil was generally comprised of soft, wet to moist dark brown organic silt. The upper roughly 6 inches of the topsoil appeared highly organic.

**Colluvium** – In TP-1 we encountered a zone of colluvium, comprised of stiff clayey silt with black and orange mottling. This material had a weathered, slightly disturbed appearance and extended to a depth of about 2.5 feet bgs. Colluvium, a zone of down-slope creep occurring due to weathering of surficial soils on natural slopes, was not encountered in the other test pits and hand auger borings.

**Willamette Silt** – Beneath the undocumented fill, topsoil and/or colluvium, all explorations encountered stiff to very stiff, moist to very moist, brown silt, clayey silt and silt with fine sand interpreted as Willamette Formation. The upper several feet of this unit exhibited orange and gray mottling. All explorations were terminated in the Willamette Silt unit, at depths ranging from 5 to 13 feet bgs.

### **Groundwater**

Seepage was encountered in two of the deeper test pits, TP-4 and TP-7, at depths of about 13 and 10 feet respectively. During the field exploration, no seepage or static groundwater table was encountered in the other explorations. Based on nearby water well data, depth to static groundwater is at least 20 feet below the ground surface. Perched groundwater conditions often occur over fine-grained native deposits such as those beneath the site, particularly during the wet season. It is anticipated that groundwater conditions will vary depending on the season, local subsurface conditions, changes in site utilization, and other factors. The perched groundwater conditions reported above are for the specific date and locations indicated, and therefore may not necessarily be indicative of other times and/or locations.

### **CONCLUSIONS AND RECOMMENDATIONS**

Results of this study indicate that the proposed development is geotechnically feasible, provided that the recommendations of this report are incorporated into the design and construction phases of the project. The proposed development avoids the steep slope area to the west; slope stability impacts are considered minimal as discussed in the *Slope Stability and Landslide Hazards* section. Recommendations are presented below regarding site preparation and undocumented fill removal, engineered fill, fill slope keying and benching, wet weather earthwork, spread footing foundations, below grade structural retaining walls, concrete slabs-on-grade, perimeter footing drains, seismic design, excavating conditions and utility trench backfill, stormwater infiltration systems, and erosion control considerations.

### **Slope Stability and Landslide Hazards**

For the purpose of evaluating slope stability, we reviewed published geologic and hazard mapping, reviewed regional site topography and LIDAR images, performed a field reconnaissance, and evaluated subsurface soil conditions in exploratory test pits and hand auger borings.

Reconnaissance observations indicate that slope geomorphology at the site is generally smooth and uniform, consistent with stable slope conditions. No geomorphic evidence of prior slope instability (such as hummocky topography, benches or old scarps) was observed. No seeps or springs were observed on site.

Regional geologic mapping and the Oregon Department of Geology and Mineral Industries online landslide database (SLIDO, 2017) shows a small mapped landslide in the western portion of the Martin/George

property (Figure 3). This feature is mapped with low (<10%) confidence level, and historical (<150 years) in age. In our opinion this mapped ancient slide is not indicative of a significant slope stability hazard to the site, and is located far enough away from the proposed development that slope stability impacts are not anticipated.

In the northwest portion of the site between the Ross and Martin Properties (Figures 2 and 3), a temporary access easement extends near the top of the steep slope area. HGSI has studied potential landslide hazards and slope stability specific to this area, in a previous report (HGSI, 2021). The report concludes that the planned utility lines and temporary access way can be safely constructed, with a low-height soldier pile wall along the downslope (northwest) portion of the easement to protect against surficial soil sloughing/erosion.

The planned development does not extend onto the steep slope areas in the western portion of the site. Based on our observations and results of the slope stability evaluation, it is our opinion that no special design or construction provisions are needed to address slope issues on the site, with the exception of the soldier pile wall planned in conjunction with the temporary access easement (HGSI, 2021). The project will be designed and constructed per current building codes, City of Wilsonville requirements, and the current standard-of-practice in geotechnical engineering. As such, it is our opinion that adequate slope stability factors of safety will be maintained for both temporary construction, and long-term conditions.

We understand that the proposed storm water management plan may consist of flow through planters, stormwater ponds or swales, with overflow to an approved outlet. Significant infiltration of stormwater via stormwater chambers or dry wells is not proposed for this site based on soil conditions and infiltration test results. The planned storm water facilities are not anticipated to impact slope stability on site, or to create any unstable conditions. Storm water management systems should be designed such that potential overflow is discharged in a controlled manner away from structures and slopes, and all systems should include an adequate factor of safety.

### **Site Preparation and Undocumented Fill Removal**

The areas of the site to be graded should first be cleared of vegetation and any loose debris; and debris from clearing should be removed from the site. Organic-rich topsoil should then be removed to competent native soils. We anticipate that the average depth of topsoil stripping will be 6 to 12 inches over most of the site. Deeper stripping / root picking may be needed in areas that are or were formerly treed. The final depth of stripping removal may vary depending on local subsurface conditions and the contractor's methods, and should be determined on the basis of site observations after the initial stripping has been performed. Stripped organic soil should be stockpiled only in designated areas or removed from the site and stripping operations should be observed and documented by HGSI. Existing subsurface structures (tile drains, old utility lines, septic leach fields, etc.) beneath areas of proposed structures and pavement should be removed and the excavations backfilled with engineered fill.

Undocumented fill was encountered in the northeast portion of the Ross Property, in TP-8, TP-9 and TP-10; and HA-3, at depths of about 4.5 to 5 feet bgs. There is potential for old fills to be present on site in areas beyond our explorations. Where encountered beneath proposed structures, pavements, or other settlement-sensitive improvements, undocumented fill should be removed down to firm inorganic native soils and the removal area backfilled with engineered fill (see below). HGSI should observe removal excavations (if any) prior to fill placement to verify that overexcavations are adequate and an appropriate bearing stratum is exposed.

In construction areas, once stripping has been verified, the area should be ripped or tilled to a depth of 12 inches, moisture conditioned, and compacted in-place prior to the placement of engineered fill. Exposed subgrade soils should be evaluated by HGSI. For large areas, this evaluation is normally performed by

proof-rolling the exposed subgrade with a fully loaded scraper or dump truck. For smaller areas where access is restricted, the subgrade should be evaluated by probing the soil with a steel probe. Soft/loose soils identified during subgrade preparation should be compacted to a firm and unyielding condition or over-excavated and replaced with engineered fill, as described below. The depth of overexcavation, if required, should be evaluated by HGSI at the time of construction.

### **Engineered Fill**

In general, we anticipate that on-site soils will be suitable for use as engineered fill in dry weather conditions, provided they are relatively free of organics and are properly moisture conditioned for compaction. Imported fill material must be approved by the geotechnical engineer prior to being imported to the site. Oversize material greater than 6 inches in size should not be used within 3 feet of foundation footings, and material greater than 12 inches in diameter should not be used in engineered fill.

Engineered fill should be compacted in horizontal lifts not exceeding 8 inches using standard compaction equipment. We recommend that engineered fill be compacted to at least 90 percent of the maximum dry density determined by ASTM D1557 (Modified Proctor) or equivalent. On-site soils may be wet or dry of optimum; therefore, we anticipate that moisture conditioning of native soil will be necessary for compaction operations.

Proper test frequency and earthwork documentation usually requires daily observation and testing during stripping, rough grading, and placement of engineered fill. Field density testing should conform to ASTM D2922 and D3017, or D1556. Engineered fill should be periodically observed and tested by the project geotechnical engineer or his representative. Typically, one density test is performed for at least every 2 vertical feet of fill placed or every 500 yd<sup>3</sup>, whichever requires more testing.

### **Fill Slope Keying and Benching**

Engineered fill placed on slopes requires keying and benching. We recommend that cut and fill slopes for the project be planned no steeper than 2H:1V. Fill slopes constructed over sloping ground should be constructed in accordance with the Fill Slope Detail, Figure 4. For fill slopes constructed at 2H:1V or flatter, and comprised of engineered fill placed and compacted as recommended herein, we anticipate that adequate factors of safety against global failure will be maintained.

Prior to placing compacted fill against the existing natural slopes, all loose undocumented fill, topsoil, and soft soils must first be removed. Adequate benching must be maintained. Fill slope keyways should be constructed with a minimum depth of 2 feet and minimum width of H/3 (10 feet minimum), where H equals the vertical height between the base and top of the fill slope. Both benches and keyways should be roughly horizontal in the down slope direction. A subdrain should be incorporated in the fill slope keyway, and HGSI should observe the keyway excavations prior to the placement of fill.

Measures should be taken to prevent surficial instability and/or erosion of embankment material. This can be accomplished by conscientious compaction of the embankment fills all the way out to the slope face, by maintaining adequate drainage, and planting the slope face as soon as possible after construction. To achieve the specified relative compaction at the slope face, it may be necessary to overbuild the slopes several feet, and then trim back to design finish grade. In our experience, compaction of slope faces by “track-walking” is generally ineffective and is therefore not recommended.

### **Wet Weather Earthwork**

The on-site soils are moisture sensitive and may be difficult to handle or traverse with construction equipment during periods of wet weather. Earthwork is typically most economical when performed under dry weather conditions. Earthwork performed during the wet-weather season will probably require

expensive measures such as cement treatment or imported granular material to compact fill to the recommended engineering specifications. If earthwork is to be performed or fill is to be placed in wet weather or under wet conditions when soil moisture content is difficult to control, the following recommendations should be incorporated into the contract specifications.

- Earthwork should be performed in small areas to minimize exposure to wet weather. Excavation or the removal of unsuitable soils should be followed promptly by the placement and compaction of clean engineered fill. The size and type of construction equipment used may have to be limited to prevent soil disturbance. Under some circumstances, it may be necessary to excavate soils with a backhoe to minimize subgrade disturbance caused by equipment traffic;
- The ground surface within the construction area should be graded to promote run-off of surface water and to prevent the ponding of water;
- Material used as engineered fill should consist of clean, granular soil containing less than about 7 percent fines. The fines should be non-plastic. Alternatively, cement treatment of on-site soils may be performed to facilitate wet weather placement;
- The ground surface within the construction area should be sealed by a smooth drum vibratory roller, or equivalent, and under no circumstances should be left uncompacted and exposed to moisture. Soils which become too wet for compaction should be removed and replaced with clean granular materials;
- Excavation and placement of fill should be observed by the geotechnical engineer to verify that all unsuitable materials are removed and suitable compaction and site drainage is achieved; and
- Bales of straw and/or geotextile silt fences should be strategically located to control erosion.

If cement or lime treatment is used to facilitate wet weather construction, HGSI should be contacted to provide additional recommendations and field monitoring

### **Spread Footing Foundations**

Shallow, conventional isolated or continuous spread footings may be used to support the proposed structures, provided they are founded on competent native soils, or compacted engineered fill placed directly upon the competent native soils. We recommend a maximum allowable bearing pressure of 2,000 pounds per square foot (psf) for designing spread footings bearing on undisturbed native soils or engineered fill. The recommended maximum allowable bearing pressure may be increased by a factor of 1.33 for short term transient conditions such as wind and seismic loading. Exterior footings should be founded at least 18 inches below the lowest adjacent finished grade. Minimum footing widths should be determined by the project engineer/architect in accordance with applicable design codes.

Assuming construction is accomplished as recommended herein, and for the foundation loads anticipated, we estimate total settlement of spread foundations of less than about 1 inch and differential settlement between two adjacent load-bearing components supported on competent soil of less than about ½ inch. We anticipate that the majority of the estimated settlement will occur during construction, as loads are applied.

Wind, earthquakes, and unbalanced earth loads will subject the proposed structure to lateral forces. Lateral forces on a structure will be resisted by a combination of sliding resistance of its base or footing on the underlying soil and passive earth pressure against the buried portions of the structure. For use in design, a coefficient of friction of 0.5 may be assumed along the interface between the base of the footing and subgrade soils. Passive earth pressure for buried portions of structures may be calculated using an equivalent fluid weight of 390 pounds per cubic foot (pcf), assuming footings are cast against dense, natural soils or engineered fill. The recommended coefficient of friction and passive earth pressure values do not include a

safety factor. The upper 12 inches of soil should be neglected in passive pressure computations unless it is protected by pavement or slabs on grade.

Footings excavations should be trimmed neat and the bottom of the excavation should be carefully prepared. Loose, wet or otherwise softened soil should be removed from the footing excavation prior to placing reinforcing steel bars. HGSI should observe foundation excavations prior to placing crushed rock, to verify that adequate bearing soils have been reached. Due to the high moisture sensitivity of on-site soils, construction during wet weather may require overexcavation of footings and backfill with compacted, crushed aggregate.

### **Below-Grade Cantilever Concrete Retaining Walls**

Recommendations are provided below for design of concrete retaining walls. Footings for below-grade cantilever concrete walls should be designed using the 2,000 psf allowable soil bearing pressure recommended in the *Spread Footing Foundations* section. Lateral earth pressures against below-grade retaining walls will depend upon the inclination of any adjacent slopes, type of backfill, degree of wall restraint, method of backfill placement, degree of backfill compaction, drainage provisions, and magnitude and location of any adjacent surcharge loads. At-rest soil pressure is exerted on a retaining wall when it is restrained against rotation. In contrast, active soil pressure will be exerted on a wall if its top is allowed to rotate or yield a distance of roughly 0.001 times its height or greater.

Table 2 below provides recommended lateral earth pressure values for unrestrained and restrained walls, for both level backfill conditions and 2H:1V (Horizontal:Vertical) sloping ground conditions at the top of the wall. These values assume that the recommended drainage provisions are incorporated, and hydrostatic pressures are not allowed to develop against the wall.

**Table 2. Recommended Lateral Earth Pressures for Below-Grade Structural Walls**

<b>Earth Pressure Condition</b>	<b>Level at Top of Wall</b>	<b>2H:1V Slope at Top of Wall</b>
Active (unrestrained wall)	35	54
At-rest (restrained wall)	55	74

During a seismic event, lateral earth pressures acting on below-grade structural walls will increase by an incremental amount that corresponds to the earthquake loading. Based on the Mononobe-Okabe equation and peak horizontal accelerations appropriate for the site location, seismic loading should be modeled using the active or at-rest earth pressures recommended above, plus an incremental rectangular-shaped seismic load of magnitude 5H, where H is the total height of the wall.

We assume relatively level ground surface below the base of the walls. As such, we recommend passive earth pressure of 390 pcf for use in design, assuming wall footings are cast against competent native soils or engineered fill. If the ground surface slopes down and away from the base of any of the walls, a lower passive earth pressure should be used and HGSI should be contacted for additional recommendations.

A coefficient of friction of 0.5 may be assumed along the interface between the base of the wall footing and subgrade soils. The recommended coefficient of friction and passive earth pressure values do not include a safety factor, and an appropriate safety factor should be included in design. The upper 12 inches of soil should be neglected in passive pressure computations unless it is protected by pavement or slabs on grade.



The above recommendations for lateral earth pressures assume that the backfill behind the subsurface walls will consist of properly compacted structural fill, and no adjacent surcharge loading. If the walls will be subjected to the influence of surcharge loading within a horizontal distance equal to or less than the height of the wall, the walls should be designed for the additional horizontal pressure. For uniform surcharge pressures, a uniformly distributed lateral pressure of 0.3 times the surcharge pressure should be added.

The recommended equivalent fluid densities assume a free-draining condition behind the walls so that hydrostatic pressures do not build up. This can be accomplished by placing a 12-inch wide zone of crushed drain rock containing less than 5 percent fines against the walls. A 3-inch minimum diameter perforated, plastic drain pipe should be installed at the base of the walls and connected to a sump to remove water from the crushed drain rock zone. The drain pipe should be wrapped in filter fabric (Mirafi 140N or other as approved by the geotechnical engineer) to minimize clogging. The above drainage measures are intended to remove water from behind the wall to prevent hydrostatic pressures from building up. Additional drainage measures may be specified by the project architect or structural engineer, for damp-proofing or other reasons.

HGSI should be contacted during construction to verify subgrade strength in wall keyway excavations, to verify that backslope soils are in accordance with our assumptions, and to take density tests on the wall backfill materials.

### **Concrete Slabs-on-Grade**

Preparation of areas beneath concrete slab-on-grade floors should be performed as recommended in the *Site Preparation* section. Care should be taken during excavation for foundations and floor slabs, to avoid disturbing subgrade soils. If subgrade soils have been adversely impacted by wet weather or otherwise disturbed, the surficial soils should be scarified to a minimum depth of 8 inches, moisture conditioned to within about 3 percent of optimum moisture content, and compacted to engineered fill specifications. Alternatively, disturbed soils may be removed and the removal zone backfilled with additional crushed rock. For evaluation of the concrete slab-on-grade floors using the beam on elastic foundation method, a modulus of subgrade reaction of 200 kcf (115 pci) should be assumed for the soils anticipated at subgrade depth. This value assumes the concrete slab system is designed and constructed as recommended herein, with a minimum thickness of crushed rock of 8 inches beneath the slab.

Interior slab-on-grade floors should be provided with an adequate moisture break. The capillary break material should consist of ODOT open graded aggregate per ODOT Standard Specifications 02630-2. The minimum recommended thickness of capillary break materials on re-compacted soil subgrade is 8 inches. The total thickness of crushed aggregate will be dependent on the subgrade conditions at the time of construction, and should be verified visually by proof-rolling. Under-slab aggregate should be compacted to at least 90% of its maximum dry density as determined by ASTM D1557 or equivalent.

In areas where moisture will be detrimental to floor coverings or equipment inside the proposed structure, appropriate vapor barrier and damp-proofing measures should be implemented. A commonly applied vapor barrier system consists of a 10-mil polyethylene vapor barrier placed directly over the capillary break material. Other damp/vapor barrier systems may also be feasible. Appropriate design professionals should be consulted regarding vapor barrier and damp proofing systems, ventilation, building material selection, radon and mold prevention issues, which are outside HGSI's area of expertise.

### **Perimeter Footing Drains**

Due to the potential for perched surface water above fine grained deposits such as those encountered at the site, we recommend the outside edge of perimeter footings be provided with a drainage system consisting of 3-inch minimum diameter perforated PVC pipe embedded in a minimum of 1 ft<sup>3</sup> per lineal foot of clean, free-draining sand and gravel or 1"- 1/4" drain rock. The drain pipe and surrounding drain rock should be

wrapped in non-woven geotextile (Mirafi 140N, or approved equivalent) to minimize the potential for clogging and/or ground loss due to piping. Water collected from the footing drains should be directed into the local storm drain system or other suitable outlet. A minimum 0.5 percent fall should be maintained throughout the drain and non-perforated pipe outlet. The footing drains should include clean-outs to allow periodic maintenance and inspection.

Down spouts and roof drains should collect roof water in a system separate from the footing drains in order to reduce the potential for clogging. Roof drain water should be directed to an appropriate discharge point well away from structural foundations. Grades should be sloped downward and away from buildings to reduce the potential for ponded water near structures.

### **Seismic Design**

Structures should be designed to resist earthquake loading in accordance with the methodology described in the current Oregon Residential Specialty Code (ORSC). We recommend Site Class D (Stiff Soils) be used for design per the ORSC. Design values determined for the site using the ASCE 7-16 Hazard Tool are summarized on Table 3, for Risk Category II.

**Table 3. Recommended Earthquake Ground Motion Parameters (ASCE 7-16)**

<b>Parameter</b>	<b>Value</b>
Location (Lat, Long), degrees	45.3211, -122.7494
Mapped Spectral Acceleration Values (MCE, Site Class B):	
Short Period, $S_s$	0.82 g
1.0 Sec Period, $S_1$	0.381 g
Design Values for <b>Site Class D</b> (Stiff Soils):	
Peak Ground Acceleration $PGA_M$	0.458
$F_a$	1.172
$SD_s = 2/3 \times F_a \times S_s$	0.641 g
Seismic Design Category (2021 ORSC)	$D_0$

Soil liquefaction is a phenomenon wherein saturated soil deposits temporarily lose strength and behave as a liquid in response to earthquake shaking. Soil liquefaction is generally limited to loose, granular soils located below the water table. Following development, on-site soils will consist predominantly of stiff to very stiff silt which are not considered susceptible to liquefaction. Therefore, it is our opinion that special design or construction measures are not required to mitigate the effects of liquefaction.

### **Excavating Conditions and Utility Trench Backfill**

We anticipate that on-site soils can be excavated using conventional heavy equipment such as scrapers and trackhoes to depths of 13 feet and likely greater. Maintenance of safe working conditions, including temporary excavation stability, is the responsibility of the contractor. Actual slope inclinations at the time of construction should be determined based on safety requirements and actual soil and groundwater conditions. All temporary cuts in excess of 4 feet in height should be sloped in accordance with U.S. Occupational Safety and Health Administration (OSHA) regulations (29 CFR Part 1926), or be shored. The existing native soils classify as Type B Soil and temporary excavation side slope inclinations as steep as 1H:1V may be assumed for planning purposes. This cut slope inclination is applicable to excavations above the water table only.

Perched groundwater conditions often occur over fine-grained native deposits such as those beneath the site, particularly during the wet season. If encountered, the contractor should be prepared to implement an appropriate dewatering system for installation of the utilities. At this time, we anticipate that dewatering systems consisting of ditches, sumps and pumps would be adequate for control of groundwater where encountered during construction conducted during the dry season. Regardless of the dewatering system used, it should be installed and operated such that in-place soils are prevented from being removed along with the groundwater.

Vibrations created by traffic and construction equipment may cause some caving and raveling of excavation walls. In such an event, lateral support for the excavation walls should be provided by the contractor to prevent loss of ground support and possible distress to existing or previously constructed structural improvements.

Utility trench backfill should consist of ¾"-0 crushed rock, compacted to at least 95% of the maximum dry density obtained by Modified Proctor (ASTM D1557) or equivalent. Initial backfill lift thicknesses for a ¾"-0 crushed aggregate base may need to be as great as 4 feet to reduce the risk of flattening underlying flexible pipe. Subsequent lift thickness should not exceed 1 foot. If imported granular fill material is used, then the lifts for large vibrating plate-compaction equipment (e.g. hoe compactor attachments) may be up to 2 feet, provided that proper compaction is being achieved and each lift is tested. Use of large vibrating compaction equipment should be carefully monitored near existing structures and improvements due to the potential for vibration-induced damage.

Adequate density testing should be performed during construction to verify that the recommended relative compaction is achieved. Typically, one density test is taken for every 4 vertical feet of backfill on each 200-lineal-foot section of trench.

### **Stormwater Infiltration Facilities**

Based on results of the soil infiltration testing, soils on site exhibit low infiltration rates especially in the presence of perched water or static groundwater. Infiltration rates ranged from 0.6 to 1.2 inches/hour as summarized on Table 1. We recommend shallow systems in the range of 2 to 5 feet bgs be designed using an infiltration rate of **0.6 inches/hour**. This is slightly less than the average test value of 1.0 inches/hour, but we feel 0.3 inches/hour is more representative of overall site conditions. Also, please note that the potential for infiltration of stormwater will be reduced during the wet season due to saturated soils / perched water conditions over much of the site. We do not believe the site is well suited for use of deeper infiltration facilities such as dry wells due to the very low-permeability site soils, and perched water conditions.

The designer should select an appropriate infiltration value based on our test results and the location of the proposed infiltration facility. The recommended infiltration rates do not incorporate a factor of safety. For the design infiltration rate, we recommend a factor of safety of at least 2.0. Greater factors of safety may be required by the governing agency.

Infiltration test methods and procedures attempt to simulate the as-built conditions of the planned disposal system. However, due to natural variations in soil properties, actual infiltration rates may vary from the measured and/or recommended design rates. All systems should be constructed such that potential overflow is discharged in a controlled manner away from structures, and all systems should include an adequate factor of safety. Infiltration rates presented in this report should not be applied to inappropriate or complex hydrological models such as a closed basin without extensive further studies.

### Erosion Control Considerations

During our field exploration program, we did not observe soil types that would be considered highly susceptible to erosion. Erosion at the site during construction can be minimized by implementing the project erosion control plan, which should include judicious use of straw, bio-bags, silt fences, or other appropriate technology. Where used, erosion control devices should be in place and remain in place throughout site preparation and construction. Areas of exposed soil requiring immediate and/or temporary protection against exposure should be covered with either mulch or erosion control netting/blankets.

### UNCERTAINTIES AND LIMITATIONS

We have prepared this report for the owner and his/her consultants for use in design of this project only. This report should not be construed as a warranty of the subsurface conditions. Experience has shown that soil and groundwater conditions can vary significantly over small distances. Inconsistent conditions can occur between explorations that may not be detected by a geotechnical study. If, during future site operations, subsurface conditions are encountered which vary appreciably from those described herein, HGSI should be notified for review of the recommendations of this report, and revision of such if necessary.

Sufficient geotechnical monitoring, testing and consultation should be provided during construction to confirm that the conditions encountered are consistent with those indicated by explorations. Recommendations for design changes will be provided should conditions revealed during construction differ from those anticipated, and to verify that the geotechnical aspects of construction comply with the contract plans and specifications.

Within the limitations of scope, schedule and budget, HGSI executed these services in accordance with generally accepted professional principles and practices in the field of geotechnical engineering at the time the report was prepared. No warranty, expressed or implied, is made. The scope of our work did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous or toxic substances in the soil, surface water, or groundwater at this site.



We appreciate this opportunity to be of service.

Sincerely,

**HARDMAN GEOTECHNICAL SERVICES INC.**

Scott L. Hardman, P.E., G.E.  
Geotechnical Engineer



**EXPIRES: 06-30-2023**

- Attachments:
- References
  - Figure 1 – Vicinity Map
  - Figure 2 – Site Plan
  - Figure 3 – DOGAMI LiDAR Mapping
  - Figure 4 – Fill Slope Detail
  - Logs of Test Pits TP-1 through TP-11
  - Logs of Hand Auger Borings HA-1 through HA-6
  - Infiltration Test Data Plots (3 Pages)
  - ASCE Seismic Design Hazards Report (3 Pages)



## REFERENCES

- Hardman Geotechnical Services Inc., 2021, *Geotechnical Evaluation of Landslide Hazards and Slope Stability; Proposed Underground Utility Easement; Frog Pond West-West; Martin, George and Ross Properties; Wilsonville, Oregon*; consultant report dated October 28.
- Madin, I.P., 1990, Earthquake hazard geology maps of the Portland metropolitan area, Oregon: Oregon Department of Geology and Mineral Industries Open-File Report 0-90-2, scale 1:24,000, 22 p.
- Schlicker, H.G. and Finlayson, C.T., 1979, Geology and geologic hazards of northwest Clackamas County, Oregon Department of Geology and Mineral Industries, Bulletin 99, 1:24,000
- Yeats, R.S., Graven, E.P., Werner, K.S., Goldfinger, C., and Popowski, T., 1996, Tectonics of the Willamette Valley, Oregon: in *Assessing earthquake hazards and reducing risk in the Pacific Northwest*, Vol. 1: U.S. Geological Survey Professional Paper 1560, P. 183-222, 5 plates, scale 1:100,000.





Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2856

FIGURE 1





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# SITE PLAN AND EXPLORATION LOCATIONS



Legend

TP-X Backhoe Test Pit Designation and  
Approximate Location

Base Map by Portland Maps

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 20-2642

FIGURE 2



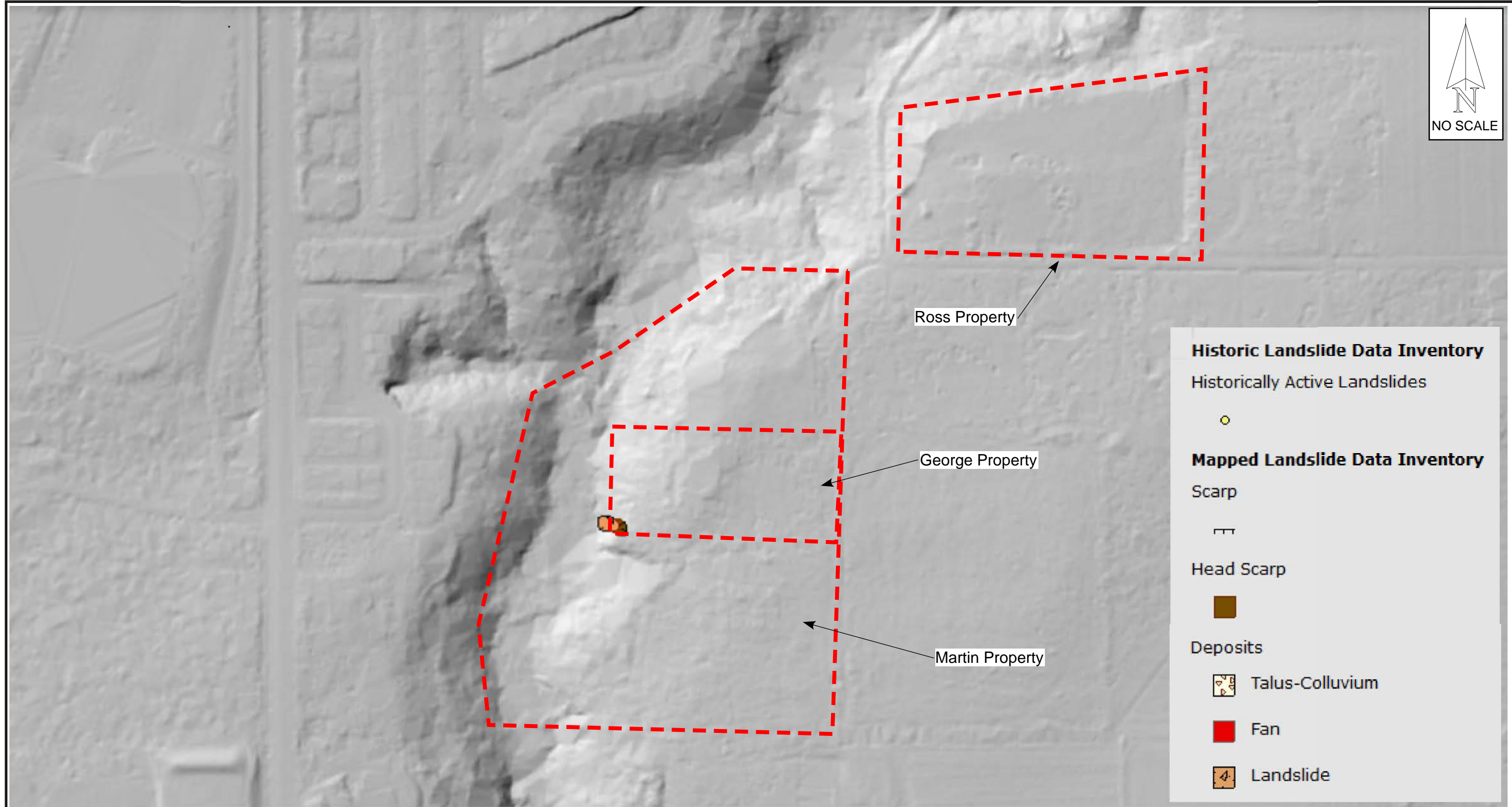
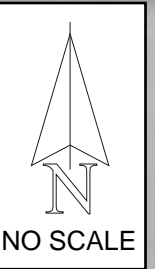


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# DOGAMI LiDAR MAPPING



## LEGEND



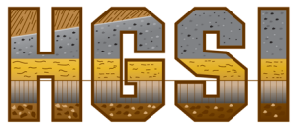
Approximate Site Boundary

Base Map from DOGAMI SLIDO Website

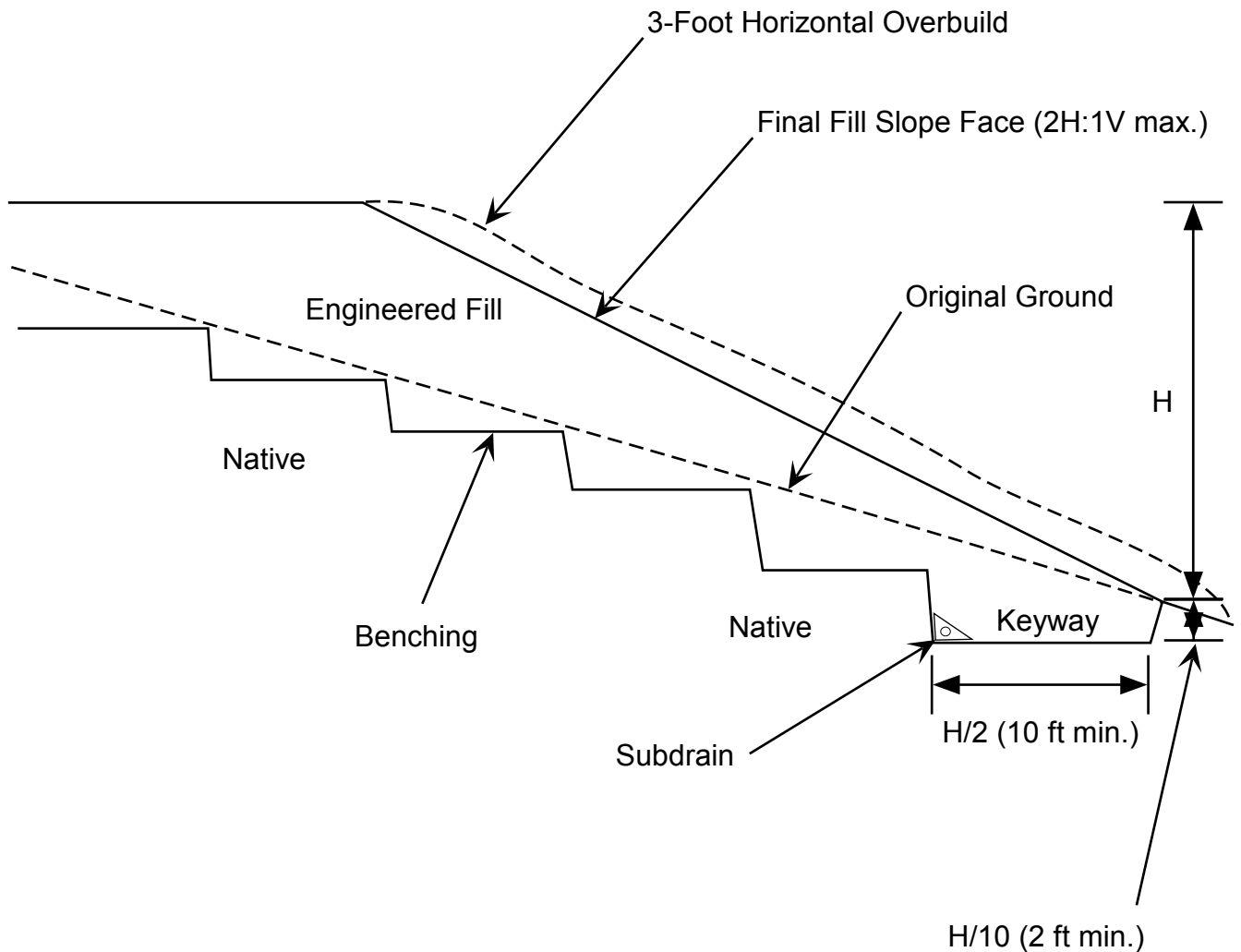
Project No. 21-2824

Frog Pond West-West  
Wilsonville, Oregon

**FIGURE 3**



## TYPICAL KEYWAY, BENCHING & FILL SLOPE DESIGN



Recommended subdrain is minimum 3-inch-diameter ADS Heavy Duty grade (or equivalent), perforated plastic pipe enveloped in a minimum of 3 cubic feet per lineal foot of 2" to 1/2" open-graded gravel drain rock wrapped with geotextile filter fabric (Mirafi 140N or equivalent).

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 1**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Soft, Organic SILT, dark brown, moist, many roots throughout (topsoil)
2	3.0					Stiff, Clayey SILT, light yellowish brown with black and orange mottling, moist, weathered (Colluvium)
3	3.5					Very stiff to hard, Clayey SILT, yellowish brown with trace mottling in upper portion of unit only, slightly moist, unweathered and intact
4	>4.5					
5	>>4.5					Very difficult excavating at 8 feet due to hard materials.
6						
7						
8						
9						Test pit terminated at 8 feet No caving of pit side walls No groundwater or seepage encountered
10						
11						
12						
13						
14						
15						
16						

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LEGEND



S-#



Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Excavated: 10/22/2021

Logged By: SLH

Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 2**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Soft, Organic SILT, dark brown, moist, abundant grass roots (topsoil) ----- Dense, silty angular gravel, gray, moist (old driveway or pull-out area) ----- Very stiff to hard, Clayey SILT, yellowish brown with trace mottling in upper portion of unit only, slightly moist, unweathered and intact
2						
3						
4						
5						
6						
7						
8						Grades to Clayey Silt with some fine sand at 8 feet
9						
10						
11						Test pit terminated at 10 feet No caving of pit sidewalls No groundwater or seepage encountered
12						
13						
14						
15						
16						

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Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Excavated: 10/22/2021

Logged By: SLH


Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon



Project No. 21-2824

Test Pit No. **TP - 3**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
2						Moist, medium stiff, brown and light grey, clayey SILT (ML), orange and dark brown mottling. [Willamette Formation]
3						
4	4.2					Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling, heavily micaceous. [Willamette Formation]
5						
6						
7						
8			S-1			
9						
10						<i>Test Pit terminated at 10 feet No groundwater or seepage encountered No caving</i>
11						
12						
13						
14						
15						
16						

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LEGEND

 S-#        
 Soil Sample Depth Interval and Designation      Water Level at Time of Excavation

Date Excavated: 12/3/2021  
 Logged By: CSH  
 Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 4**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
2						Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling, micaceous. [Willamette Formation]
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						Saturated, medium stiff, brown, sandy SILT (ML) with clay, heavily micaceous. [Willamette Formation]
13					▽	
14						<i>Test Pit terminated at 13 feet Seepage observed in the bottom of the test pit No caving</i>
15						
16						

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Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Excavated: 12/3/2021  
 Logged By: CSH  
 Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 5**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics [Topsoil]
2	3.0					Moist, medium stiff, brown and light grey, silty CLAY (CL), orange and dark brown mottling. [Willamette Formation]
3						Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling. [Willamette Formation]
4						
5						
6						
7						
8						
9						
10						
11						<i>Test Pit terminated at 10 feet No groundwater or seepage encountered No caving</i>
12						
13						
14						
15						
16						

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Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Excavated: 12/3/2021  
 Logged By: CSH  
 Surface Elevation: Unknown



# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 6**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics [Topsoil]
2						Moist, stiff, brown, clayey SILT (ML) with sand, orange and dark brown mottling. [Willamette Formation]
3						
4						
5						
6						
7						Sandiness increasing with depth
8						Moist, stiff, brown, sandy SILT (ML), orange and dark brown mottling, slightly micaceous. [Willamette Formation]
9						
10						
11						<i>Test Pit terminated at 10 feet</i>
12						<i>No groundwater or seepage encountered</i>
13						<i>No caving</i>
14						
15						
16						

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Soil Sample Depth  
Interval and Designation

Water Level at  
Time of Excavation

Date Excavated: 12/3/2021

Logged By: CSH

Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 7**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics [Topsoil]
2						Moist, medium stiff, brown and light grey, silty CLAY (CL), orange and dark brown mottling. [Willamette Formation]
3						Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling. [Willamette Formation]
4						
5						
6						
7						
8						
9						Very moist to saturated, medium stiff, brown, silty fine grained SAND (SM), heavily micaceous. [Willamette Formation]
10					▽	
11						
12						<i>Test Pit terminated at 12 feet Seepage observed around 10 feet bgs No caving</i>
13						
14						
15						
16						

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Soil Sample Depth  
Interval and Designation

Water Level at  
Time of Excavation

Date Excavated: 12/3/2021  
Logged By: CSH  
Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 8**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
2						Moist, soft, brown silt interbedded with dark brown silt and organics. Strata matrix is disturbed and there are some crushed rock fragments. [Undocumented Fill]
3						
4						Decomposing grass layer and buried topsoil
5						Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling, micaceous. [Willamette Formation]
6						
7						
8						
9						
10						
11						<i>Test Pit terminated at 10 feet No groundwater or seepage encountered No caving</i>
12						
13						
14						
15						
16						

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Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Excavated: 12/3/2021  
 Logged By: CSH  
 Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 9**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
2						Moist, soft, brown silt interbedded with dark brown silt and organics. Strata matrix is disturbed and there are some crushed rock fragments. [Undocumented Fill]
3						
4	1.8					Decomposing grass layer and buried topsoil
5						Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling, micaceous. [Willamette Formation]
6						
7						
8						
9						
10						
11						<i>Test Pit terminated at 10 feet No groundwater or seepage encountered No caving</i>
12						
13						
14						
15						
16						

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Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Excavated: 12/3/2021  
 Logged By: CSH  
 Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 10**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
2						Moist, soft, dark brown silt with organics and fractured rock. [Undocumented Fill]
3						
4						
5						
6						Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling, micaceous. [Willamette Formation]
7						
8						
9						
10						
11						<i>Test Pit terminated at 10 feet No groundwater or seepage encountered No caving</i>
12						
13						
14						
15						
16						

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Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Excavated: 12/3/2021  
 Logged By: CSH  
 Surface Elevation: Unknown

# LOG OF BACKHOE TEST PIT

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Test Pit No. **TP - 11**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics [Topsoil]
2						Moist, stiff, brown, clayey SILT (ML) with sand, orange and dark brown mottling. [Willamette Formation]  Sandiness increasing with depth
3						
4						
5						
6						
7						Moist, stiff, brown, sandy SILT (ML), orange and dark brown mottling, slightly micaceous. [Willamette Formation]
8						
9						
10						
11						<i>Test Pit terminated at 10 feet</i> <i>No groundwater or seepage encountered</i> <i>No caving</i>
12						
13						
14						
15						
16						

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Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Excavated: 12/3/2021  
 Logged By: CSH  
 Surface Elevation: Unknown

# LOG OF HAND AUGER BORING

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Boring No. **HA - 1**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
2						Moist, medium stiff, brown and light grey, clayey SILT (ML), orange and dark brown mottling. [Willamette Formation]
3						
4						
5						Moist, stiff to very stiff, brown, sandy SILT (ML) with clay, orange and dark brown mottling, heavily micaceous. [Willamette Formation]
6						<i>Boring terminated at 5 feet No groundwater or seepage encountered No caving</i>
7						
8						
9						
10						

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S-#



Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Bored: 12/9/2021

Logged By: CSH

Surface Elevation:



# LOG OF HAND AUGER BORING

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Boring No. **HA - 2**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
0						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
1						Moist, medium stiff, brown and light grey, clayey SILT (ML), orange and dark brown mottling. [Willamette Formation]
2						
3						Moist, stiff to very stiff, brown, sandy SILT (ML), micaceous. [Willamette Formation]
4						
5						
6						<i>Boring terminated at 6 feet No groundwater or seepage encountered No caving</i>
7						
8						
9						
10						

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Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Bored: 12/9/2021

Logged By: CSH

Surface Elevation:

# LOG OF HAND AUGER BORING

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Boring No. **HA - 3**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics with grass and roots in the top 6 inches. [Topsoil]
2						Moist, soft, dark brown silt with organics and fractured rock. [Undocumented Fill]
3						
4						
5						Moist, stiff to very stiff, brown, sandy SILT (ML) [Willamette Formation]
6						<i>Boring terminated at 5 feet No groundwater or seepage encountered No caving</i>
7						
8						
9						
10						

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Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Bored: 12/9/2021

Logged By: CSH

Surface Elevation:

# LOG OF HAND AUGER BORING

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Boring No. **HA - 4**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics [Topsoil]
2						Moist, medium stiff, brown, clayey SILT (ML) with sand, orange and dark brown mottling. [Willamette Formation]
3						Dry, very stiff, light brown, sandy SILT (ML), orange and dark brown mottling. [Willamette Formation]
4						
5						
6						
7						<i>Test Pit terminated at 6 feet No groundwater or seepage encountered No caving</i>
8						
9						
10						

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LEGEND



S-#



Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Bored: 12/9/2021

Logged By: CSH

Surface Elevation:

# LOG OF HAND AUGER BORING

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Boring No. **HA - 5**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Moist, soft, dark brown, SILT (OL), heavy organics [Topsoil]
2						Moist, medium stiff, brown, clayey SILT (ML) with sand, orange and dark brown mottling. [Willamette Formation]
3						
4						
5						
6						<i>Test Pit terminated at 5 feet No groundwater or seepage encountered No caving</i>
7						
8						
9						
10						

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S-#



Soil Sample Depth  
Interval and Designation

Water Level at  
Time of Excavation

Date Bored: 12/9/2021

Logged By: CSH

Surface Elevation:

# LOG OF HAND AUGER BORING

Project: Frog Pond West West  
Wilsonville, Oregon

Project No. 21-2824

Boring No. **HA - 6**

Depth (ft)	Pocket Penetrometer (tons/ft <sup>2</sup> )	Sample Interval	Sample Designation	Moisture Content (%)	Groundwater	Material Description
1						Slightly Moist, Medium Dense, Poorly Graded, Subangular, 1"-0" GRAVEL (GP) in Dark Brown Silty Matrix, Top 3" Highly Organic with Grass Roots <i>[Undocumented Fill]</i>
2						Boring refusal on gravel at 1.1 feet (13 inches) No groundwater or seepage encountered No caving
3						
4						
5						
6						
7						
8						
9						
10						

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LEGEND



S-#



Soil Sample Depth Interval and Designation

Water Level at Time of Excavation

Date Bored: ~~10/07/2021~~ 11/09/2021

Logged By: CSH

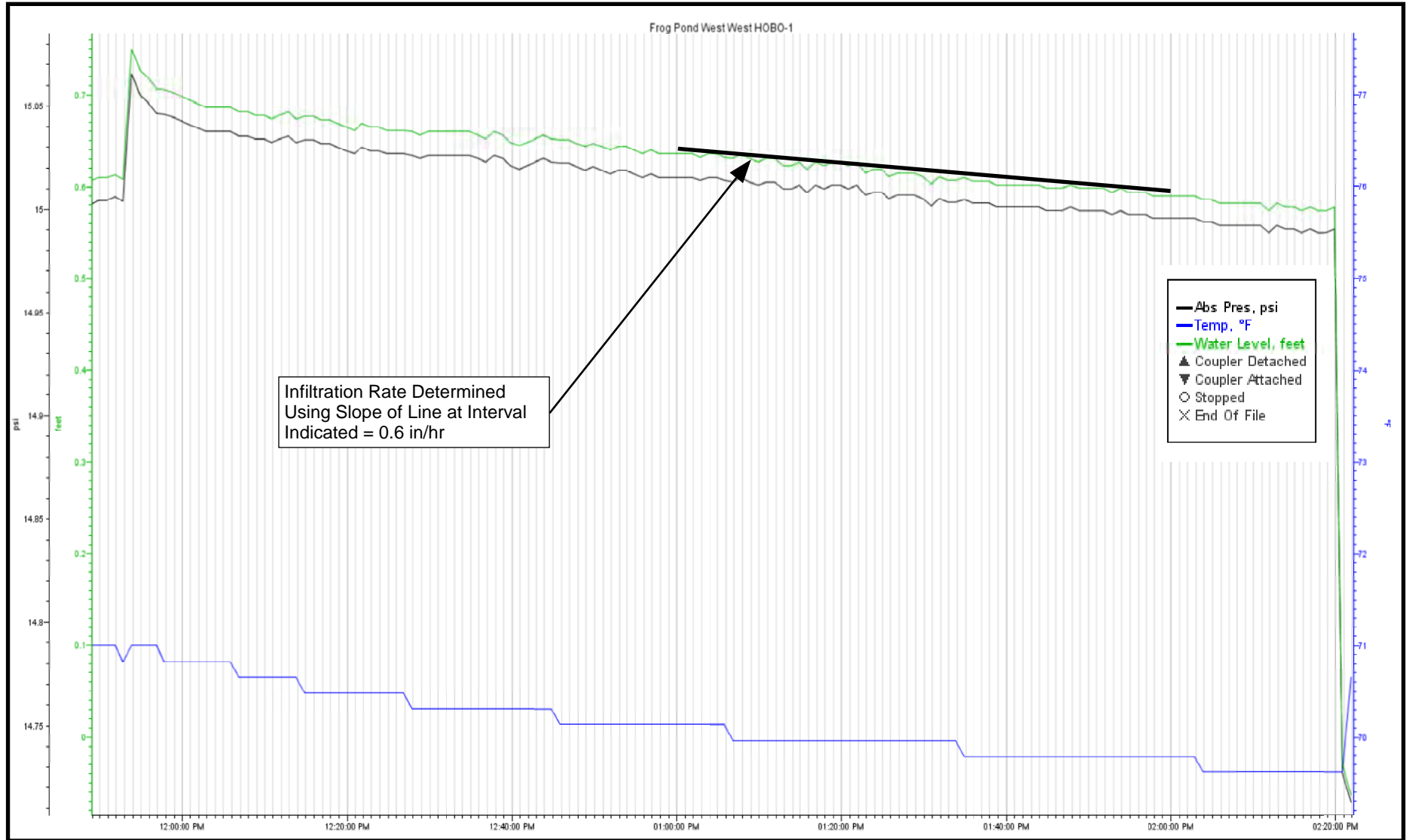
Surface Elevation:



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# INFILTRATION TEST DATA



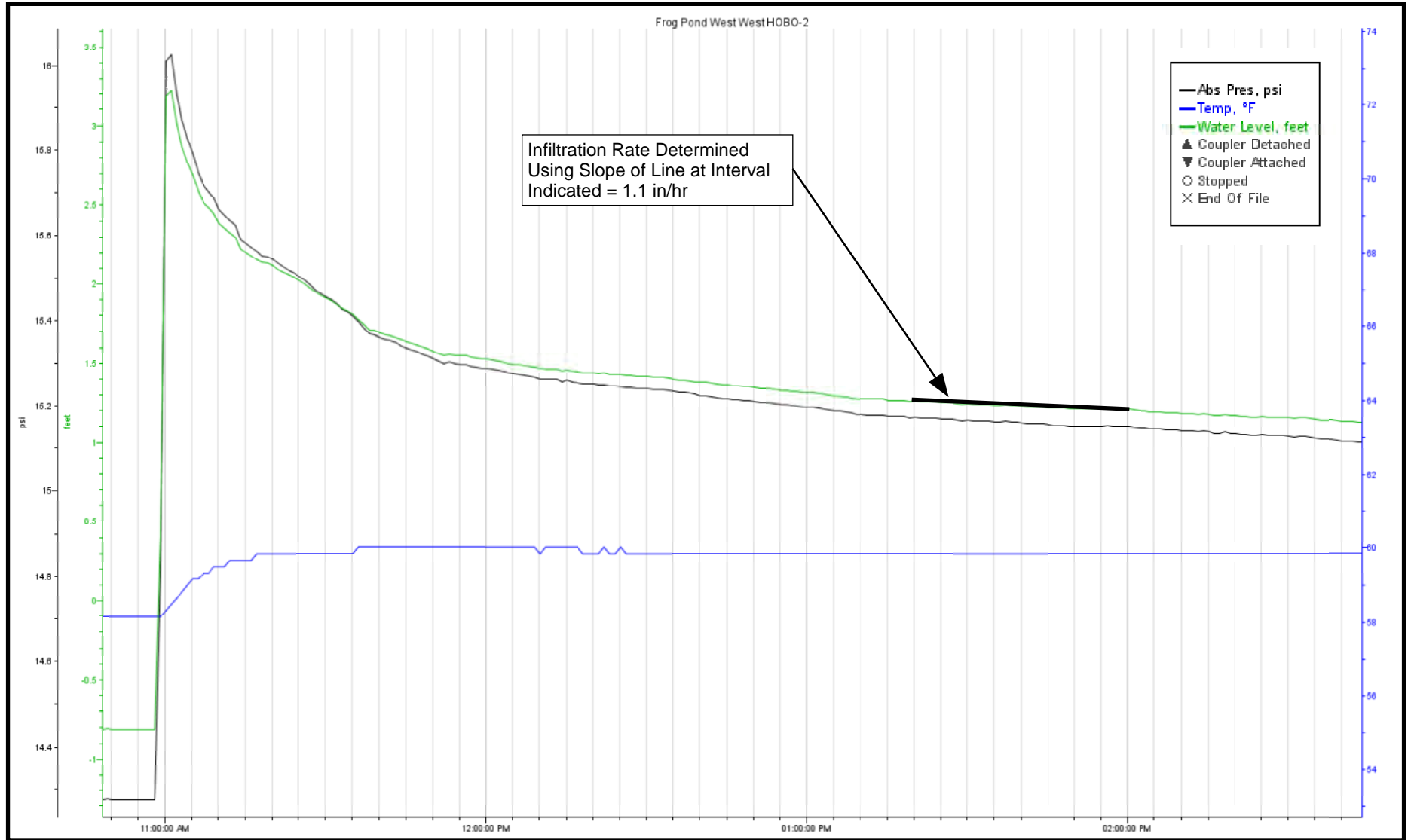
Project: Frog Pond West West  
Wilsonville, Oregon

Date Tested: 12/7/2021  
Tested By: CSH  
Project No: 21-2824

Boring: HA-1  
Depth: 5 Feet



# INFILTRATION TEST DATA



Project: Frog Pond West West  
Wilsonville, Oregon

Date Tested: 12/7/2021  
Tested By: CSH  
Project No: 21-2824

Boring: HA-2  
Depth: 6 Feet

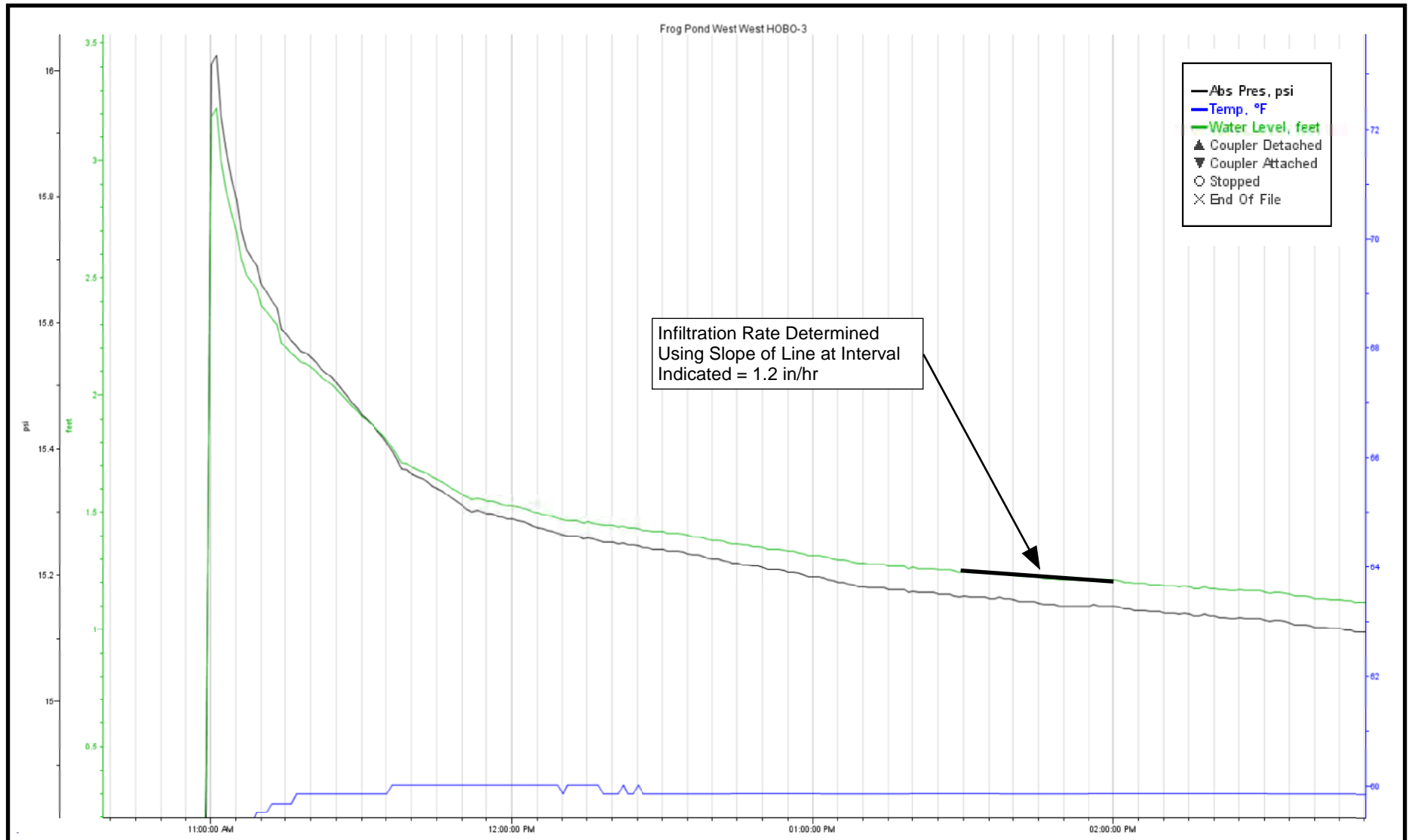




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# INFILTRATION TEST DATA



Project: Frog Pond West West  
Wilsonville, Oregon

Date Tested: 12/7/2021  
Tested By: CSH  
Project No: 21-2824

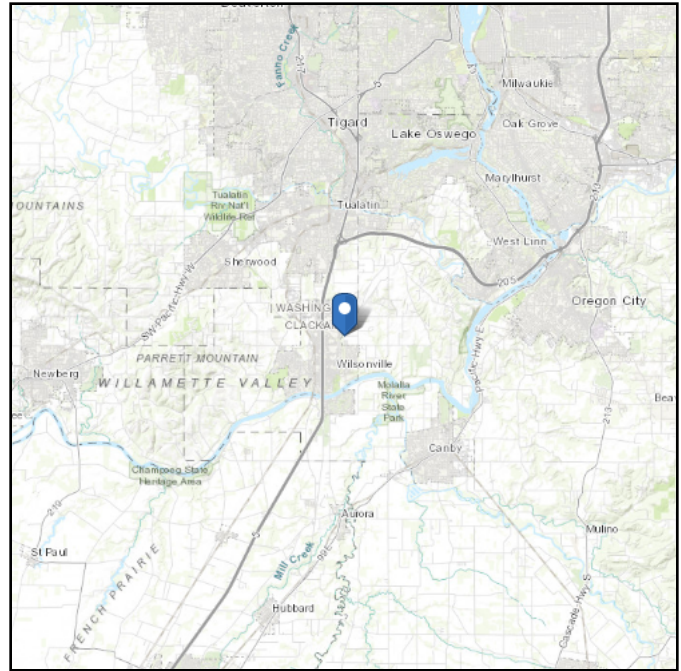
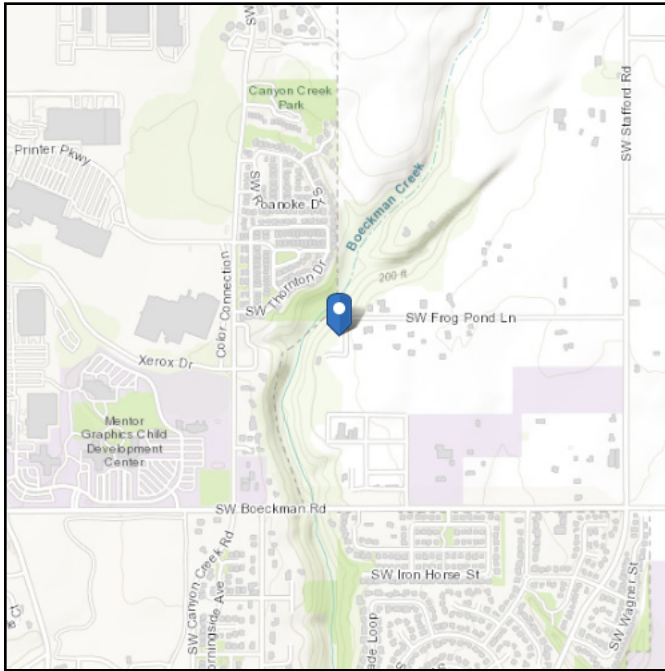
Boring: HA-3  
Depth: 6 Feet

# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** II  
**Soil Class:** D - Stiff Soil

**Elevation:** 216.52 ft (NAVD 88)  
**Latitude:** 45.3218  
**Longitude:** -122.754



**Site Soil Class:** D - Stiff Soil

**Results:**

$S_s$ :	0.82	$S_{D1}$ :	N/A
$S_1$ :	0.381	$T_L$ :	16
$F_a$ :	1.172	PGA :	0.373
$F_v$ :	N/A	PGA <sub>M</sub> :	0.458
$S_{MS}$ :	0.961	$F_{PGA}$ :	1.227
$S_{M1}$ :	N/A	$I_e$ :	1
$S_{DS}$ :	0.641	$C_v$ :	1.21

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

**Data Accessed:** Tue Dec 14 2021

**Date Source:** [USGS Seismic Design Maps](#)

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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**Appendix G**  
Stafford Meadows PUD recorded CC&Rs and Bylaws



AFTER RECORDING, RETURN TO:

524

Michelle D. Da Rosa LLC  
Attorney at Law  
205 SE Spokane Street, Suite 300  
Portland, OR 97202

Clackamas County Official Records  
Sherry Hall, County Clerk

2019-002161



\$358.00

02201725201900021610520524

01/15/2019 09:08:53 AM

PD-COV Cnt=3 Str=2 COUNTER3  
\$260.00 \$10.00 \$16.00 \$62.00 \$10.00

**DECLARATION OF PROTECTIVE COVENANTS, CONDITIONS,  
RESTRICTIONS AND EASEMENTS  
FOR STAFFORD MEADOWS**

**WEST HILLS LAND DEVELOPMENT LLC**

**Declarant**

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**DECLARATION OF PROTECTIVE COVENANTS,  
CONDITIONS, RESTRICTIONS AND EASEMENTS  
FOR STAFFORD MEADOWS**

THIS DECLARATION is made this 15 day of January, 2019 by WEST HILLS LAND DEVELOPMENT LLC, an Oregon limited liability company (“Declarant”).

**RECITALS**

A. Declarant has recorded the plat of “Stafford Meadows” in the plat records of Clackamas County, Oregon as Plat No. 4558. Declarant is the only owner of the land so platted.

B. Declarant desires to subject the Lots and Tracts described in Section 2.1 to the conditions, restrictions and charges set forth in this instrument for the benefit of such property, and its present and subsequent owners, and to establish such property under the Oregon Planned Community Act, ORS 94.550 to 94.783, as the first phase of a Class I planned development to be known as Stafford Meadows.

**NOW, THEREFORE**, Declarant hereby declares that the property described in Section 2.1 will be held, sold and conveyed subject to the following easements, covenants, restrictions and charges, which run with such property and are binding on all parties having or acquiring any right, title, or interest in such property or any part thereof, unless otherwise provided herein, and inure to the benefit of all such persons.

**Article 1**

**DEFINITIONS**

As used in this Declaration, the terms set forth below have the following meanings:

1.1 “**Additional Property**” means any land, whether or not owned by Declarant, that is made subject to this Declaration as provided in Section 2.2.

1.2 “**Architectural Review Committee**” or “**the Committee**” means the committee appointed pursuant to Article 7.

1.3 “**Assessments**” means all assessments and other charges, fines and fees imposed by the Association on an Owner in accordance with this Declaration, the Bylaws of the Association, or the provisions of the Oregon Planned Community Act, including, without limitation, General Assessments, Special Assessments, Emergency Assessments, Limited Common Area Assessments, Working Fund Assessments and Individual Assessments as described in Article 10.

1.4 “**Association**” means the nonprofit corporation formed to serve as the Owners association as provided in Article 8, and its successors and assigns.

1.5 **“Board of Directors” or “the Board”** means the duly appointed or elected board of directors of the Association, which is invested with the authority to operate the Association and to appoint the officers of the Association. Prior to the Turnover Meeting, Declarant will appoint the Board of Directors. After the Turnover Meeting, the Board will be elected by the Owners.

1.6 **“Bylaws”** means the duly adopted bylaws of the Association as the same may hereafter be amended or replaced.

1.7 **“City of Wilsonville Development Agreements”** mean the following agreements between Declarant and the City of Wilsonville dated effective the same date as this Declaration and recorded in the Records of Clackamas County, Oregon:

-Sanitary Sewer Pipeline Easement Agreement (Tracts “B” and “C”, Plat of “Stafford Meadows”);

-Stormwater Pipeline Easement Agreement (Tracts “B”, “C”, and “D”, Portions of Tracts “F” and “G”, Portion of Lot 11, Plat of “Stafford Meadows”);

-Conservation Easement, which affects a portion of Tract F as legally described in the exhibits in the Conservation Easement);

-Storm Drainage Easement Agreement (Tract “G”, Plat of “Stafford Meadows”);

-Water Pipeline Easement Agreement (Tract “I”, Portion of Tract “H”, Plat of “Stafford Meadows”);

-Public Access Easement Agreement (Tracts “A”, “B”, “C”, “D”, “E”, “H”, “I”, AND “J”, Portions of Lots 1-6, Plat of “Stafford Meadows”).

1.8 **“Common Areas”** means those lots or tracts designated as such on any plat of the Property, or in this Declaration or any declaration annexing Additional Property to Stafford Meadows, including any Improvements thereon, and also includes Limited Common Areas, Common Easement Areas, Limited Common Easement Areas, and any Lots converted to Common Areas as provided in Section 3.2.

1.9 **“Common Easement Areas”** means the easements established for the benefit of all property within Stafford Meadows pursuant to this Declaration or any plat or declaration annexing Additional Property to Stafford Meadows.

1.10 **“Common Maintenance Areas”** means the Common Areas and any other areas designated as such in Section 9.1 of this Declaration or in any declaration annexing Additional Property to Stafford Meadows as being maintained by the Association.

1.11 **“Declarant”** means West Hills Land Development LLC, and its successors and assigns if such successor or assignee should acquire Declarant’s interest in the remainder of the Property, or less than all of such property if a recorded instrument executed by Declarant assigns to the transferee all of Declarant’s rights under this Declaration, and any member or affiliate of West Hills Land Development LLC. Any such successor declarant will succeed to all of the rights and

obligations of the Declarant under this Declaration, including, without limitation, the obligation to complete any Improvements required by City of Wilsonville as part of its subdivision approval.

1.12 “**Design Guidelines**” means the guidelines adopted from time to time by the Architectural Review Committee pursuant to Article 7.

1.13 “**Emergency Assessments**” means the Assessments described in Section 10.4(c).

1.14 “**Front Yard**” means the front yards and side yards of Lots, which are not enclosed by a fence and street frontage planter strips for all Lots, street trees and entry monuments, if any.

1.15 “**General Assessments**” means the Assessments described in Section 10.4(a).

1.16 “**General Plan of Development**” means Declarant’s general plan of development of the Property as approved by Clackamas County, as the same may be amended from time to time.

1.17 “**Home**” means a building or a portion of a building located upon a Lot within the Property and designated for separate residential occupancy together with any permitted accessory dwelling unit.

1.18 “**Improvement**” means every structure or improvement of any kind, including, but not limited to, a fence, wall, driveway, swimming pool, storage shelter, mailbox and newspaper receptacle, landscaping and any other product of construction efforts on or in respect to the Property.

1.19 “**Individual Assessments**” means the Assessments described in Section 10.4(d).

1.20 “**Initial Property**” means the real property referred to in Section 2.1.

1.21 “**Limited Common Areas**” means those Common Areas established for the exclusive use or enjoyment of certain Lots as designated in this Declaration or in any declaration annexing property to Stafford Meadows including Limited Common Easement Areas.

1.22 “**Limited Common Area Assessments**” means the Assessments described in Section 10.4(d).

1.23 “**Limited Common Easement Areas**” means those Limited Common Area easements established for the exclusive use or enjoyment of certain Lots as designated in this Declaration or in the Plat or any declaration annexing property to Stafford Meadows.

1.24 “**Lot**” means a platted or partitioned lot within the Property, with the exception of any lot marked on the Plat as being common or open space or so designated in this Declaration or the declaration annexing such property to Stafford Meadows. Lots do not include Common Areas or Public Areas.

1.25 “**Mortgage**” means a mortgage or a trust deed, “**Mortgagee**” means a mortgagee or a beneficiary of a trust deed, and “**Mortgagor**” means a mortgagor or a grantor of a trust deed.

1.26 “**Occupant**” means the occupant of a Home who is the Owner, lessee or any other Person authorized by the Owner to occupy the premises.

1.27 “**Operations Fund**” means the fund described in Section 10.6.

1.28 “**Owner**” means the Person or Persons, including Declarant, owning any Lot in the Property, but does not include a tenant or holder of a leasehold interest or a contract vendor or other Person holding only a security interest in a Lot. If a Lot is Sold under a recorded real estate installment sale contract, the purchaser (rather than the seller) will be considered the Owner unless the contract specifically provides to the contrary. If a Lot is subject to a written lease with a term in excess of one year and the lease specifically so provides, then upon filing a copy of the lease with the Board of Directors, the lessee (rather than the fee owner) will be considered the Owner during the term of the lease for the purpose of exercising any rights related to such Lot under this Declaration. The rights, obligations and other status of being an Owner commence upon acquisition of the ownership of a Lot and terminate upon disposition of such ownership, but termination of ownership does not discharge an Owner from obligations incurred prior to termination.

1.29 “**Person**” means a human being, a corporation, partnership, limited liability company, trustee or other legal entity.

1.30 “**Plat**” means the plat of Stafford Meadows recorded in the plat records of Clackamas County, Oregon as Document No. \_\_\_\_\_ and any annexation plat, as the same may be amended.

1.31 “**Public Areas**” means areas or easement areas dedicated to the public or established for public use in any plat of the Property, or so designated in this Declaration or the declaration annexing such property to Stafford Meadows.

1.32 “**Reserve Fund**” means the fund described in Section 10.7.

1.33 “**Rules and Regulations**” means those policies, procedures, rules and regulations adopted by the Association pursuant to the authority granted in this Declaration, as the same may be amended from time to time.

1.34 “**Sold**” means that legal title has been conveyed or that a contract of sale has been executed and recorded under which the purchaser has obtained the right to possession.

1.35 “**Special Assessments**” means the Assessments described in Section 10.4(b)

1.36 “**Stafford Meadows**” means the Initial Property and any Additional Property annexed to this Declaration.

1.37 “**The Property**” means Stafford Meadows.

1.38 “**This Declaration**” means all of the easements, covenants, restrictions and charges set forth in this instrument, together with any rules or regulations promulgated hereunder, as the same may be amended or supplemented from time to time in accordance with the provisions hereof, including the provisions of any supplemental declaration annexing property to Stafford Meadows.

1.39 “**Turnover Meeting**” means the meeting called by Declarant pursuant to Section 8.7, at which Declarant will turn over administrative responsibility for the Property to the Association.

1.40 “**Working Fund Assessments**” means the Assessments described in Section 10.4(f).

## Article 2

### PROPERTY SUBJECT TO THIS DECLARATION

2.1 **Initial Property.** Declarant hereby declares that all of the real property located in the City of Wilsonville described below is owned and will be owned, conveyed, hypothecated, encumbered, used, occupied and improved subject to this Declaration:

All real property within that certain plat entitled “**Stafford Meadows,**” filed in the plat records of Clackamas County, Oregon, as Document No. 2019-002153, except Lot 24 and Tracts A, K and L.

2.2 **Annexation of Additional Property.** Declarant may from time to time and in its sole discretion annex to Stafford Meadows as “Additional Property” any real property now or hereafter acquired by it and may also from time to time and in its sole discretion permit other holders of real property to annex the real property owned by them to Stafford Meadows. The annexation of such Additional Property is accomplished as follows:

(a) The Owner or Owners of such real property will record a declaration that is executed by or bear the approval of Declarant and will, among other things, describe the real property to be annexed; establish land classifications for the Additional Property; establish any additional limitations, uses, restrictions, covenants and conditions that are intended to be applicable to such Additional Property; and declare that such property is held and will be held, conveyed, hypothecated, encumbered, used, occupied and improved subject to this Declaration.

(b) The Additional Property described in any such annexation thereby becomes a part of Stafford Meadows and subject to this Declaration, and the Declarant and the Association will have and accept and exercise administration of this Declaration with respect to such Additional Property.

(c) Notwithstanding any provision apparently to the contrary, a declaration with respect to any Additional Property may:

(1) modify or exclude any then-existing restrictions and establish such new land classifications and such limitations, uses, restrictions, covenants and conditions with respect to such Additional Property as Declarant may deem to be appropriate for the development of the Additional Property; and

(2) with respect to existing land classifications, modify or exclude any then-existing restrictions and establish additional or different limitations, uses, restrictions, covenants and conditions with respect to such property as Declarant may deem to be appropriate for the development of such Additional Property.



(d) There is no limitation on the number of Lots or Homes that Declarant may create or annex to Stafford Meadows except as may be established by applicable ordinances of Clackamas County. Similarly, there is no limitation on the right of Declarant to annex common property, except as may be established by Clackamas County.

(e) Declarant does not agree to build any specific future Improvement but does not choose to limit Declarant's right to add additional Improvements.

(f) Nothing in this Declaration establishes any duty or obligation on Declarant to annex any property to this Declaration, and no owner of property excluded from this Declaration has any right to have such property annexed to this Declaration or Stafford Meadows.

(g) Upon annexation to Stafford Meadows, additional Lots so annexed will be entitled to voting rights as set forth in Section 8.3.

(h) The formula to be used for reallocating the common expenses if additional Lots are annexed and the manner of reapportioning the common expenses if additional Lots are annexed during a fiscal year are set forth in Section 10.5.

2.3 **Improvements.** Declarant does not agree to build any Improvements on the Property other than as required by City of Wilsonville, but may elect, at Declarant's option, to build additional Improvements.

2.4 **Withdrawal of Property.** Property may be withdrawn from Stafford Meadows only by duly adopted amendment to this Declaration, except that Declarant may withdraw all or a portion of the Initial Property or any Additional Property annexed pursuant to a declaration described in Section 2.2 at any time prior to the sale of the first Lot in the plat of the Initial Property or, in the case of Additional Property, prior to the sale of the first Lot in the property annexed by the supplemental declaration, subject to the prior approval of City of Wilsonville. Such withdrawal will be by a declaration executed by Declarant and recorded in the deed records of Clackamas County, Oregon. If a portion of the Property is withdrawn, all voting rights otherwise allocated to Lots being withdrawn will be eliminated, and the common expenses will be reallocated among the remaining Lots.

2.5 **Dedications.** Declarant reserves the right to dedicate any portions of the Property then owned by Declarant to any governmental authority, quasi-governmental entity or entity qualifying under Section 501(c)(3) of the Internal Revenue Code or similar provisions, from time to time, for such purposes as Declarant may deem to be appropriate, including, without limitation, for utility stations, equipment, fixtures and lines; streets and roads; sidewalks; trails; open space; recreational facilities; schools; fire, police, security, medical and similar services; and such other purposes as Declarant and such governmental authority or quasi-governmental entity determine to be appropriate from time to time. Any consideration received by Declarant as a result of such dedication or by reason of any condemnation or any conveyance in lieu of condemnation will belong solely to Declarant.

2.6 **Conversion of Lots to Common Areas.** Declarant may elect to build common facilities on one or more Lots and designate such Lots, or any portion thereof, as Common Areas by a supplemental declaration recorded in the deed records of Clackamas County, Oregon. The supplemental declaration must be executed by Declarant. Additionally, Declarant reserves the right over the Common Areas (excluding the Common Easement Areas) to make boundary line

adjustments between any Lot (before the Lot has been sold to someone other than the Declarant or a successor declarant) and an adjacent Common Area by a supplemental declaration and plat recorded in the deed records of Clackamas County, Oregon, notwithstanding that such an adjustment may convert a Lot or a portion thereof to Common Area, or a Common Area, or portion thereof, into a Lot or portion of a Lot. This reserved conversion right will expire upon turnover of the Association to the members by the Declarant as provided for in the Bylaws.

2.7 **Subdivisions.** Declarant reserves the right to subdivide any Lots in the Additional Property then owned by it upon receiving all required approvals from the applicable governing authority. If any two or more Lots are so subdivided or subject to condominium ownership, they will be deemed separate Lots for the purposes of allocating assessments under the Declaration. No other Owner of any Lot in the Additional Property may subdivide any Lot without the prior written approval of Declarant prior to the Turnover Meeting and thereafter by the Architectural Review Committee, which consent may be granted or denied at the sole discretion of Declarant or the Committee, as applicable.

2.8 **Consolidations.** Declarant has the right to consolidate any two or more Lots in the Additional Property then owned by it upon receipt of any required approvals from the applicable governing authority. No other Owner may consolidate any Lots without the prior written approval of Declarant before the Turnover Meeting and thereafter by the Architectural Review Committee, which may be granted or denied at the sole discretion of Declarant or the Committee, as applicable. An approved consolidation will be effected by the recording of a supplemental declaration stating that the affected Lots are consolidated, which declaration must be executed by the Owner(s) of the affected Lots and by the chairperson of the Association. Once so consolidated, the consolidated Lot may not thereafter be partitioned, nor may the consolidation be revoked except as provided in Section 2.7 above. Any Lots consolidated pursuant to this section will be considered one Lot thereafter for the purposes of the Declaration, including voting rights and allocation of Assessments.

### Article 3

#### LAND CLASSIFICATIONS

3.1 **Land Classifications Within Initial Property.** All land within the Initial Property is included in one or another of the following classifications:

(a) Lots, which consist of Lots 1 through 23 and Lots 25 through 44, inclusive, of the plat of the Initial Property.

(b) Common Areas, including the areas marked as Tracts D, E, F, G, H, I, and J, on the plat of the Initial Property, plus the Limited Common Areas, Common Easement Areas, and Limited Common Easement Areas, all of which are to be owned and maintained by the Association pursuant to the terms and conditions of this Declaration. Tract D is a pedestrian, bicycle, and emergency vehicular access area; Tract F is a natural resource area; Tract G is a stormwater treatment area subject to an easement in favor of the City of Wilsonville; Tracts E, H, I and J are open space areas that are subject to public pedestrian and bicycle access easements, with E and H being landscape buffers along S.W. Boeckman Road.



(c) Common Easement Areas, inclusive, public pedestrian access easements, public utility easements, storm drainage easements, clean water service and storm facility easement areas, sight distance easements, wall maintenance easements in favor of the Association, and any other easements established on the plat of the Initial Property or in any recorded document for entrance signage, monuments, or landscaping over Lots.

(d) Tract B is a Limited Common Area for ingress and egress over a shared driveway to and from Lots 1 and 6, which is subject to a wall maintenance; Tract C is a Limited Common Area for ingress and egress over a shared driveway to and from Lots 2, 3, 4, and 5.

(e) There are no Limited Common Easement Areas in the Initial Property.

3.2 **Conversion of Lots to Common Areas.** Declarant may elect to build common facilities on one or more Lots and designate such Lots as Common Areas by a declaration recorded in the deed records of Clackamas County, Oregon. Such declaration must be executed by Declarant as Owner of the Lots.

3.3 **Subdivisions.** Declarant reserves the right to subdivide any Lots then owned by it upon receiving all required approvals from City of Wilsonville. If a Lot or Lots are so subdivided, the new lots will be deemed separate Lots for the purposes of allocating Assessments under this Declaration. No other Owner of any Lot in the Property may subdivide any Lot without the prior written approval of the Declarant prior to the Turnover Meeting, and thereafter, by the Architectural Review Committee, which consent may be granted or denied at the sole discretion of the Declarant or the Committee, as applicable.

3.4 **Consolidations.** Declarant has the right to consolidate any two or more Lots then owned by it upon receipt of any required approvals from City of Wilsonville. No other Owner may consolidate any Lots without the prior written approval of the Declarant prior to the Turnover Meeting and thereafter by the Architectural Review Committee, which may be granted or denied at the sole discretion of the Declarant or Committee, as applicable. An approved consolidation will be effected by the recording of a supplemental declaration stating that the affected Lots are consolidated, which declaration must be executed by the Owner(s) of the affected Lots and by the president of the Association. Once so consolidated, the consolidated Lot may not thereafter be partitioned, nor may the consolidation be revoked except as provided in Section 3.3. Any Lots consolidated pursuant to this section will be considered one Lot thereafter for the purposes of this Declaration, including voting rights and allocation of Assessments.

## Article 4

### PROPERTY RIGHTS IN COMMON AREAS

4.1 **Owners' Easements of Enjoyment.** Subject to the provisions of this Article 4, every Owner and his or her invitees have a right and easement of enjoyment in and to the Common Areas, which easement is appurtenant to and passes with the title to every Lot. The use of the Limited Common Easement Areas, however, are limited to the Owners and invitees of the Lots designated in the declaration establishing the Limited Common Easement Area.

4.2 **Title to Common Areas.** Except for portions dedicated to the public or any governmental authority and otherwise provided in this Section 4.2, title to the Common Areas, except the Common Easement Areas and Limited Common Easement Areas, will be conveyed to the Association by Declarant AS IS, but free and clear of monetary liens, on or before the Turnover Meeting. The Association, upon such conveyance, will assume all obligations to maintain, insure, and otherwise assume the obligations of the Declarant in respect of the Common Areas set forth in this Agreement or the Plat or any agreement entered by Declarant with City of Wilsonville in respect of such tracts. Title to Common Easement Areas and Limited Common Easement Areas, if any, subject to the easements set forth in this Declaration or the supplemental declaration creating such areas, rests in the Owners of the respective Lots within which such areas are located, or to the public if part of dedicated street rights-of-way.

4.3 **Extent of Owners' Rights.** The rights and easements of enjoyment in the Common Areas created hereby are subject to the following and to all other provisions of this Declaration:

(a) **Association Easements.** Declarant grants to the Association for the benefit of the Association and all Owners of Lots within the Property the following easements over, under and upon the Common Maintenance Areas:

(1) An easement for underground installation and maintenance of power, gas, electric, water and other utility and communication lines and services installed by Declarant or with the approval of the Board of Directors of the Association and any such easement shown on any plat of the Property.

(2) An easement for construction, maintenance, repair, and use of such areas, including any common facilities on the Common Area tracts.

(3) An easement for access for regular upkeep, maintenance, modification and replacement of the Front Yard landscaping and related irrigation equipment, including drainage systems, if any, and for making emergency repairs to the landscaping and related equipment and settings in the Front Yards of the Lots necessary for the public safety or to prevent damage to the Common Maintenance Areas or to another Lot, or to enforce this Declaration or the Rules and Regulations, or with the approval of the Board of Directors of the Association; and notwithstanding that such areas of Lots are not regular Common Maintenance Areas, an easement for access to unfenced yard landscaping and irrigation controllers on Lots to enforce this Declaration or the Rules and Regulations, including but not limited to standards for Lot maintenance thereunder.

(4) An easement for the purpose of making repairs to any existing structures on Common Areas.

(b) **Public and Utility Easements.**

The Common Areas are subject to the public and utility easements established the Plat. In addition, the public is hereby granted access easements over all sidewalks, pedestrian accesses and trails in the Common Areas within the Property as designated on the Plat. In addition, Declarant or the Association may (and, to the extent required by law will) grant or assign such easements to municipalities or other utilities performing utility services and to communication

companies, and the Association may grant free access thereon to police, fire and other public officials, and to employees of utility companies and communications companies serving the Property.

(c) **Use of the Common Areas.** The Common Areas will be used for the purposes set forth in any plat of the Property; Common Area tracts identified on any plat of the Property may not be partitioned or otherwise divided into parcels for residential use; and, no private structure of any type will be constructed on the Common Areas. Except as otherwise provided in this Declaration, the Common Areas are reserved for the use and enjoyment of all Owners. No private use may be made of the Common Areas except as otherwise provided in this Declaration. No Owner may place or cause to be placed on the Common Areas any trash, structure, equipment, furniture, package, or object of any kind. Nothing in this Declaration prevents the placing of a sign or signs upon the Common Areas by Declarant or the Association identifying the Property or identifying pathways or items of interest, signs restricting certain uses, or warning, traffic or directional signs, provided that such signs are approved by the Architectural Review Committee and comply with any applicable sign ordinances. The Board of Directors has authority to abate any trespass or encroachment upon the Common Areas at any time, by any reasonable means and with or without having to bring legal proceedings. A declaration annexing Additional Property may provide that the Owners of such Additional Property do not have the right to use a particular Common Area or facility located on such Common Area, in which event such Common Area will automatically become a "Limited Common Area" assigned to the Lots that have access thereto.

(d) **Alienation of the Common Areas.** The Association may not by act or omission seek to abandon, partition, subdivide, encumber as security for a debt, sell, transfer or convey the Common Areas owned directly or indirectly by the Association for the benefit of the Lots unless the holders of at least 80 percent of the Class A voting rights and the Class B Member (as defined in Section 8.3), if any, have given their prior written approval and unless approved by City of Wilsonville. Such approvals will not be required for dedications under Section 2.5. The Association, upon approval in writing of at least two-thirds of the Class A voting rights and the Class B Member, if any, and if approved by order or resolution of City of Wilsonville, may dedicate or convey any portion of the Common Areas to a park district or other public body. Any sale, transfer, conveyance or encumbrance permitted by this Declaration may provide that the Common Area may be released from any restrictions imposed by this Declaration if the request for approval of the action also includes approval of the release.

(e) **Leases, Easements, Rights-of-Way, Licenses and Similar Interests and Vacations of Roadways.** Notwithstanding the provisions of Section 4.3(d), the Association may execute, acknowledge and deliver leases, easements, rights-of-way, licenses and other similar interests affecting the Common Areas and consent to vacation of roadways within and adjacent to the Common Areas, subject to such approvals as are required by ORS 94.665(4) and (5).

(f) **Limitations on Use.** Use of the Common Areas is subject to the following:

- (1) The provisions of this Declaration and any applicable supplemental declaration;
- (2) Any restrictions or limitations contained in any deed or other instrument conveying such property to the Association;

(3) Easements reserved or granted in this Declaration or any supplemental declaration;

(4) The Common Areas may not be used for the construction of residential structures at any time.

(5) The Board's right to:

(A) adopt Rules and Regulations regulating use and enjoyment of the Common Areas, including rules limiting the number of guests who may use the Common Areas;

(B) suspend the right of an Owner to use the Common Areas as provided in this Declaration;

(C) dedicate or transfer all or any part of the Common Areas, subject to such approval requirements as may be set forth in this Declaration;

(D) impose reasonable membership requirements and charge reasonable admission or other use fees for the use of any recreational facility situated upon the Common Areas;

(E) permit use of any recreational facilities situated on the Common Areas by Persons other than Owners, their families, lessees and guests with or without payment of use fees established by the Board;

(F) designate areas and facilities of Common Areas as Public Areas; and

(G) provide certain Owners the rights to the exclusive use of those portions of the Common Areas designated as Limited Common Areas.

4.4 **Delegation of Use.** Any Owner may extend the Owner's right of use and enjoyment of the Common Areas to the members of the Owner's family, lessees and social invitees, as applicable, subject to reasonable regulation by the Board of Directors. An Owner who leases the Owner's Home will be deemed to have assigned all such rights to the lessee of such Home for the period of the lease.

4.5 **Easements Reserved by Declarant.** So long as Declarant owns any Lot, Declarant reserves an easement for itself and its successor and assigns (including any builder who purchased more than one Lot from Declarant for purposes of development), over, under and across the Common Areas to carry out sales and rental activities necessary or convenient for the sale or rental of Lots, including, without limitation, advertising and "For Sale" signs. Declarant, for itself and its successors and assigns, hereby retains a right and easement of ingress and egress over, in, upon, under and across the Common Areas and the right to store materials thereon and to make such other use thereof as may be reasonably necessary or incident to the construction of the Improvements on the Property or other real property owned by Declarant; provided, however, that no such rights may be exercised by Declarant in such a way as to unreasonably interfere with the occupancy of, use of, enjoyment of or access to an Owner's Lot by the Owner or the Owner's family, tenants, employees, guests, or invitees.



4.6 **Easement to Serve Other Property.** Declarant reserves for itself and its duly authorized agents, successors, assigns and Mortgagees, and the developers of Improvements in all future phases of Stafford Meadows, a perpetual easement over the Common Areas for the purposes of enjoyment, use, access and development of the property, even if such property is never made subject to this Declaration, including but not limited to, reservations for the benefit of real property in the vicinity of the Property that is owned by or that may be owned in the future by West Hills Land Development LLC, its successors and assigns, for so long as the same reserves annexation rights to the Property. This easement includes, but is not limited to, a right of ingress and egress over the Common Areas for construction, utilities, water and sanitary sewer lines, communication lines, drainage facilities, irrigation systems and signs, and ingress and egress for the benefit of other portions of Stafford Meadows and any Additional Property that becomes subject to this Declaration or any property in the vicinity of the Property or Additional Property that is then owned by Declarant or an affiliate thereof. Declarant agrees that such users are responsible for any damage caused to the Common Areas resulting from their actions in connection with development of such property. If the easement is exercised for permanent use by such property and such property or any portion thereof benefiting from such easement is not made subject to this Declaration, Declarant, its successors or assigns will enter a reasonable agreement with the Association to share the cost of any maintenance of such facilities. The allocation of costs in any such agreement will be based on the relative extent of use of such facilities and the number of dwelling units in such property compared to the number of Homes in the Property.

4.7 **Limited Common Areas.** If any Limited Common Areas are included in an annexation declaration, the respective Limited Common Areas will be subject to a reciprocal access easement for the use by the Owners of the benefited Lots for vehicular access and utilities and communication lines serving such Lots. Such areas will be operated, maintained, replaced, and improved by the Association, but the entire cost thereof, including reserves for future maintenance, repairs, and replacements, will be assessed on an equal basis as Limited Common Area Assessments to the Owners of Lots to which such Limited Common Areas pertain.

## Article 5

### PROPERTY RIGHTS IN LOTS

5.1 **Use and Occupancy.** The Owner of a Lot in the Property is entitled to the exclusive use and benefit of such Lot, except as otherwise expressly provided in this Declaration, but the Lot is bound by, and each Owner and Declarant must comply with, the restrictions contained in Article 6, all other provisions of this Declaration and the provisions of any supplement or amendment to this Declaration.

5.2 **Easements Reserved.** In addition to any utility and drainage easements shown on any recorded plat, Declarant hereby reserves the following easements for the benefit of Declarant and the Association:

(a) **Adjacent Common Maintenance Area.** The Owner of any Lot that includes a Common Maintenance Area or adjoins or blends together visually with any Common Maintenance Area must, as the Association so requires, permit the Association to enter upon the Lot to perform the maintenance of such Common Maintenance Area. The Owner and Occupant of each Lot is

responsible for controlling such Owner's or Occupant's pets so they do not harm or otherwise disturb Persons performing such maintenance on behalf of the Association.

(b) **Utility Easements.** Easements for installation and maintenance of utilities and drainage facilities may be reserved over portions of certain Lots, as shown on any recorded plat. Within the utility easement areas, the Architectural Review Committee will not permit any structure, planting or other material to be placed or permitted to remain on the easement area if such structure, planting or other material may damage or interfere with the installation or maintenance of utilities, change the direction of flow of drainage systems or drainage infiltration facilities in the easements, or obstruct or retard the flow of water through drainage channels in the easements and/or to the extent not permitted in the City of Wilsonville Development Agreements. The easement area of each Lot and all Improvements in it will be maintained continuously by the Owner of the Lot, except for those Improvements for which a public authority or utility company is responsible, and except Common Maintenance Areas, which are maintained by the Association.

(c) **Construction on Adjoining Lot.** Declarant hereby reserves for the benefit of Declarant and its assigns a temporary easement over each Lot for access to the adjoining Lot for construction purposes, including temporary placement of ladders or scaffolding. Declarant will restore the Lot to its condition as it existed prior to such access and will be responsible for any damage to the Lot. Declarant hereby reserves for the benefit of Declarant and its assigns a temporary easement over each Lot Declarant then-currently owns to accommodate uses related to portions of the Property being used for the 2019 "Street of Dreams" event.

(d) **Utility Inspection and Repairs.** Each utility and communication service provider and its agents or employees have authority to access all Lots, but not Improvements constructed thereon, and the Common Areas on which communication, power, gas, drainage, sewage or water facilities may be located for installing, operating, maintaining, improving or constructing such facilities; reading meters; inspecting the condition of pipes, lines and facilities; and completing repairs. The Owner of any such Lot will be given advance notice if possible. In the case of an emergency, as determined solely by the utility or communication service provider, no prior notice will be required.

(e) **Easements for Encroachments.** Declarant grants reciprocal appurtenant easements of encroachment, and for maintenance and use of any permitted encroachment, between each Lot and any adjacent Common Areas and between adjacent Lots due to the unintentional placement or settling or shifting of the Improvements constructed, reconstructed or altered thereon (in accordance with the terms of this Declaration and the Design Guidelines) to a distance of not more than three feet, as measured from any point on the common boundary along a line perpendicular to such boundary. However, in no event will an easement for encroachment exist if such encroachment occurred due to willful and knowing conduct on the part of, or with the knowledge and consent of, the Person claiming the benefit of such easement.

(f) **Easements for Maintenance, Emergency and Enforcement.** Upon request given to the Owner and any Occupant, any Person authorized by the Association may enter a Lot to perform necessary maintenance, repair, or replacement of any property for which the Association has maintenance, repair or replacement responsibility under this Declaration, to make emergency repairs to a Lot that are necessary for the public safety or to prevent damage to Common Areas or to another Lot, or to enforce this Declaration or the Rules and Regulations. Requests for entry must be made in advance and for a reasonable time, except in the case of any emergency, when

the right of entry is immediate. An emergency entry does not constitute a trespass or otherwise create a right of action in the Owner of the Lot.

(g) **Future Easements.** Declarant reserves the nonexclusive right and power to grant and record such specific easements as may be necessary, in the sole discretion of Declarant, in connection with the development of any of the Property. The location of any such easement is subject to the written approval of the Owner of the burdened Lot, which approval will not unreasonably be withheld, delayed or conditioned.

## Article 6

### GENERAL USE RESTRICTIONS

6.1 **Structures Permitted.** No structures may be erected or permitted to remain on any Lot except a single Home and structures normally accessory thereto that have been constructed by Declarant or have first been approved by the Architectural Review Committee pursuant to Article 7. A Home will be deemed a permitted improvement on a Lot under this Section 6.1 notwithstanding that a Home may include within its exterior walls an independent living area with a separate outside entrance. This provision does not exclude construction of a private greenhouse or storage unit, or an accessory dwelling unit as defined by City of Wilsonville ordinances, provided that the location, size and design of such structures are in conformity with the applicable ordinances and permit requirements of City of Wilsonville, are compatible in design and style with the Home constructed on the Lot, and have been approved by the Committee.

6.2 **Residential Use.** Lots must only be used for residential purposes. Except with the consent of the Board of Directors, no trade, craft, business, profession, commercial or similar activity of any kind will be conducted on any Lot, nor may any goods, equipment, vehicles, materials, or supplies used in connection with any trade, service or business be kept or stored on any such Lot. The mere parking on a Lot of a vehicle bearing the name of a business will not, in itself, constitute a violation of this provision. Nothing in this Section 6.2 will be deemed to prohibit (a) activities relating to the sale of Homes; (b) the right of Declarant or any contractor or home builder to construct Improvements on any Lot, to store construction materials and equipment on such Lots in the normal course of construction, and to use one or more Homes as sales offices or model homes for purposes of sales in Stafford Meadows; and (c) the right of the Owner of a Lot to maintain his or her professional personal library, keep his or her personal business or professional records or accounts, handle his or her personal business or professional telephone calls or confer with business or professional associates, clients or customers in his or her Home by appointment only or to operate a registered or certified family child care home pursuant to ORS 329A.250 to 329A.500. The Board will not approve commercial activities otherwise prohibited by this Section 6.2 unless the Board determines that only normal residential activities would be observable outside of the Home and that the activities would not be in violation of applicable law. The Board may specify acceptable activities in the Rules and Regulations.

6.3 **Offensive or Unlawful Activities.** No noxious or offensive activities may be carried out upon the Property, nor will anything be done or placed on the Property that interferes with or jeopardizes the enjoyment of the Property, or that is a source of annoyance to Owners or Occupants. Occupants will use extreme care about creating disturbances, making noises or using musical instruments, radios, televisions, amplifiers and audio equipment that may disturb other Occupants.



No unlawful use may be made of the Property or any part thereof, and all valid laws, zoning ordinances and regulations of all governmental bodies having jurisdiction over the Property must be observed. Owners and other Occupants must not engage in any abusive or harassing behavior, either verbal or physical, or any form of intimidation or aggression directed at other Owners, Occupants, guests or invitees, or directed at the managing agent, its agents or employees, or vendors.

6.4 **Animals.** No animals, livestock, or poultry of any kind may be raised, bred, kept or permitted within any Lot other than seeing eye horses and a reasonable number of ordinary household pets that are not kept, bred, or raised for commercial purposes and that are reasonably controlled so as not to be a nuisance. The Board of Directors has the authority to determine what is an "ordinary household pet." Any unrestrained or barking dog constitutes a nuisance. Any inconvenience, damage or unpleasantness caused by such pets are the responsibility of their respective Owners. No animal is permitted to roam the Property unattended, and each dog must be kept on a leash while outside a Lot. The construction or installation of dog-runs and doghouses are subject to prior review and approval by the Architectural Review Committee pursuant to Article 7. An Owner or Occupant may be required to remove a pet upon receipt of the third written notice from the Board of violations of any rule, regulation or restriction governing pets within the Property.

6.5 **Maintenance of Structures.** Each Owner must maintain the Owner's Lot and Improvements thereon, including sidewalks adjacent to the Owner's Lot, and walkways and the driveway, in a clean and attractive condition, in good repair and in such fashion as not to create a fire or other hazard. Such maintenance includes, without limitation, exterior painting or staining, repair, replacement and care for roofs, gutters, downspouts, exterior building surfaces, walks, lights, perimeter fences and other exterior Improvements and glass surfaces. All repainting or re-staining, any change in type of roof or roof color and any exterior remodeling or changes are subject to prior review and approval by the Architectural Review Committee. Damage caused by fire, flood, storm, earthquake, riot, vandalism or other causes are likewise the responsibility of each Owner and must be restored within a reasonable time. Any change in appearance must first be approved by the Committee.

6.6 **Landscape Installation.** All landscaping on a Lot must be completed within a reasonable time not to exceed 90 days from the date of occupancy of the Home constructed on a Lot. In the event of undue hardship due to weather conditions, this provision may be extended for a reasonable length of time upon approval of the Architectural Review Committee. Landscape plans will be submitted to the Committee for approval. Landscaping in the Front Yards must not be changed by an Owner without the approval of the Committee. Notwithstanding such limitations, an Owner may utilize planting pots or other free standing, movable planters within the Front Yard of his or her Lot; provided that the planters and plants growing in the planters are properly maintained. The Board of Directors may regulate the number and type of such planters.

6.7 **Maintenance of Landscaping.** In any every portion of the Owner's Lot other than the Front Yard, the Owner will keep all shrubs, trees, grass and plantings of every kind on the Owner's Lot, neatly trimmed, properly cultivated, and free of trash, weeds and other unsightly material. Following initial installation by the Declarant or builder the Association will be responsible for maintenance and irrigation of landscaping of the Front Yard of Lots, including the irrigation equipment and controllers. No Owner or Occupant of one of these Lots may alter, change or tamper with the irrigation equipment, controllers or settings in a Front Yard the Association maintains, which settings belong to the Association.

6.8 **Boundary Fences.** The responsibility for and cost of maintenance, repair and replacement of fencing on boundary lines between Lots will be shared by the Owners on either side of the fence in accordance with ORS Chapter 96; provided, however, that the Association is responsible for the maintenance of any fencing or walls adjacent to Tracts E and H the cost of which will be a common expense.

6.9 **Fences, Hedges and Walls.** No fence, hedge, structure, wall, or retaining wall may be constructed or exist anywhere on any Lot without prior approval of the Architectural Review Committee and in accordance with its Design Guidelines. No planting or structure obstructing vision at driveways or intersections is permissible or may be maintained. Installation and maintenance of retaining walls that are required and approved by the Committee due to topographic conditions of a given Lot are the sole and absolute responsibility of the individual Lot Owner, are to be aesthetically incorporated into the landscaping of the Lot, and are not the responsibility of the Association.

6.10 **Pest and Weed Control.** No Owner will permit any thing or condition to exist upon any portion of the Property that will induce, breed or harbor infectious plant or animal diseases or noxious insects or vermin. Each Owner must control noxious weeds on the Owner's Lot.

6.11 **Parking.** Except as may otherwise be provided in the Rules and Regulations, parking in excess of 24 hours of boats, trailers, motorcycles, mobile homes, campers or other recreational vehicles or equipment, regardless of weight, are not be allowed on any part of the Property or on public streets within the Property unless within areas designated for such purposes by the Board of Directors or within the confines of an enclosed garage and approved by the Architectural Review Committee before construction or screened from view in a manner approved by the Committee. No portion of the vehicle may project beyond the screened area. If there is no rear fencing and the vehicle could be seen from outside the Lot other than from the front road, the vehicle must also be screened from view from that direction. Vehicles may not be used for storage of materials for more than 48 hours without approval from the Committee. No motor vehicle of any type may constructed, reconstructed, or repaired in such a manner as will be visible from neighboring property, nor may any vehicle be occupied for residential purposes while located within the Property. The Rules and Regulations may restrict the amount of noise vehicles may generate. The parking of vehicles is prohibited on any public or private street within the Property if posted or marked "No Parking" or if curbs are painted to restrict parking. Blocking a Common Area tract established under any plat of the Property, a roadway, Limited Common Area driveway, or alley is prohibited. No parking is permitted in Common Areas unless so posted.

6.12 **Vehicles in Disrepair.** No Owner will permit any vehicle that is in an extreme state of disrepair or not currently licensed to be abandoned or to remain parked on the Owner's Lot (unless screened from view) or on the Common Area or any street for a period in excess of 48 hours. A vehicle will be deemed in an "extreme state of disrepair" when the Board of Directors determines that its presence reasonably offends the Occupants of the area due to its appearance or continued inoperability. Should any Owner fail to remove such vehicle within five days following the date on which notice is mailed to him or her by the Association, the Association may have the vehicle removed from the Property and charge the expense of such removal to the Owner.

6.13 **Signs.** No signs may be erected or maintained on any Lot except that not more than one "For Sale" sign placed by the Owner, Declarant or a licensed real estate agent, not exceeding 24 inches high and 36 inches long, may be temporarily displayed within the Front Yard of any Lot or

inside of a first floor, front street facing window of a Home located on a Lot, and two such signs may be placed on a Lot during the course of initial construction of a dwelling on such Lot. "For Rent" and "For Lease" signs are prohibited. The restrictions contained in this paragraph do not prohibit the temporary placement of "political" signs on any Lot by the Owner, subject to reasonable regulations adopted by the Architectural Review Committee relating to size and length of display.

6.14 **Rubbish, Trash and Outside Storage.** No part of the Property may be used as a dumping ground for trash or rubbish of any kind, and no rubbish, refuse or garbage is allowed to accumulate. All garbage and other waste must be kept in appropriate sanitary containers for proper disposal and out of public view, except the night before and during garbage pickup days. Yard rakings, dirt, and other material resulting from landscaping work will not be dumped onto Lots, streets, or Common Maintenance Areas. Storage areas, and the storage of machinery and equipment are prohibited on any Lot, unless obscured from view of neighboring property and streets by an appropriate screen or enclosure approved by the Architectural Review Committee. Tarps and covers are prohibited except as otherwise provided in the Rules and Regulations and the Design Guidelines. Should any Owner or Occupant responsible for its generation fail to remove any such materials within 10 days following the date on which notice is mailed to the Owner or Occupant by the Board of Directors, the Association may have the materials removed and charge the expense of such removal to the Owner.

6.15 **Construction.** The construction of any building on any Lot, including painting and all exterior finish, must be completed within eight months from the beginning of construction so as to present a finished appearance when viewed from any angle, and the Home will not be occupied until so completed. In the event of undue hardship due to weather conditions or other causes beyond the reasonable control of the Owner, this time period may be extended for a reasonable length of time upon approval from the Architectural Review Committee. The building area must be kept reasonably clean and in workmanlike order, free of litter, during the construction period with a garbage can or other garbage disposal facility on the site during such period. Debris may not be deposited on any other Lot. All construction debris, stumps, trees, etc. must be periodically removed from each Lot by the builder or Owner, and such debris will not be dumped in any area within the Property unless approved by the Committee. The Rules and Regulations may impose reasonable limitations on the hours during which construction activities may take place. If construction has not commenced upon any Lot within one year after an Owner has acquired it, other than Declarant or an affiliate of Declarant, the Owner must install the sidewalk and landscape the area within 20 feet from the curb. The Owner will irrigate and maintain this area. The Committee may waive this requirement if it determines that construction will commence within a reasonable time. In any case, all unimproved or unoccupied Lots will be kept in a neat and orderly condition, free of brush, vines, weeds and other debris, and grass thereon must be cut or mowed at sufficient intervals to prevent creation of a nuisance or fire hazard.

6.16 **Temporary Structures.** No incomplete building or structure of a temporary character, nor any trailer, basement, tent, shack, garage, barn, or other outbuilding may be used on any Lot at any time as a residence either temporarily or permanently.

6.17 **Recreational Equipment.** Unless approved by the Architectural Review Committee or permitted by the Design Guidelines, no playground, athletic or recreational equipment or structures, including without limitation, permanently installed basketball backboards, hoops and related supporting structures, will be placed, installed or utilized on any Lot in view from any street,



sidewalk or Common Area within the Property. Portable basketball backboards, hoops, soccer goal nets, and related supporting structures may be used during daylight hours, so long as such equipment is stored out of view from any street, sidewalk, or Common Area within the Property.

6.18 **Service Facilities.** Service facilities (garbage containers, fuel tanks, clotheslines, etc.) will be screened so that the elements screened are not visible at any time from the street or a neighboring property. The Architectural Review Committee may develop guidelines for clotheslines that are consistent with the green sustainability objectives of Stafford Meadows. All telephone, power, natural gas, cable television and other communication lines will be placed underground, except as otherwise mandated by local jurisdictions or public utility companies.

6.19 **Antennas and Satellite Dishes.** Exterior antennas, satellite receivers, and transmission dishes are prohibited, except to the extent expressly mandated by rules adopted by the Federal Communication Commission. Specifically, ham radio antennas, cell towers, satellite dishes one meter or larger, television antennas or on masts 12 feet or higher and multi-point distribution antennas are prohibited. To the extent permitted by Federal Communication Commission rules, the Board of Directors may require all other antennas and dishes to be hidden from view from streets and adjoining dwellings. Other communication devices will not be permitted to be placed upon any Lot except in accordance with rules established by the Architectural Review Committee in accordance with Section 7.3.

6.20 **Exterior Lighting or Noisemaking Devices.** Except with the consent of the Architectural Review Committee, no exterior lighting or noisemaking devices may be installed or maintained on any Lot, other than as originally installed by the builder of the home and security alarms and fire alarms. Seasonal holiday lighting and decorations are permissible if consistent with any applicable Rules and Regulations and if installed not more than 30 days before and removed within 30 days after the celebrated holiday. The Committee may regulate the shielding or hours of use of lighting in order to reduce annoyance to neighboring properties. The location of air conditioning compressors must be approved by the Committee prior to installation.

6.21 **Subdividing or Partitioning Lots.** Except as otherwise provided in this Declaration, no Lot may be subdivided or partitioned, nor may its Lot lines be adjusted, without the approval of Clackamas County and the Architectural Review Committee.

6.22 **Grades, Slopes and Drainage.** Each Owner of a Lot accepts the burden of the established drainage pattern and grades, slopes and courses related thereto over any Lot or Common Area, and will not in any manner alter, modify or interfere with such drainage pattern, grades, slopes and courses, any public vegetated swale or rain garden, without the prior approval of the Architectural Review Committee, and then only to the extent and in the manner specifically approved. No structure, plantings or other materials may be placed or permitted to remain on or within any grades, slopes or courses, nor may any other activities be undertaken that may damage or interfere with established slope ratios, create erosion or sliding problems, or obstruct, change the direction of or retard the flow of water through drainage channels.

6.23 **Garages.** All garage doors must remain closed except to permit entrance and exit and in connection with outside activities. Garages will be used primarily for parking of vehicles, and only secondarily for storage, and must not be used as office or living space without the prior approval of the Architectural Review Committee.

6.24 **Windows, Decks, Porches and Outside Walls.** To preserve the attractive appearance of the Property, the Association may regulate the nature of items that may be placed in or on windows, decks, porches, and the outside walls so as to be visible from the street or Common Areas, including, without limitation, window air conditioners and fans. Window coverings, curtains, shutters, drapes or blinds, other than those of commercially produced quality, are not permitted to be visible from any public or private street, pathway, Common Area or adjacent property. No aluminum foil, reflective film, or similar treatment may be placed on windows or glass doors. Garments, rugs, laundry and other similar items may not be hung from windows, facades, porches or decks.

6.25 **Air Conditioning Units.** Window or portable air conditioning units are prohibited.

6.26 **Firearms and Fireworks.** Firearms may not be discharged within Stafford Meadows at any time. Firearms are to be unloaded at all times while in Stafford Meadows. Weapons including "BB" guns, pellet guns, dart guns, paint-ball guns and any other weapon capable of firing a projectile are considered firearms. Oregon statutory law prohibits the use of certain types of fireworks. Only fireworks considered legal are allowed. Owners and their guests must clean up any fireworks discharged in Stafford Meadows.

6.27 **Nonbiodegradable Substances.** No motor oil, paint or other caustic or nonbiodegradable substance may be deposited in any street drain, sewer system or on the grounds within Stafford Meadows. Any fine levied by a governmental agency and/or costs associated with the cleanup of any nonbiodegradable substance for any spill that is caused by any Owner or their guests will be the responsibility of the offending Owner.

6.28 **Leasing and Rental of Homes.** A Home may not be leased or rented for a period of less than 30 days. All leases of a Home must be by written agreement specifying that: (i) the tenant is subject to all provisions of the Declaration, Bylaws and Rules and Regulations; and (ii) failure to comply with any provision of the Declaration, Bylaws or Rules and Regulations constitutes a default under the rental agreement. The Owner must provide each tenant a copy of the Declaration, Bylaws and Rules and Regulations. The Owner is responsible for any violations by tenants and is directly responsible for either correcting or eliminating such violations or causing tenant to do the same.

6.29 **Rules and Regulations.** In addition, the Association from time to time may adopt, modify, or revoke such nondiscriminatory Rules and Regulations governing the conduct of Persons and the operation and use of the Property as it may deem necessary or appropriate to ensure the peaceful and orderly use and enjoyment of the Property. A copy of the Rules and Regulations, upon adoption, and a copy of each amendment, modification or revocation thereof, must be delivered by the Board of Directors promptly to each Owner. The Rules and Regulations may be adopted by the Board, except as may be otherwise provided in the Bylaws of the Association.

## Article 7

### ARCHITECTURAL REVIEW COMMITTEE

7.1 **Architectural Review.** No Improvement may be commenced, erected, placed or altered on any Lot, including without limitation re-landscaping, until the construction or landscaping plans, respectively, and specifications showing the nature, shape, heights, materials, colors and proposed location of the Improvement or landscaping, have been submitted to and approved in

writing by the Architectural Review Committee, except that construction by Declarant or any affiliate of Declarant will be presumed to have been approved and is thereby exempt from this review. Such exception for Declarant and such builders' construction will include without limitation the construction of buildings, hedges, walls, and fences. The building plans to be submitted will consist of one complete set of plans and specifications in the usual form showing insofar as appropriate, (i) size and dimensions of the Improvements; (ii) exterior design; (iii) approximate exterior color scheme; (iv) location of Improvements on the Lot, including setbacks, driveway and parking areas; and (v) location of existing trees to be removed. These plans and specifications must be left with the Committee until 60 days after notice of completion has been received by the Committee. This is for determining whether, after inspection by the Committee, the Improvement complies substantially with the plans and specifications that were submitted and approved. The Committee is not responsible for determining compliance with structural and building codes, zoning codes, or any other governmental regulations, all of which are the responsibility of the applicant. The procedure and specific requirements for review and approval of construction may be set forth in Design Guidelines adopted from time to time by the Committee. The Committee may charge a reasonable fee to cover the cost of processing an application. In all cases in which the Committee's consent is required by this Declaration, the provisions of this Article 7 apply, except that this Article 7 does not apply to construction by Declarant or any affiliate of Declarant.

7.2 **Committee Decision.** The Architectural Review Committee will render its decision with respect to a construction proposal within 30 working days after it has received all material required by it with respect to the application. In the event the Committee fails to render its approval or disapproval within 45 working days after the Committee has received all material required by it with respect to the proposal, or if no suit to enforce this Declaration has been commenced within one year after completion thereof, approval will not be required and the related provisions of this Declaration will be deemed to have been fully complied with.

7.3 **Committee Discretion.** The Architectural Review Committee may withhold consent to any proposed work if the Committee finds the proposed work would be inappropriate for the particular Lot or incompatible with the Design Guidelines or design standards that the Committee intends for Stafford Meadows. It is the intent and purpose of this Declaration to ensure quality of workmanship and materials, to ensure harmony of external design with the existing Improvements and with respect to topography and finished grade elevations, and to ensure compliance with the setback requirements contained in the conditions of approval of Clackamas County. Considerations such as siting, shape, size, color, design, materials, height, screening, impairment of the view from other Lots or other effect on the enjoyment of other Lots or the Common Area, disturbance of existing terrain and vegetation, and any other factors that the Committee reasonably believes to be relevant may be considered by the Committee in determining whether or not to consent to any proposed work. Regulations on siting of television antennas and satellite receiving dishes must be in conformance with any applicable Federal Communications Commission rules.

7.4 **Design Guidelines.**

(a) **Adoption of Design Guidelines.** Declarant or the Architectural Review Committee will prepare Design Guidelines, which may contain general provisions applicable to all of the Property as well as specific provisions that vary from Neighborhood to Neighborhood or any portions of a Neighborhood or Neighborhoods or as to types of use or Improvements. The Design Guidelines will interpret and implement the provisions of this Declaration for architectural review and



establish guidelines for architectural design, placement of buildings, color schemes, exterior finishes and materials and similar features that may be used in Stafford Meadows; provided, however that the Design Guidelines will not be in derogation of the minimum standards established by this Declaration. The Design Guidelines are not the exclusive basis for decisions of the Committee, and compliance with the Design Guidelines does not guarantee approval of any application. Regulations on siting of television antennas and satellite receiving dishes will be in conformance with any applicable Federal Communications Commission rules. The Design Guidelines may not unreasonably restrict solar energy systems in violation of ORS 105.880 or electrical vehicle charging stations in conflict with ORS 94.762.

(b) **Publication of Design Guidelines.** The Architectural Review Committee must make the Design Guidelines available to Owners and builders who seek to engage in development or construction within the Property. In Declarant's discretion, the Design Guidelines may be recorded, in which event the recorded version, as it may be amended from time to time, will control in the event of any dispute as to which version of the Design Guidelines was in effect at any particular time.

(c) **Amendment of Design Guidelines.** Declarant has sole and full authority to amend the Design Guidelines during the Development Period notwithstanding a delegation of reviewing authority to the Architectural Review Committee unless Declarant also delegates the power to amend to the Committee. Upon delegation of Declarant's right to amend, the Committee will have the authority to amend the Design Guidelines with the consent of the Board of Directors. Any amendments to the Design Guidelines will be prospective only and will not apply to require modifications to or removal of structures previously approved once the approved construction or modification has commenced. There is no limitation on the scope of amendments to the Design Guidelines, and such amendments may remove requirements previously imposed or otherwise make the Design Guidelines less restrictive.

7.5 **Membership: Appointment and Removal.** The Architectural Review Committee will consist of as many Persons as Declarant may from time to time appoint. Declarant, at its discretion, may appoint a single Person to serve as the Committee and may remove any member of the Committee from office at any time and may appoint new or additional members at any time. The Association will keep on file at its principal office a list of the names and addresses of the members of the Committee. Declarant may at any time delegate to the Board of Directors of the Association the right to appoint or remove members of the Committee. In such event, or in the event Declarant fails to appoint an Architectural Review Committee, the members of the Committee will be appointed by, and serve on behalf of, the Board, or if the Board fails to appoint such members, then the Board will serve as the Committee. The term of office for each member appointed by the Board will be one year unless lengthened by the Board at the time of appointment or unless the Board serves as the Committee, in which case the terms of the members will be the same as their terms as Board members. The Board may appoint any or all of its members to the Committee and is not required to appoint non-Board members. The Board may appoint one or more members to the Committee who are not Owners, but who have special expertise regarding the matters that come before the Committee. In the sole discretion of the Board, such non-Owner members of the Committee may be paid for such services, the cost of which may be paid by the applicants or treated as a common expense, as determined by the Board.



7.6 **Majority Action.** Except as otherwise provided in this Declaration, a majority of the members of the Architectural Review Committee has the power to act on behalf of the Committee, without the necessity of a meeting and without the necessity of consulting the remaining members of the Committee. The Committee may render its decision only by written instrument setting forth the action taken by the consenting members.

7.7 **Liability.** Neither the Architectural Review Committee nor any member thereof is liable to any Owner, Occupant, builder or developer for any damage, loss or prejudice suffered or claimed on account of any action or failure to act of the Committee or a member of the Committee, and the Association will indemnify the Committee and its members therefrom, provided only that the member has, in accordance with the actual knowledge possessed by him or her, acted in good faith.

7.8 **Nonwaiver.** Consent by the Architectural Review Committee to any matter proposed to it or within its jurisdiction will not be deemed to constitute a precedent or waiver impairing its right to withhold approval as to any similar matter thereafter proposed or submitted to it for consent.

7.9 **Appeal.** At any time after Declarant has delegated appointment of the members of the Architectural Review Committee to the Board of Directors pursuant to Section 7.5, any Owner adversely affected by action of the Committee may appeal such action to the Board. Appeals must be made in writing within 10 days of the Committee's action and must contain specific objections or mitigating circumstances justifying the appeal. If the Board is already acting as the Committee, the appeal will be treated as a request for a rehearing, in which case the Board will meet and receive evidence and argument on the matter. A final, conclusive decision will be made by the Board within 15 working days after receipt of such notification.

7.10 **Effective Period of Consent.** The Architectural Review Committee's consent to any proposed work will automatically be revoked one year after issuance unless construction of the work has been substantially commenced in the judgment of the Committee and thereafter diligently pursued, or unless the Owner has applied for and received an extension of time from the Committee.

7.11 **Estoppel Certificate.** Within 20 business days after written request is delivered to the Architectural Review Committee by any Owner, and upon payment to the Committee of a reasonable fee fixed by the Committee to cover costs, the Committee will provide such Owner with an estoppel certificate executed by a member of the Committee and acknowledged, certifying with respect to any Lot owned by the Owner, that as of the date of the certificate either (a) all Improvements made or done upon or within such Lot by the Owner comply with this Declaration or (b) such Improvements do not so comply, in which event the certificate must also identify the noncomplying Improvements and set forth with particularity the nature of such noncompliance. Any purchaser from the Owner, and any Mortgagee or other encumbrancer, is entitled to rely on such certificate with respect to the matters set forth therein, such matters being conclusive as between Declarant, the Committee, the Association and all Owners, and such purchaser or Mortgagee.

7.12 **Enforcement.** If during or after the construction the Architectural Review Committee finds that the work was not performed in substantial conformance with the approval granted, or that the required approval was not obtained, the Committee will notify the Owner in writing of the noncompliance, specifying the particulars of the noncompliance. The Committee may require conforming changes to be made or that construction be stopped. The cost of any required changes will be borne by the Owner. The Committee has the power and authority to order any manner

of changes or complete removal of any Improvement, alteration, or other activity for which prior written approval from the Committee is required and has not been obtained or waived in writing. If an Owner fails to comply with an order of the Committee, then, subject to the Owner's right of appeal under Section 7.9, either the Committee or the Board of Directors may enforce compliance in accordance with the procedures set forth in Section 11.1.

## Article 8

### ASSOCIATION

Declarant has organized, or before conveyance of the first Lot will organize, an association of all of the Owners within Stafford Meadows. Such Association, and its successors and assigns, will be organized as an Oregon nonprofit corporation under the name "**Stafford Meadows Homeowners Association,**" and will have such property, powers and obligations as are set forth in this Declaration for the benefit of the Property and all Owners of Lots located therein.

8.1 **Organization.** Declarant will, before the first Lot is conveyed to an Owner, organize the Association as a nonprofit corporation under the general nonprofit corporation laws of the State of Oregon. The Articles of Incorporation of the Association will provide for its perpetual existence, but in the event the Association is at any time dissolved, whether inadvertently or deliberately, it will automatically be succeeded by an unincorporated association of the same name. In that event, the unincorporated association will have all the property, powers and obligations of the incorporated association existing immediately prior to dissolution. To the greatest extent possible, any successor unincorporated association will be governed by the Articles of Incorporation and Bylaws of the Association as if they had been made to constitute the governing documents of the unincorporated association and will be served by the members of the Board of Directors and the officers who served immediately prior to dissolution.

8.2 **Membership.** Every Owner of one or more Lots within the Property must, immediately upon creation of the Association and thereafter during the entire period of such Owner's ownership of one or more Lots within the Property, be a member of the Association. Such membership commences, exists, and continues simply by virtue of such ownership; expires automatically upon termination of such ownership; and need not be confirmed or evidenced by any certificate or acceptance of membership.

8.3 **Voting Rights.** The Association has two classes of voting membership:

**Class A.** Class A Members are all Owners with the exception of the Class B Member and are entitled to one vote for each Lot owned. When more than one Person holds an interest in any Lot, all such Persons are members. The vote for such Lot is exercised as they among themselves determine, but in no event will more than one vote be cast with respect to any Lot.

**Class B.** The Class B Member is Declarant, who is entitled to three votes for each Lot owned by Declarant. The Class B Membership will cease and be converted to Class A Membership on the happening of any of the following events, whichever occurs earlier:

(1) When all of the Lots in the final phase of development of Stafford Meadows have been Sold and conveyed to Owners other than a successor Declarant; or

(2) At such earlier time as Declarant may elect in writing to terminate Class B Membership.

8.4 **General Powers and Obligations.** The Association has, exercises and performs all of the following powers, duties, and obligations:

(a) The powers, duties and obligations granted to the Association by this Declaration.

(b) The powers and obligations of a nonprofit corporation pursuant to the general nonprofit corporation laws of the State of Oregon.

(c) The powers, duties and obligations of a homeowners association pursuant to the Oregon Planned Community Act.

(d) Any additional or different powers, duties and obligations necessary or desirable for carrying out the functions of the Association pursuant to this Declaration or otherwise promoting the general benefit of the Owners within the Property.

The powers and obligations of the Association may from time to time be amended, repealed, enlarged or restricted by changes in this Declaration made in accordance with the provisions of this Declaration, accompanied by any required changes in the Articles of Incorporation or Bylaws of the Association made in accordance with such instruments and with the nonprofit corporation laws of the State of Oregon.

8.5 **Specific Powers and Duties.** The powers and duties of the Association include, without limitation, all of the following:

(a) **Maintenance and Services.** The Association will provide maintenance and services for the Property as provided in Article 9 and other provisions of this Declaration.

(b) **Insurance.** The Association will obtain and maintain in force policies of insurance as determined by the Board of Directors and in accordance with any requirements in this Declaration or the Bylaws of the Association.

(c) **Rulemaking.** The Association will make, establish, promulgate, amend and repeal Rules and Regulations as provided in Section 0.

(d) **Assessments.** The Association will adopt budgets and impose and collect Assessments as provided in Article 10.

(e) **Enforcement.** The Association will perform such acts, whether or not expressly authorized by this Declaration, as may be reasonably necessary to enforce the provisions of this Declaration and the Rules and Regulations adopted by the Association, including, without limitation, enforcement of the decisions of the Architectural Review Committee. Nothing in this Declaration may be construed as requiring the Association to take any specific action to enforce violations.

(f) **Employment of Agents, Advisers and Contractors.** The Association, through its Board of Directors, may employ the services of any Person as manager; hire employees to manage, conduct and perform the business, obligations and duties of the Association; employ professional counsel and obtain advice from such Persons such as, but not limited to, landscape architects, architects, planners, attorneys and accountants; and contract for or otherwise provide for all services necessary or convenient for the management, maintenance and operation of the Property; provided, however, the Board may not incur or commit the Association to incur legal fees in excess of \$5,000 for any specific litigation or claim matter or enter into any contingent fee contract or any claim in excess of \$100,000 unless the Owners have enacted a resolution authorizing the incurring of such fees by a vote of 75 percent of the total voting rights of the Association. These limitations are not applicable to legal fees incurred in defending the Association or the Board from claims or litigation brought against them. The limitations set forth in this paragraph (f) will increase by 10 percent on each fifth anniversary of the recording of this Declaration.

(g) **Borrow Money.** The Association may borrow and repay money for the purpose of performing its duties under this Declaration; provided, however, that such borrowing in any calendar year may not exceed 20 percent of the estimated budgeted expenses of the Association for that calendar year unless the owners have enacted a resolution authorizing the project by a majority of the voting rights of the members. The Association may pledge Association income to secure such borrowing, and, subject to Section 4.3(d), encumber the Common Areas as security for the repayment of such borrowed money.

(h) **Acquire and Hold Title to Property.** The Association may acquire and hold title to real and personal property and interests therein, and must accept any real or personal property, leasehold or other property interests within Stafford Meadows conveyed to the Association by Declarant.

(i) **Transfers, Dedications, Encumbrances and Easements.** Except as otherwise provided in Sections 4.3(d) and 4.3(e), the Association may sell, transfer or encumber and grant easements upon all or any portion of the Common Area, or other real property to which it then holds title, to a Person, whether public or private, and dedicate or transfer all or any portion of such Common Area or property to any public agency, authority or utility for public purposes.

(j) **Create Classes of Service and Make Appropriate Charges.** The Association may, in its sole discretion, create various classes of service and make appropriate Individual Assessments or charges therefor to the users of such services, including, but not limited to, reasonable admission and other fees for the use of any and all recreational facilities situated on the Common Areas, without being required to render such services to those of its members who do not assent to such charges and to such related Rules and Regulations as the Board deems proper. In addition, the Board has the right to discontinue any service upon nonpayment of Assessments or to eliminate any service for which there is no demand or for which there are inadequate funds to maintain the same.

(k) **Restoring Damaged Improvements.** In the event of damage to or destruction of Common Areas or other property that the Association insures, the Board of Directors or its duly authorized agent must file and adjust all insurance claims and obtain reliable and detailed estimates of the cost of repairing or restoring the property to substantially the condition in which it existed prior to the damage, allowing for changes or Improvements necessitated by changes in



applicable building codes. If a decision is made not to restore the damaged Improvements, and no alternative Improvements are authorized, the affected property will be cleared of all debris and ruins and thereafter will be maintained by the Association in a neat and attractive, landscaped condition. If insurance proceeds are insufficient to cover the costs of reconstruction, the Board may levy Special Assessments to cover the shortfall against those Owners responsible for the premiums for the applicable insurance coverage. Any insurance proceeds remaining after paying the costs of repair or reconstruction, or after such settlement as is necessary and appropriate, will be retained by the Association for the benefit of all or some of the Owners, as appropriate, and placed in a capital Improvements account. This is a covenant for the benefit of Mortgagees and may be enforced by the Mortgagee of any affected Lot.

(l) **Security.** The Association may, but is not obligated to, maintain or support certain activities within Stafford Meadows designed to make the Property more enjoyable or safer than it otherwise might be. **Neither the Association, Declarant nor any managing agent will be considered insurers or guarantors of security or safety within the Property, nor will either be held liable for any loss or damage by reason of failure to provide adequate security or ineffectiveness of security or safety measures undertaken. No representation or warranty is made that any system or measure, including any mechanism or system for limiting access to the Property, cannot be compromised or circumvented, nor that any such system or measure undertaken will in all cases prevent loss or provide the detection or protection for which it is designed or intended. Each Owner acknowledges and agrees that the Association, the Board of Directors and any managing agent are not insurers and that each Person using the Property assumes all risks for personal injury and loss or damage to property resulting from acts of third parties.**

(m) **Services.** The Association may provide or contract for such services as the Board of Directors may reasonably deem to be of benefit to the Property, including, without limitation, landscape services, garbage and trash removal and security services.

(n) **Implied Rights and Obligations.** The Association may exercise any other right or privilege reasonably to be inferred from the existence of any right or privilege expressly given to the Association under this Declaration or reasonably necessary to effectuate any such right or privilege.

8.6 **Liability.** Neither a member of the Board of Directors nor an officer of the Association or member of the Architectural Review Committee or any other committee established by the Board will be liable to the Association, any Owner or any third party for any damage, loss or prejudice suffered or claimed on account of any action or failure to act in the performance of his or her duties, so long as the individual acted in good faith; believed that the conduct was in the best interests of the Association, or at least was not opposed to its best interests; and, in the case of criminal proceedings, had no reason to believe the conduct was unlawful. In the event any member of the Board or any officer or committee member of the Association is threatened with or made a party to any proceeding because the individual was or is a director, officer, or committee member of the Association, the Association will defend the individual against such claims and indemnify the individual against liability and expenses incurred to the maximum extent permitted by law.

8.7 **Interim Board; Turnover Meeting.** Declarant has the right to appoint an interim board of one to three directors, who will serve as the Board of Directors of the Association until

replaced by Declarant or until their successors take office at the Turnover Meeting following termination of Class B Membership. Declarant will call a meeting of the Association for the purpose of turning over administrative responsibility for the Property to the Association not later than 90 days after termination of the Class B Membership in accordance with Section 8.3. At the Turnover Meeting the interim directors will resign and their successors will be elected by the Owners, as provided in this Declaration and in the Bylaws of the Association. If Declarant fails to call the Turnover Meeting required by this Section 8.7, any Owner or Mortgagee of a Lot may call the meeting by giving notice as provided in the Bylaws.

**8.8 Contracts Entered into by Declarant or Before Turnover Meeting.** Notwithstanding any other provision of this Declaration, any management contracts, service contracts or employment contracts entered into by Declarant or the Board of Directors on behalf of the Association before the Turnover Meeting will have a term of not more than three years. In addition, any such contract must provide that it may be terminated without cause or penalty by the Association or Board upon not less than 30 days' notice to the other party given not later than 60 days after the Turnover Meeting. The limitations contained in this Section 8.8 do not apply to those contracts referred to in ORS 94.700(2).

**8.9 Bylaws.** The Bylaws of the Association and any amendment or modification of the Bylaws will be recorded in the Deed Records of Clackamas County, Oregon. On behalf of the Association, the Declarant will adopt and record the initial Bylaws as provided in ORS 94.625.

## Article 9

### MAINTENANCE

**9.1 Common Maintenance Areas.** The Common Maintenance Areas include the Common Areas, Limited Common Areas, Common Easement Areas, and the Front Yards of Lots in Stafford Meadows, and the wall maintenance areas designated on the Plat, until such maintenance is assumed by the local jurisdiction, if ever.

**9.2 Maintenance and Lighting of Common Maintenance Areas.** The Association is responsible for exterior lighting, if any, in the Common Areas and will perform all maintenance upon the Common Maintenance Areas, including, but not limited to, entrance monuments, gates, fences, walls in Common Areas or bordering the Common Areas (including without limitation any fence or wall along S.W. Boeckman Road, and any public vegetated swale along any roadway in the Property), signs, parking areas, pathways, bicycle paths, unless the maintenance thereof is assumed by a public body. Sidewalks, notwithstanding the public easement over them, are the Lot Owner's responsibility to maintain, repair, and replace and to keep free of leaves, ice, and snow. The Association is responsible for maintenance and irrigation of landscaping in the Front Yards and the walls constructed in the wall maintenance easement areas designated on the Plat, and for the design and any modification thereof.

(a) In the Front Yards, irrigation systems, including related controllers, monitors, and equipment, belong to the Lot Owner. Landscaping irrigation settings will be set by the Association and no Owner may tamper with or change such settings. The Association has the right of access to each such controller, monitor, or other equipment wherever located on a Lot. The cost of water for irrigation of the Front Yards is the responsibility of the Association and will be a common

expense. Rain gardens are part of the Property's overall stormwater treatment plan, whether located in the public right of way or on a portion of a Lot; any rain garden located on any Lot will be the responsibility of the Association to maintain as part of the Lot's Front Yard landscaping, which must be performed so that the rain garden area works for its intended stormwater collection and filtering functions. The Association will also maintain and irrigate the area of the street right-of-way between the curb and the sidewalk. Such areas will be maintained in attractive condition and in a good and workmanlike manner to render them fit for the purposes for which they are intended. The maintenance of Front Yards by the Association does not include maintenance of special features, which are the Owner's responsibility, including but not limited to decorative water features (ponds, streams, waterfalls, etc.), bridges, gazebos, foot paths, putting greens, or any other Improvement other than ordinary landscaping, which are the responsibility of the Lot Owner. Front Yard maintenance expenses borne by the Association will be Individual Expenses to be determined by the board of directors according to Section 10.3 below.

(b) The Association is hereby assigned and assumes the City of Wilsonville Development Agreements in respect of all the Property thereunder that subjected to this Declaration. Except to the extent of the Declarant's obligations to install, construct, and for the stated bond period therein, inspect and maintain, certain improvements on the affected Common Areas, this assignment and assumption includes Declarant's on-going maintenance, repair, inspection, and replacement obligations under the City of Wilsonville Development Agreements.

9.3 **Maintenance of Shared Irrigation Systems and Utility Facilities.** The Association will perform or contract to perform maintenance of (i) all irrigation systems and facilities within Common Maintenance Areas, and (ii) any private utilities serving a Common Area (other than Common Easement Areas), except to the extent such maintenance is performed by the utilities furnishing such services. The Association is not liable for any interruption or failure of such services. Each Owner is responsible for maintaining utility lines within his or her Lot other than those serving the Common Maintenance Areas.

9.4 **Owner's Responsibility.** Except as otherwise provided in this Declaration or by written agreement with the Association, all maintenance of the Lots and Improvements, including landscaping for which the Association is not responsible, walkways, and the driveway thereon as provided in Section 6.5 and 6.7 will be the sole responsibility of the Lot Owner, who will maintain the Lot in a neat and attractive condition in accordance with the community-wide standard of Stafford Meadows. Sidewalks, notwithstanding the public easement over them, are the Lot Owner's responsibility to maintain, repair, and replace and to keep free of leaves, ice, and snow. The Association may, in the discretion of the Board of Directors, assume the maintenance responsibilities of such Owner if, in the opinion of the Board, the level and quality of maintenance being provided by such Owner does not satisfy such standard. Before assuming such maintenance responsibilities, the Board will notify the Owner in writing of its intention to do so, and if such Owner has not commenced and diligently pursued remedial action within 15 days after mailing of such written notice, then the Association may proceed. The expenses of such maintenance by the Association will be reimbursed to the Association by the Owner, together with interest as provided in Section 11.3. Such charges will be an Individual Assessment and lien on the Lot as provided in Sections 10.4(d) and 11.1.

9.5 **Damage Liability.** Any damage to any Common Maintenance Area by Owners or their children, agents, visitors, friends, relatives, tenants, Occupants or service personnel, to the extent



not covered by the Association's insurance (including any deductible), will be assessed to such Owners as an Individual Assessment.

9.6 **Maintenance Plan.** Declarant will initially prepare and thereafter the Board of Directors must implement, review, and update a maintenance plan (the "**Maintenance Plan**") for the maintenance, repair and replacement of all property for which the Association has maintenance, repair or replacement responsibility under this Declaration or the Bylaws or the Oregon Planned Community Act. The Maintenance Plan will describe the maintenance, repair or replacement to be conducted; include a schedule for maintenance, repair or replacement; be appropriate for the size and complexity of the maintenance, repair and replacement responsibility of the Association; and address issues that include, but are not limited to, warranties and the useful life of the items of which the Association has maintenance, repair or replacement responsibility. The Board must review and update the Maintenance Plan as necessary. Changes or updates to the Maintenance Plan will be based on advice of competent experts or consultants. For a period of 10 years following recording of the Declaration, any changes to the Maintenance Plan without the approval of the Declarant and the original general contractor may void any applicable warranty and will release them from liability for any damage resulting from such change.

## Article 10

### ASSESSMENTS

10.1 **Purpose of Assessments.** The Association may levy Assessments. The Assessments levied by the Association must be used exclusively to promote the recreation, health, safety and welfare of the Owners and Occupants of the Property and for the improvement, operation and maintenance of the Common Maintenance Areas.

10.2 **When Lots Become Subject to Assessment.** Upon the first sale of each Lot to a purchaser other than (i) Declarant, (ii) another developer or builder in a bulk sale of Lots, (iii) a successor declarant, or (iv) an affiliate of Declarant, the Lot Sold becomes subject to assessment and the Owner will pay General Assessments, Special Assessments, Emergency Assessments, Limited Common Area Assessments, and if any, Individual Assessments.

10.3 **Allocation of Assessments.** Except as may otherwise be provided in an applicable supplemental declaration annexing Additional Property to this Declaration, all Lots subject to assessment will pay an equal share of the General Assessments, Special Assessments, and Emergency Assessments. The cost of Front Yard maintenance, including landscaping upkeep, repair and operation of irrigation systems, and water for irrigation, will be Individual Expenses, which will be reasonably determined by the board of directors based on the size and features of any given Lot's Front Yard and categories of corresponding assessments for the Front Yard maintenance performed by the Association. The board has the authority to create categories of Lots based on their size and Front Yard features, including without limitation that some Lots will have private rain gardens in their Front Yards and others will not, for the purpose of creating categories of Lots in respect of the Front Yard assessments; in other words, notwithstanding that Front Yard maintenance costs will be assessed as Individual Assessments, Front Yards may be lumped together by size and feature for simplification of assessment invoicing. If the irrigation water is not separately metered on a Lot, the board of directors will reasonably estimate irrigation as between Lots sharing a landscaping water meter and allocate the water costs accordingly or according to categories of Lots for Front Yard assessment.

10.4 **Type of Assessments.** The Association is authorized to levy the following types of Assessments:

(a) **General Assessments.** The Association will levy General Assessments for the common expenses incurred by or on behalf of the Association in accordance with this Declaration. The Board of Directors will from time to time and at least annually prepare an operating budget for the Association, taking into account the current costs of maintenance and services and future needs of the Association, any previous over-assessment and any common profits of the Association. The budget must take into account the number of Lots subject to assessment as of the first day of the fiscal year for which the budget is prepared and the number of Lots reasonably anticipated to become subject to assessment during the fiscal year. The budget may be based upon a greater number of Lots than those reasonably anticipated to be subject to assessment during the fiscal year if the Declarant agrees to subsidize the Association for any shortfall in the Operations Fund. The budget will provide for such reserve or contingency funds as the Board deems necessary or as may be required by law, but not less than the reserves required by Section 10.7. General Assessments for such operating expenses and reserves will then be apportioned among the Lots as provided in Section 10.3. The Board may revise the budget and adjust the General Assessment from time to time during the year. Within 30 days after the adoption of a final budget by the Board, the Board will send a copy of the final budget to each Owner. If the Board fails to adopt a budget, the last adopted budget continues in effect. The manner of billing and collection of Assessments is as provided in the Bylaws.

(b) **Special Assessments.** The Board of Directors may levy during any fiscal year a Special Assessment, applicable to that year only, for the purpose of deferring all or any part of the cost of any construction or reconstruction, unexpected repair, or acquisition or replacement of a described capital Improvement, or for any other one-time expenditure not to be paid for out of General Assessments. Special Assessments for acquisition or construction of new capital Improvements or additions that in the aggregate in any fiscal year exceed an amount equal to 15 percent of the budgeted gross expenses of the Association for the fiscal year may be levied only if approved by a majority of the voting rights voting on such matter, together with the written consent of the Class B Member, if any. Prior to the Turnover Meeting, any Special Assessment for acquisition or construction of new capital Improvements or additions must be approved by not less than 50 percent of the Class A voting rights, together with the written consent of the Class B Member. Special Assessments will be apportioned as provided in Section 10.3 and may be payable in lump sum or in installments, with or without interest or discount, as determined by the Board.

(c) **Emergency Assessments.** If the General Assessments levied at any time are or will become inadequate to meet all expenses incurred under this Declaration for any reason, including nonpayment of any Owner's Assessments on a current basis, the Board of Directors will immediately determine the approximate amount of such inadequacy and issue a supplemental budget, noting the reason therefor, and levy an Emergency Assessment for the amount required to meet all such expenses on a current basis. Emergency Assessments will be apportioned as set forth in Section 10.3 and payable as determined by the Board.

(d) **Limited Common Area Assessments.** General Assessments, Special Assessments and Emergency Assessments relating to maintenance, upkeep, repair, replacement or improvements to Limited Common Areas will be assessed exclusively and on an equal basis to the Lots having the right to use such Limited Common Areas.

(e) **Individual Assessments.** Any common expense or any part of a common expense benefiting fewer than all of the Lots may be assessed as Individual Assessments exclusively against the Lots benefited. Individual Assessments include, without limitation, charges for services provided under Sections 8.5(j), 9.2(a), and 10.4(a) and any loss or cost incurred by the Association that the Board of Directors determines is the fault of one or more Owners and not paid by insurance. Individual Assessments also include default Assessments levied against any Lot to reimburse the Association for costs incurred in bringing such Lot or its Owner into compliance with the provisions of this Declaration or the Rules and Regulations of the Association and for fines or other charges imposed pursuant to this Declaration for violation thereof. Unless otherwise provided by the Board, Individual Assessments will be due 30 days after the Board has given written notice thereof to the Owners subject to the Individual Assessments.

(f) **Working Fund Assessments.** Upon the first sale of a Lot to a purchaser other than a successor Declarant and upon any subsequent sale of such Lot, the purchaser will pay to the Association a Working Fund Assessment equal to two times the monthly General Assessment then applicable to the Lot. The Board of Directors may deposit Working Fund Assessments either in the Operations Fund or in the Reserve Fund, at the discretion of the Board.

10.5 **Assessment of Additional Property.** When Additional Properties are annexed to Stafford Meadows, the Lots included therein become subject to Assessments from the date of such annexation to the extent provided in Section 10.2. The Board of Directors, however, at its option may elect to recompute the budget based upon the additional Lots subject to Assessment and additional Common Areas and recompute General Assessments for all Lots, including the new Lots, for the balance of the fiscal year. Notwithstanding any provision of this Declaration apparently to the contrary, a declaration annexing Additional Property may provide that such Additional Property does not have the right to use a particular Common Area or facility located thereon, in which case such Additional Property will not be assessed for the costs of operating, maintaining, repairing, replacing or improving such Common Area or facility.

10.6 **Operations Fund.** The Association will keep all funds received by it as Assessments, other than reserves described in Section 10.7 or Working Fund Assessments deposited in the Reserve Fund, separate and apart from its other funds, in an Operations Fund in a bank account in the name of the Association. The Association will use such fund for the purpose of promoting the recreation, health, safety and welfare of the residents within the Property and in particular for the improvement and maintenance of properties, services and facilities devoted to this purpose and related to the use and enjoyment of the Common Maintenance Areas and the Lots, including but not limited to:

- (a) Payment of the cost of operation, maintenance, utilities, services, repairs, and replacements for the Common Maintenance Areas.
- (b) Payment of the cost of insurance maintained by the Association.
- (c) Payment of taxes assessed against the Common Areas and any Improvements thereon.
- (d) Payment of the cost of other services that the Association deems to be of general benefit to the Owners, including, but not limited to, accounting, legal, and secretarial services.

10.7 **Reserve Fund.**

(a) **Establishment of Account.** Declarant, on behalf of the Association, will conduct an initial reserve study as described in Section 10.7(c) and establish a Reserve Fund in a bank account in the name of the Association to fund major maintenance, repair or replacement of any common properties that will normally require replacement in whole or in part in more than one and less than 30 years; for exterior painting if the Common Maintenance Areas or other property to be maintained by the Association includes exterior painted surfaces; and for other items, whether or not involving Common Maintenance Areas, if the Association has responsibility to maintain the items, including items required by the Maintenance Plan established pursuant to Section 9.6. The Reserve Fund need not include those items that can reasonably be funded from the general budget or other funds of the Association or for those items for which one or more, but less than all, Owners are responsible for maintenance and replacement under the provisions of this Declaration or the Bylaws. Nothing in this Section 10 prohibits prudent investment of the Reserve Fund.

(b) **Funding of Reserve Fund.** The Reserve Fund will be funded by Assessments against the individual Lots assessed for maintenance of the items for which the Reserve Fund is being established, which sums will be included in the regular General Assessment for the Lot and the Limited Common Area Assessments, if applicable. The Board, however, may borrow funds from the Reserve Fund to meet high seasonal demands on the regular operating funds or to meet other temporary expenses that will later be paid from General Assessments, Special Assessments, or Emergency Assessments. The Reserve Fund also includes Working Fund Assessments to the extent so allocated by the Board of Directors pursuant to Section 10.4(f). The Reserve Fund will be established in the name of the Association. The Association is responsible for administering the Reserve Fund and making periodic payments into the account. The Board of Directors or the Owners may not vote to eliminate funding the Reserve Account unless the Board determines that the Reserve Account will be adequately funded for the following year, except that after the Turnover Meeting the Board, with the approval of all Owners, may, on an annual basis, elect not to fund the Reserve Fund for the following year. Assessments paid into the Reserve Fund are the property of the Association and are not refundable to sellers or Owners of Lots. Sellers of the Lots, however, may treat their outstanding share of the Reserve Fund as a separate item in any sales agreement.

(c) **Reserve Studies.** The reserve portion of the initial Assessment determined by Declarant will be based on a reserve study described in this paragraph (c) or other sources of information. The Board of Directors will annually conduct a reserve study, or review and update an existing study, to determine the Reserve Fund requirements, and may adjust the amount of payments as indicated by the study or update and provide other reserve items that the Board, in its discretion, may deem appropriate. The reserve study will:

- (1) Identify all items for which reserves are to be established;
- (2) Include the estimated remaining useful life of each item as of the date of the reserve study; and
- (3) Include for each item, as applicable, an estimated cost of maintenance, repair and replacement at the end of its useful life.



(d) **Use of Reserve Fund.** If a Reserve Fund is required, the Reserve Fund will be used only for the purposes for which the reserves have been established and kept separate from other funds. After the Turnover Meeting, however, the Board of Directors may borrow funds from the Reserve Fund to meet high seasonal demands on the regular operating funds or to meet unexpected increases in expenses if the Board has adopted a resolution, which may be an annual continuing resolution, authorizing the borrowing of funds. Not later than the adoption of the budget for the following year, the Board will adopt by resolution a written payment plan providing for repayment of the borrowed funds within a reasonable period. Assessments paid into the Reserve Fund are the property of the Association and are not refundable to sellers or Owners of Lots. Sellers of the Lots, however, may treat their outstanding share of the Reserve Fund as a separate item in any sales agreement.

10.8 **Declarant's Subsidy.** Declarant may, but is not be obligated to, reduce the General Assessments for any fiscal year by payment of a subsidy (in addition to any other amounts then owed by Declarant), which may be either a contribution, an advance against future Assessments due from Declarant or a loan, in Declarant's discretion. Any such subsidy will be disclosed as a line item in the income portion of the Association's budget. Payment of such subsidy in any year will not obligate Declarant to continue payment of such subsidy in future years unless otherwise provided in a written agreement between the Association and Declarant.

10.9 **Commencement of Assessment Obligation; Time of Payment.** The obligation to pay Assessments under this Declaration commences as to each Lot on the first day of the month after such Lot becomes subject to Assessment. The first annual General Assessment levied on each Lot will be adjusted according to the number of months remaining in the fiscal year at the time Assessments commence for such Lot.

10.10 **Payment of Assessments.** Assessments must be paid in such manner and on such dates as the Board of Directors may establish. Unless the Board otherwise provides, the General Assessment is due and payable in advance on the first day of each fiscal year. If any Owner is delinquent in paying any Assessments or other charges levied on his or her Lot, the Board may require the outstanding balance on all Assessments to be paid in full immediately. Until the Turnover Meeting, any obligation of Declarant to pay Assessments may be satisfied in the form of cash or by "in kind" contributions of services or materials, or by a combination of these.

10.11 **Creation of Lien and Personal Obligation of Assessments.** Declarant, for each Lot owned by it within the Property, hereby covenants, and each Owner of any Lot by acceptance of a conveyance thereof, whether or not so expressed in any such conveyance, will be deemed to covenant to pay to the Association all Assessments or other charges as may be fixed, established and collected from time to time in the manner provided in this Declaration or the Association Bylaws. Such Assessments and charges, together with any interest, late charges, expenses or attorneys' fees imposed pursuant to Article 11, are a charge on the land and a continuing lien upon the Lot against which each such Assessment or charge is made. Such Assessments, charges, and other costs are also the personal obligation of the Person who was the Owner of such Lot at the time when the Assessment or charge fell due. Such liens and personal obligations will be enforced in the manner set forth in Article 11.

10.12 **Voluntary Conveyance.** In a voluntary conveyance of a Lot the grantee will be jointly and severally liable with the grantor for all unpaid Assessments against the grantor of the Lot up to

the time of the grant or conveyance, without prejudice to the grantee's right to recover from the grantor the amounts paid by the grantee therefor. However, upon request of an Owner or Owner's agent for the benefit of a prospective purchaser, the Board of Directors will make and deliver a written statement of the unpaid Assessments against the prospective grantor of the Lot effective through a date specified in the statement, and the grantee in that case will not be liable for any unpaid Assessments against the grantor not included in the written statement.

10.13 **No Waiver.** Failure of the Board of Directors to fix Assessment amounts or rates or to deliver or mail each Owner an Assessment notice will not be deemed a waiver, modification or release of any Owner from the obligation to pay Assessments. In such event, each Owner will continue to pay Assessments on the same basis as during the last year for which an Assessment was made, if any, until a new Assessment is levied, at which time the Association may retroactively assess any shortfalls in collections.

10.14 **No Option to Exempt.** No Owner may exempt himself or herself from liability for Assessments by nonuse of Common Areas, abandonment of his or her Lot, or any other means. The obligation to pay Assessments is a separate and independent covenant on the part of each Owner. No diminution or abatement of Assessments or set-off may be claimed or allowed for any alleged failure of the Association or Board of Directors to take some action or perform some function required of it, or for inconvenience or discomfort arising from the making of repairs or Improvements, or from any other action it takes.

10.15 **Certificate.** Upon written request, the Association must furnish to any Owner liable for any type of Assessment a certificate in writing signed by an Association officer setting forth whether such Assessment has been paid. Such certificate is conclusive evidence of payment. The Association may require the advance payment of a reasonable processing fee for the issuance of such certificate.

## Article 11

### ENFORCEMENT

11.1 **Violation of General Protective Covenants.** If an Owner constructs or permits to be constructed on his or her Lot an Improvement contrary to the provisions of this Declaration, or violates any provisions of this Declaration, the Bylaws, or the Rules and Regulations, then the Association acting through the Board of Directors will notify the Owner in writing of any such specific violations. If the Owner is unable, is unwilling, or refuses to comply with the Association's specific directives for remedy or abatement, or the Owner and the Association cannot agree to a mutually acceptable solution within the framework and intent of this Declaration, after notice and opportunity to be heard and within 14 days after issuing written notice to the Owner, then the Association acting through the Board has the right to do any or all of the following:

(a) Assess reasonable fines against such Owner, based upon a resolution adopted by the Board of Directors that is delivered to each Lot, mailed to the mailing address of each Lot or mailed to the mailing address designated by the Owner of each Lot in writing, which fines constitute Individual Assessments for purposes of this Declaration;

(b) Enter the offending Lot and remove the cause of such violation, or alter, repair or change the item that is in violation of this Declaration in such a manner as to make it conform thereto, in which case the Association may assess such Owner for the entire cost of the work done, which amount will be payable to the Operations Fund as an Individual Assessment, provided that no items of construction will be altered or demolished in the absence of judicial proceedings;

(c) Cause any vehicle parked in violation of this Declaration or of the Rules and Regulations to be towed and impounded at the Owner's expense;

(d) Suspend the voting rights, any utility services paid for out of Assessments and the right to use the Common Areas for the period that the violations remain unabated, provided that the Association does not deprive any Owner of access to and from the Owner's Lot in the absence of a lien foreclosure or court order to such effect; and

(e) Bring suit or action against the Owner on behalf of the Association and other Owners to enforce this Declaration.

**11.2 Default in Payment of Assessments; Enforcement of Lien.** If an Assessment or other charge levied under this Declaration is not paid within 30 days after its due date, such Assessment or charge becomes delinquent and bears interest from the due date at the rate set forth below. In such event the Association may exercise any or all of the following remedies:

(a) The Association may suspend such Owner's voting rights, any utility or communication service paid for out of Assessments and right to use the Common Areas until such amounts, plus other charges under this Declaration, are paid in full, and may declare all remaining periodic installments of any General Assessment immediately due and payable. In no event, however, will the Association deprive any Owner of access to and from the Owner's Lot in the absence of a lien foreclosure or court order to such effect.

(b) The Association has a lien in accordance with ORS 94.709 against each Lot for any Assessment levied against the Lot, including any fines or other charges imposed under this Declaration or the Bylaws against the Owner of the Lot, and may foreclose such lien in the manner provided in ORS 94.709.

(c) The Association may bring an action to recover a money judgment for unpaid Assessments under this Declaration without foreclosing or waiving the lien described in Section 11.2(b). Recovery on any such action, however, operates to satisfy the lien, or the portion thereof, for which recovery is made.

(d) The Association has any other remedy available to it by law or in equity.

**11.3 Interest, Late Charges and Expenses.** Any amount not paid to the Association when due in accordance with this Declaration bears interest from the due date until paid at a rate that is the greater of 12 percent per annum or such other rate as may be established by the Board of Directors, but not to exceed the lawful rate of interest under the laws of the state of Oregon. A late charge may be charged for each delinquent Assessment in an amount established from time to time by resolution of the Board, which resolution is delivered to each Lot, mailed to the mailing address of each Lot or mailed to the mailing address designated by the Owner in writing, together with all



expenses incurred by the Association in collecting such unpaid Assessments, including attorneys' fees (even if suit is not instituted). In the event the Association files a notice of lien, the lien amount also includes the recording fees associated with filing the notice, and a fee for preparing the notice of lien, established from time to time by resolution of the Board.

11.4 **Costs and Attorneys' Fees.** In the event of any suit or action to enforce this Declaration, the Bylaws, the Rules and Regulations, or the Oregon Planned Community Act, or to collect any money due hereunder or to foreclose a lien, the prevailing party in such suit or act will be entitled to recover all costs and expenses incurred by it in connection with such suit or action, including a foreclosure title report, and will recover such amount as the court may determine to be reasonable as attorneys' fees at trial and upon any appeal or petition for review thereof or in connection with any bankruptcy proceedings or special bankruptcy remedies.

11.5 **Assignment of Rents.** As security for the payment of all obligations owing to the Association pursuant to this Section 11.5, each Owner hereby grants to the Association the right to collect the rents, issues and profits of the Owner's Lot; provided, however, that the Owner will retain the right, prior to any default by such Owner in performance of the Owner's obligations under this Declaration, to collect and retain such rents, issues and profits as they become due and payable. Upon any such default, the Association may, at any time after 10 days written notice to the Owner, either in person, by agent or by a receiver to be appointed by a court of competent jurisdiction, and without regard to the adequacy of any security for such indebtedness, in its own name sue for or otherwise collect such rents, issues and profits, including those past due and unpaid, and apply them, less costs and expenses of operation and collection, including reasonable attorneys' fees, in payment of such indebtedness to the Association, and in such order as the Association may determine. Such action will not cure nor waive any default under this Declaration or invalidate any act done pursuant to this Declaration. The assignment of rents and powers described in this Section 11.5 does not affect, and will in all respects be subordinated to, the rights and powers of the holder of any first or second Mortgage on any Lot to do the same or similar acts

11.6 **Nonexclusiveness and Accumulation of Remedies.** An election by the Association to pursue any remedy provided for violation of this Declaration will not prevent concurrent or subsequent exercise of another remedy permitted under this Declaration. The remedies provided in this Declaration are not exclusive but are in addition to all other remedies, including actions for damages and suits for injunctions and specific performance, available under applicable law to the Association. In addition, any aggrieved Owner may bring an action against another Owner or the Association to recover damages or to enjoin, abate, or remedy any violation of this Declaration by appropriate legal proceedings.

11.7 **Enforcement by Clackamas County.** The provisions of this Declaration relating to preservation and maintenance of Common Areas will be deemed to be for the benefit of Clackamas County as well as the Association and Owners of Lots, and Clackamas County may enforce such provisions by appropriate proceedings at law or in equity, or may cause such maintenance to be performed, the costs of which will become a lien upon the Property.

## Article 12

### DISPUTE RESOLUTION

#### 12.1 Mediation.

(a) Except as otherwise provided in this Section 12.1, before initiating litigation, arbitration, or an administrative proceeding in which the Association and an Owner have an adversarial relationship, the party that intends to initiate litigation, arbitration or an administrative proceeding will offer to use any dispute resolution program available within Clackamas County, Oregon that is in substantial compliance with the standards and guidelines adopted under ORS 36.175. The written offer must be hand-delivered or mailed by certified mail, return receipt requested, to the address, contained in the records of the Association, for the other party.

(b) If the party receiving the offer does not accept the offer within 10 days after receipt of the offer, such acceptance to be made by written notice, hand-delivered or mailed by certified mail, return receipt requested, to the address, contained in the records of the Association, for the other party, the initiating party may commence the litigation, arbitration or administrative proceeding. The notice of acceptance of the offer to participate in the program must contain the name, address, and telephone number of the body administering the dispute resolution program.

(c) If a qualified dispute resolution program exists within Clackamas County, Oregon and an offer to use the program is not made as required under Section 12.1(a), then litigation, arbitration or an administrative proceeding may be stayed for 30 days upon a motion of the noninitiating party. If the litigation, arbitration or administrative action is stayed under this Section 12.1(c), both parties must participate in the dispute resolution process.

(d) Unless a stay has been granted under Section 12.1(c), if the dispute resolution process is not completed within 30 days after receipt of the initial offer, the initiating party may commence litigation, arbitration or an administrative proceeding without regard to whether the dispute resolution is completed.

(e) Once made, the decision of the court, arbitrator or administrative body arising from litigation, arbitration or an administrative proceeding may not be set aside on the grounds that an offer to use a dispute resolution program was not made.

(f) The requirements of this Section 12.1 do not apply to circumstances in which irreparable harm to a party will occur due to delay or to litigation, arbitration, or an administrative proceeding initiated to collect Assessments, other than Assessments attributable to fines.

12.2 Arbitration. Any claim, controversy or dispute by or among Declarant (including members, officers, directors, shareholders and affiliates of Declarant), Association, the Architectural Review Committee, or one or more Owners, or any of them, arising out of or related to this Declaration, the Bylaws, the Rules and Regulations, or the Property will be first subject to mediation as described in Section 12.1 or otherwise, and if not timely settled by mediation will be resolved by arbitration in accordance with this Article 12. The decisions and award of the arbitrator are final, binding and nonappealable. The arbitration will be conducted in the Portland, Oregon, metropolitan area or at such other location as may be agreed upon by the parties, pursuant to the arbitration statutes

of the state of Oregon, and any arbitration award may be enforced by any court with jurisdiction. Filing for arbitration will be treated the same as filing in court for purposes of meeting any applicable statute of limitations or for purposes of filing a notice of pending action ("lis pendens").

12.3 **Selection of Arbitrator.** The arbitration will be conducted by a single arbitrator selected by mutual agreement of the parties. The arbitrator selected must be neutral and unbiased, except to the extent the arbitrator's prior relationship with any party is fully disclosed and consented to by the other party or parties. If the parties are unable to agree upon the arbitrator within 10 days after a party's demand for arbitration, upon application of any party, the presiding judge of the Circuit Court of Clackamas County, Oregon will designate the arbitrator.

12.4 **Consolidated Arbitration.** Upon demand by any party, claims between or among the parties and third parties will be submitted in a single, consolidated arbitration. Notwithstanding the provisions of this Article 12, in the event any claim, controversy or dispute involves a claim by either party against a third party who is not required to and does not voluntarily agree to submit such claim to arbitration, then either party may elect to have the matter determined by a court of law in a consolidated proceeding, rather than by arbitration. In such case, the parties hereby waive trial by jury and agree that the matter will be determined by a judge sitting without a jury.

12.5 **Discovery.** The parties to the arbitration are entitled to such discovery as would be available to them in an action in Clackamas County Circuit Court. The arbitrator has all of the authority of the court incidental to such discovery, including, without limitation, authority to issue orders to produce documents or other materials, to issue orders to appear and submit to deposition, and to impose appropriate sanctions, including, without limitation, award against a party for failure to comply with any order.

12.6 **Evidence.** The parties to the arbitration may offer such evidence as they desire and will produce such additional evidence as the arbitrator may deem necessary for an understanding and determination of the dispute. The arbitrator will determine the admissibility of the evidence offered. All evidence will be taken in the presence of the arbitrator and all of the parties, except when any of the parties is absent in default or has waived its right to be present.

12.7 **Excluded Matters.** Notwithstanding the foregoing, the following matters are not subject to mediation or arbitration under this Article 12 (but are subject to the applicable provisions of Section 12.8): (a) actions relating to the collection of fees, Assessments, fines and other charges imposed or levied by the Association (other than disputes as to the validity or amount of such fees, Assessments, fines or charges, which disputes will be subject to mediation/arbitration as provided above); and (b) actions to enforce any order, decision or award rendered by arbitration pursuant to this Article 12. The filing of a lis pendens or the application to any court for the issuance of any provisional process or similar remedy described in the Oregon or Federal Rules of Civil Procedure will not constitute a waiver of the right or duty to utilize the procedures specified in this Article 12.

12.8 **Costs and Attorneys' Fees.** The fees of any mediator and the costs of mediation will be divided and paid equally by the parties. Each party will pay its own attorneys' fees and costs in connection with any mediation. The fees of any arbitrator and the costs of arbitration will be paid by the nonprevailing party or parties; if none, such fees and costs will be divided and paid equally by the parties. Should any suit, action or arbitration be commenced in connection with any dispute related to or arising out of this Declaration, the Bylaws, the Rules and Regulations, or the Oregon Planned

Community Act to obtain a judicial construction of any provision of this Declaration, the Bylaws or the Rules and Regulations; to rescind this Declaration; or to enforce or collect any judgment or decree of any court or any award obtained during arbitration, the prevailing party will be entitled to recover its costs and disbursements, together with such investigation, expert witness and attorneys' fees incurred in connection with such dispute as the court or arbitrator may adjudge reasonable, at trial, in the arbitration, upon any motion for reconsideration, upon petition for review, and on any appeal of such suit, action or arbitration proceeding. The determination of who is the prevailing party and the amount of reasonable attorneys' fees to be paid to the prevailing party will be decided by the arbitrator (with respect to attorneys' fees incurred before and during the arbitration proceeding) and by the court or courts, including any appellate or review court, in which such matter is tried, heard or decided, including a court that hears a request to compel or enjoin arbitration or that hears exceptions made to an arbitration award submitted to it for confirmation as a judgment (with respect to attorneys' fees incurred in such proceedings).

12.9 **Survival.** The mediation and arbitration agreement set forth in this Article 12 will survive the transfer by any party of its interest or involvement in the Property and any Lot therein and will survive the termination of this Declaration.

## Article 13

### MORTGAGEES

The following provisions are for the benefit of holders, insurers and guarantors of first Mortgages on Lots. The provisions of this Article 13 apply to both this Declaration and to the Bylaws, notwithstanding any other provisions contained therein.

13.1 **Subordination of Lien to Mortgages.** The lien of the Assessments or charges provided for in this Declaration are subordinate to the lien of any Mortgage on such Lot which was made in good faith and for value and which was recorded prior to the recordation of the notice of lien. Sale or transfer of any Lot does not affect the Assessment lien, but the sale or transfer of any Lot that is subject to any Mortgage or deed of trust pursuant to a decree of foreclosure or nonjudicial sale thereunder extinguishes any lien of an Assessment, notice of which was recorded after the recording of the Mortgage. Such sale or transfer, however, does not release the Lot from liability for any Assessments or charges thereafter becoming due or from the lien of such Assessments or charges.

13.2 **Reimbursement of First Mortgagees.** First Mortgagees of Lots may, jointly or singly, pay taxes or other charges which are in default and which may or have become a charge against any Common Areas and may pay overdue premiums on hazard insurance policies or secure new hazard insurance coverage on the lapse of a policy, for such Common Area. First Mortgagees making such payments are owed immediate reimbursement therefor from the Association.

13.3 **Notification of First Mortgagee.** If a first Mortgagee has requested such notice in writing from the Association, the Board will notify such Mortgagee of any individual Lot of any default in performance of this Declaration by the Owner which is not cured within 60 days after notice of default to the Owner.

13.4 **Notice to Association.** Upon request, each Owner is obligated to furnish to the Association the name and address of the holder of any Mortgage encumbering such Owner's Lot.



## Article 14

### AMENDMENT AND REPEAL

14.1 **How Proposed.** Amendments to or repeal of this Declaration will be proposed by either a majority of the Board of Directors or by Owners holding 30 percent or more of the Association's voting rights. The proposed amendment or repeal must be reduced to writing and will be included in the notice of any meeting at which action is to be taken thereon or attached to any request for consent to the amendment or repeal.

14.2 **Approval Required.** This Declaration, or any provision thereof, as from time to time in effect with respect to all or any part of the Property, may be amended or repealed by the vote or written consent of Owners representing not less than 75 percent of the voting rights, without regard to any weighted vote for the Class B Member, together with the written consent of the Class B Member, if such Class B Membership has not been terminated as provided in this Declaration. In no event will an amendment under this section create, limit or diminish special Declarant rights without Declarant's written consent, or change the boundaries of any Lot or any uses to which any Lot is restricted under this Declaration or change the method of determining liability for common expenses, the method of determining the right to common profits or the method of determining voting rights of any Lot unless the Owners of the affected Lots unanimously consent to the amendment. Declarant may not amend this Declaration to increase the scope of special Declarant rights reserved in this Declaration after the sale of the first Lot unless Owners representing 75 percent of the total vote, other than Declarant, agree to the amendment. To the extent any amendment relates to the preservation or maintenance of the Common Areas or private utility lines, a City of Wilsonville Development Agreement, or the existence of an entity responsible for accomplishing the same, such amendment must be approved by the planning department of City of Wilsonville.

14.3 **Recordation.** Any such amendment or repeal becomes effective only upon recordation in the Deed Records of Clackamas County, Oregon of a certificate of the president and secretary of the Association setting forth in full the amendment, amendments or repeal so approved and certifying that such amendment, amendments or repeal have been approved in the manner required by this Declaration and ORS 94.590, and acknowledged in the manner provided for acknowledgment of deeds.

14.4 **Regulatory Amendments.** Notwithstanding the provisions of Section 14.2, until the Turnover Meeting has occurred, Declarant has the right to amend this Declaration or the Bylaws of the Association to comply with the requirements of the Federal Housing Administration; the United States Department of Veterans Affairs; the Farmers Home Administration of the United States; the Federal National Mortgage Association; the Government National Mortgage Association; the Federal Home Mortgage Loan Corporation; any department, bureau, board, commission or agency of the United States or the state of Oregon; or any corporation wholly owned, directly or indirectly, by the United States or the state of Oregon that insures, guarantees or provides financing for a planned community or lots in a planned community. After the Turnover Meeting, any such amendment must be approved by the Association in accordance with the approval provisions of this Declaration or the Bylaws, as applicable.

## Article 15

### MISCELLANEOUS PROVISIONS

15.1 **No Implied Obligations.** Nothing in this Declaration may be construed to require Declarant or any successor Declarant to subject Additional Property to this Declaration or to improve or develop any of the Property or to do so for any particular uses.

15.2 **Right to Approve Additional Covenants.** No Person may record any declaration of covenants, conditions and restrictions, declaration of condominium or similar instrument affecting any portion of the Property without Declarant's prior written consent. Any attempted recordation without such consent will result in such instrument being void and of no force or effect unless subsequently approved in writing by Declarant.

15.3 **Notice of Sale or Transfer of Title.** Any Owner selling or otherwise transferring title to his or her Lot must give the Association written notice within seven days after the transfer of the name and address of the purchaser or transferee, the date of such transfer of title and such other information as the Association may reasonably require. The transferor continues to be jointly and severally responsible with the transferee for all obligations of the Owner of the Lot, including Assessment obligations, until the date upon which such notice is received by the Board, notwithstanding the transfer of title.

15.4 **Exclusive Rights to Use Name of Development.** No Person may use the name "Stafford Meadows" or any derivative of such name in any printed, digital (i.e., internet) or other promotional or commercial material without Declarant's prior written consent. However, an Owner may use the name "Stafford Meadows" where such term is used solely to specify that the Owner's property is located within the Property. In no event will any Owner enter into an agreement with any third party for the sale, rental, or management of the Owner's Lot if such agreement purports to grant any right to such third party to use the name "Stafford Meadows" or any derivative of such name in violation of this provision.

15.5 **Lessees and Other Invitees.** Lessees, employees, invitees, licensees, contractors, family members, guests, and other Persons entering the Property under rights derived from an Owner must comply with all of the provisions of this Declaration restricting or regulating the Owner's use, improvement or enjoyment of his or her Lot and other areas within the Property. The Owner is responsible for obtaining such compliance and will be liable for any failure of compliance by such Persons in the same manner and to the same extent as if the failure had been committed by the Owner.

15.6 **Nonwaiver.** Failure by the Association or by any Owner to enforce any covenant or restriction contained in this Declaration will in no event be deemed a waiver of the right to do so thereafter.

15.7 **Construction and Severability.** This Declaration will be liberally construed as an entire document to accomplish the purposes hereof as stated in the introductory paragraphs hereof. Nevertheless, each provision of this Declaration will be deemed independent and severable, and the invalidity or partial invalidity of any provision will not affect the validity or enforceability of the remaining part of that or any other provision.

15.8 **Terminology and Captions.** As used in this Declaration, the singular includes the plural and the plural the singular, and the masculine and neuter each include the masculine, feminine and neuter, as the context requires. All captions used in this Declaration are intended solely for convenience of reference and in no way limit any of the provisions of this Declaration.

15.9 **Notices.** All notices to the Association or to the Board of Directors will be sent care of the manager or, if there is no manager, to the principal office of the Association or to such other address as the Board may designate from time to time. All notices to any Owner will be sent to such address as may have been designated by such Owner from time to time, in writing, to the Board or, if no address has been designated, to the Owner's Lot. In the discretion of the Board, any notice, information or other written material required to be given to an Owner or director under this Declaration or the Bylaws or pursuant to the Oregon Planned Community Act, may be given by electronic mail, facsimile or other form of electronic communication acceptable to the Board, except for the following notices: failure to pay an Assessment, foreclosure of an Association lien under ORS 94.709, or an action the Association may take against an Owner. An Owner or director may decline to receive notice by electronic mail, facsimile or other form of electronic communication and may direct the Board to provide notice in any other manner permitted under this Declaration or the Bylaws or the Oregon Planned Community Act.

15.10 **Private Agreement.** This Declaration and the covenants and agreements contained herein constitute a private agreement among the Owners of Lots in Stafford Meadows. This Declaration does not restrict City of Wilsonville's authority to adopt or amend its development regulations. It is the duty of every Person engaged in development or remodeling of a Lot and/or Improvement in Stafford Meadows to know the requirements of this Declaration and the covenants



and agreements contained herein. There may be conflicting requirements between this Declaration and regulations of City of Wilsonville. In the event there is a conflict between a regulation of City of Wilsonville and this Declaration, any question regarding which provision controls will be directed to the Architectural Review Committee. In each case, Clackamas County will limit its review of a development application to the requirements of its regulations and will not be liable for any approvals or permits that are granted in compliance with the regulations of City of Wilsonville, Clackamas County, the state of Oregon or any other jurisdiction, but that are not in compliance with this Declaration. Declarant, the Committee and the Association, or any one of them, will not be liable for any approvals that are granted in compliance with this Declaration, but that are not in compliance with the regulations of City of Wilsonville, Clackamas County, the State of Oregon or any other jurisdiction.

IN WITNESS WHEREOF, Declarant has executed this Declaration on the date set forth above.

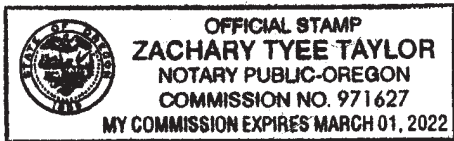
**WEST HILLS LAND DEVELOPMENT LLC,**  
an Oregon limited liability company

  
\_\_\_\_\_  
Walter E. Remmers, Member

STATE OF OREGON                    )  
  )ss.  
COUNTY OF Multnomah            )

The foregoing instrument was acknowledged before me this 12th day of December, 2018, by Walter E. Remmers, member of West Hills Land Development LLC, an Oregon limited liability company, on its behalf.

  
\_\_\_\_\_  
Notary Public for Oregon  
My commission expires: March 01, 2022



23P  
AFTER RECORDING RETURN TO:

Michelle D. Da Rosa LLC  
Attorney at Law  
205 SE Spokane Street, Suite 300  
Portland, OR 97202  
Zachary Taylor

Clackamas County Official Records  
Sherry Hall, County Clerk

2019-002824



\$203.00


01/17/2019 12:56:31 PM

PD-BYL Cnt=1 Stn=54 COUNTER2  
\$115.00 \$16.00 \$62.00 \$10.00

**BYLAWS OF STAFFORD MEADOWS HOMEOWNERS ASSOCIATION**

Attached hereto are the initial Bylaws of Stafford Meadows Homeowners Association adopted January 18, 2019 by the Declarant pursuant to the Declaration of Protective Covenants, Conditions, Restrictions and Easements for Stafford Meadows recorded 1/15/19, 2019 in the Records of ~~Washington~~ Clackamas County, Oregon, as Document No. 2019-002161.

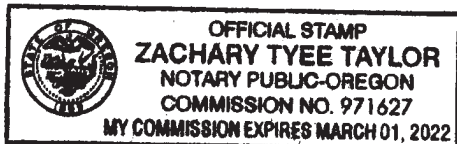
**WEST HILLS LAND DEVELOPMENT LLC,**  
an Oregon limited liability company

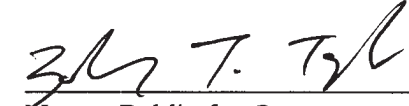
By:   
Walter E. Remmers, member

Address: 3330 NW Yeon, Suite 200  
Portland, OR 97210

STATE OF OREGON            )  
  )ss.  
COUNTY of Multnomah )

This instrument was acknowledged before me this 12th day of December, 2018, by Walter E. Remmers, member of West Hills Land Development LLC, an Oregon limited liability company, on its behalf.



  
Notary Public for Oregon  
My commission expires March 1, 2022

**BYLAWS OF  
STAFFORD MEADOWS HOMEOWNERS ASSOCIATION**

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BYLAWS OF  
STAFFORD MEADOWS HOMEOWNERS ASSOCIATION

**Article 1**

**DEFINITIONS**

1.1 **Association.** “Association” means Stafford Meadows Homeowners Association, a nonprofit corporation organized and existing under the laws of the State of Oregon.

1.2 **Articles of Incorporation.** “Articles of Incorporation” means the Articles of Incorporation of the Association.

1.3 **Declaration.** The “Declaration” means the recorded Declaration of Protective Covenants, Conditions, Restrictions and Easements for Stafford Meadows, as the same may be subsequently amended or supplemented pursuant to the terms thereof.

1.4 **Incorporation by Reference.** Except as otherwise provided herein, the terms that are defined in Article 1 of the Declaration are used in these Bylaws as therein defined.

**Article 2**

**MEMBERSHIP**

2.1 **Membership.** Every Owner of one or more Lots within the Property will, immediately upon creation of the Association and thereafter during the entire period of such ownership, be a member of the Association. Such membership commences, exists and continues simply by virtue of such ownership, expires automatically upon termination of such ownership, and need not be confirmed or evidenced by any certificate or acceptance of membership. The Association has two classes of membership, Class A and Class B, as set forth in the Declaration.

2.2 **Membership List.** The Secretary will maintain at the principal office of the Association a membership list showing the name and address of the Owner of each Lot. The Secretary may accept as satisfactory proof of such ownership a duly executed and acknowledged conveyance, a title insurance policy, or other evidence reasonably acceptable to the Board of Directors.

**Article 3**

**MEETINGS AND VOTING**

3.1 **Place of Meetings.** Meetings of the members of the Association will be held at such reasonable place convenient to the members as may be designated in the notice of the meeting

3.2 **Turnover Meeting.** Declarant will call the first meeting of the Owners to organize the Association within 90 days after termination of the Class B Membership as provided in Section



3.7 below. Notice of such meeting will be given to all Owners as provided in Section 3.5. If a quorum of the Owners is present, the Owners will elect not fewer than the number of directors sufficient to constitute a quorum of the Board of Directors. If the Declarant fails to call the meeting, the meeting may be called and notice given by any Owner or Mortgagee of a Lot. The expense of giving notice will be paid or reimbursed by the Association. In the event of a lack of quorum at such Turnover Meeting, it may be adjourned as provided in Section 3.6. Nothing in this section may be construed as preventing Declarant from calling the Turnover Meeting before such date or from calling informal, informational meetings of the Owners.

3.3 **Annual Meeting.** The annual meeting of the members for the election of directors and for the transaction of such other business as may properly come before the meeting will be held at a reasonable hour and on a reasonable day as may be established by the Board of Directors or, if the Board fail to designate a date by the first day of September, then at 7:30 p.m. on the second Thursday in October. The first annual meeting will be held within one year after the date of the Turnover Meeting.

3.4 **Special Meetings.** A special meeting of the Association may be called at any time by the President or by a majority of the Board of Directors. A special meeting will be called by the president or secretary upon receipt of a written request stating the purpose of the meeting from members having at least 30 percent of the voting rights entitled to be cast at such meeting. Business transacted at a special meeting will be confined to the purposes stated in the notice of meeting.

3.5 **Notice of Meeting.**

(a) Written or printed notice stating the place, day and hour of the meeting, the items on the agenda, including the general nature of any proposed amendment to the Declaration or these Bylaws, any budget changes, any proposal to remove a director or officer and, in case of a special meeting, the purpose or purposes for which the meeting is called, will be delivered not less than 10 or more than 50 days before the date of the meeting. Such notice will be given either personally, by mail or, to the extent permitted by law, by electronic mail, facsimile or other form of electronic communication acceptable to the Board of Directors, by or at the direction of the President, the Secretary, or the persons calling the meeting, to each member entitled to vote at such meeting and to all Mortgagees who have requested such notice. For a period of 10 years following recording of the Declaration, notices of meetings (including agendas) must also be given to Declarant (or any designee of Declarant specified in any written notice to the Association) in the same manner as given to Owners, and Declarant or a representative of Declarant will be entitled to attend such meetings. If mailed, such notice will be deemed to be delivered when deposited in the United States mail, with postage fully prepaid thereon, addressed to the member at his or her most recent address as it appears on the records of the Association or to the mailing address of his or her Lot.

(b) When a meeting is adjourned for 30 days or more, or when a redetermination of the Persons entitled to receive notice of the adjourned meeting is required by law, notice of the adjourned meeting will be given as for an original meeting. In all other cases, no notice of the adjournment or of the business to be transacted at the adjourned meeting need be given other than by announcement at the meeting at which such adjournment is taken.

3.6 **Quorum.** At any meeting of the Association, members having at least 25 percent of the voting rights entitled to be cast at such meeting, present in person, by proxy or by absentee ballot,



if permitted by the Board of Directors, constitutes a quorum, except when a larger quorum is required by the Declaration. When a quorum is once present to organize a meeting, it cannot be broken by the subsequent withdrawal of a member or members. If any meeting of members cannot be organized because of a lack of quorum, the members who are present, either in person or by proxy, may adjourn the meeting from time to time not less than 48 hours or more than 30 days from the time the original meeting was called until a quorum is present, in which case, at the re-scheduled meeting at least 10 percent of the voting rights entitled to be cast at such meeting, present in person, or by proxy, or by absentee ballot (if permitted by the Board of Directors) will constitute a quorum, or half the number of a larger quorum required by the Declaration. If the notice of a meeting of the Association provided that if the meeting fails to meet the 25%-quorum requirement then the quorum will be reduced to 10 percent, then a meeting may continue with a quorum of 10 percent of the voting rights entitled to be cast at such meeting are present in person, or by proxy, or by absentee ballot (if permitted by the Board of Directors).

3.7 **Voting Rights.** The Association has two classes of voting membership:

**Class A.** Class A Members are all Owners with the exception of the Class B Member and is entitled to one vote for each Lot owned. When more than one Person holds an interest in any Lot, all such Persons will be members. The vote for such Lot is exercised as they among themselves determine, but in no event will more than one vote be cast with respect to any Lot.

**Class B.** The Class B Member is the Declarant, who is entitled to three votes for each Lot owned by Declarant. The Class B Membership ceases and is converted to Class A Membership on the happening of either of the following events, whichever occurs earlier:

(1) When all of the Lots in the final phase of development of Stafford Meadows have been Sold and conveyed to Owners other than a successor Declarant; or

(2) At such earlier time as Declarant may elect in writing to terminate Class B Membership.

3.8 **Fiduciaries and Joint Owners.** An attorney-in-fact, executor, administrator, guardian, conservator or trustee may vote or grant consent with respect to any Lot owned or held in a fiduciary capacity, whether or not the specific right has been transferred to his or her name; provided that such Person satisfies the Secretary that he or she is the attorney-in-fact, executor, administrator, guardian, conservator or trustee, holding such Lot in a fiduciary capacity. Whenever any Lot is owned by two or more Persons jointly, according to the records of the Association, the vote of such Lot may be exercised by any one of the Owners, in the absence of protest by a co-Owner. In the event of disagreement among the co-Owners, the vote of such Lot will be disregarded completely in determining the proportion of votes given with respect to such matter, unless a valid court order establishes the authority of a co-Owner to vote.

3.9 **Tenants and Contract Vendors.** Unless otherwise expressly stated in the rental agreement or lease, all voting rights allocated to a Lot are exercised by the Owner. Unless otherwise stated in the contract, all voting rights allocated to a Lot are exercised by the vendee of any recorded land sale contract on the Lot.

3.10 **Casting of Votes and Consents.** The voting rights or consent of an Owner may be cast in person at a meeting of the Association or, at the discretion of the Board of Directors, by proxy in accordance with paragraph (a) of this Section, by absentee ballot in accordance with paragraph (b) of this Section, by written ballot in accordance with paragraph (c) of this Section, or by any other method specified in the Declaration, these Bylaws or the Oregon Planned Community Act.

(a) **Proxies.** A proxy must be dated and signed by the Owner and it is not valid if it is undated or purports to be revocable without notice; such proxy terminates one year after its date unless the proxy specifies a shorter term. The Board of Directors may not require that a proxy be on a form prescribed by the Board. An Owner may not revoke a proxy given pursuant to this paragraph except by actual notice of revocation to the person presiding over a meeting of the Association or to the Board if a vote is being conducted by written ballot in lieu of a meeting. A copy of a proxy in compliance with this paragraph provided to the Association by facsimile, electronic mail or other means of electronic communication utilized by the Board is valid.

(b) **Absentee Ballots.** An absentee ballot, if authorized by the Board of Directors, will set forth each proposed action and provide an opportunity to vote for or against each proposed action. All solicitations for votes by absentee ballot must include instructions for delivery of the completed absentee ballot, including the delivery location and instructions about whether the ballot may be canceled if the ballot has been delivered according to the instructions. An absentee ballot will be counted as an Owner present for the purpose of establishing a quorum. Even if an absentee ballot has been delivered to an Owner, the Owner may vote in person at a meeting if the Owner has returned the absentee ballot and canceled the absentee ballot, if cancellation is permitted in the instructions given under this paragraph.

(c) **Ballot Meetings.** At the discretion of the Board of Directors, any action that may be taken at any annual, regular or special meeting of the Association may be taken without a meeting by written ballot to the extent and in the manner provided in ORS 94.647

(d) **Electronic Ballots.** To the extent authorized by the Board of Directors and permitted by the Oregon Planned Community Act, any vote, approval or consent of an owner may be given by electronic ballot.

(e) **Mortgages.** An Owner may pledge or assign such Owner's voting rights to a Mortgagee. In such a case, the Mortgagee or its designated representative will be entitled to receive all notices to which the Owner is entitled under these Bylaws and to exercise the Owner's voting rights from and after the time that the Mortgagee will give written notice of such pledge or assignment to the Board of Directors. Any first Mortgagee may designate a representative to attend all or any meetings of the Association.

3.11 **Majority Vote.** The vote of a majority of the voting rights entitled to be cast by the members present or represented by absentee ballot or proxy, at a meeting at which a quorum is present, is necessary for the adoption of any matter voted upon by the members, unless a greater proportion is required by law, by the Declaration, by the Articles of Incorporation, or by these Bylaws.

3.12 **Rules of Order.** Unless other rules of order are adopted by resolution of the Association or the Board of Directors, all meetings of the Association are to be conducted according to the latest edition of *Robert's Rules of Order*, published by Robert's Rules Association.

## Article 4

### DIRECTORS: MANAGEMENT

4.1 **Number and Qualification.** The affairs of the Association will be governed by a Board of Directors of three or five individuals. All directors, other than interim directors appointed by Declarant, must be Owners or co-Owners of Lots. For purposes of this section, an officer, employee or agent of a corporation, a member, manager, employee or agent of a limited liability company, or a partner, employee or agent of a partnership may serve on the Board if such corporation, limited liability company or partnership is an Owner or co-Owner of a Lot. In addition, a trustee may serve on the Board if the trustee holds legal title to a Lot for the benefit of the owner of the beneficial interest in the Lot; and an executor, administrator, guardian, conservator or other individual appointed by a court to serve in a fiduciary capacity for an Owner of a Lot, or an officer or employee of an entity if an entity is appointed, may serve on the Board.

4.2 **Interim Directors.** Upon the recording of the Declaration, Declarant will appoint an interim board of one to three directors, who serve until replaced by Declarant or until their successors have been replaced by the Owners as provided below.

4.3 **Transitional Advisory Committee.** Unless the Turnover Meeting has already been held, Declarant will call a meeting of the Owners for the purpose of forming a Transitional Advisory Committee. The meeting must be called within 60 days after the date Declarant conveys 50 percent or more of the Lots then existing in Stafford Meadows to Owners other than a successor Declarant. The committee will consist of two or more Owners elected by the Owners other than Declarant and not more than one representative of Declarant. The members serve until the Turnover Meeting. The Transitional Advisory Committee is advisory only, and its purpose is to enable ease of transition from administrative control of the Association by Declarant to control by the Owners. The committee will have access to any information, documents and records that Declarant must turn over to the Owners at the time of the Turnover Meeting. If Declarant fails to call the meeting to elect a Transitional Advisory Committee within the time specified, the meeting may be called and notice given by any Owner. If the Owners fail to elect a Transitional Advisory Committee at the meeting called for such purpose, Declarant will have no further obligation to form the committee.

4.4 **Election and Tenure of Office.**

(a) At the Turnover Meeting, the interim directors will resign and the members will elect three directors, two to serve for two years and one to serve for one year. The nominees receiving the greatest number of votes serve for two years. In the event of a tie, term selection will be by random means. Thereafter, the successors to each director serve for terms of two years each.

(b) Upon a majority vote of the voting rights entitled to be cast by the members present or represented by absentee ballot or proxy at a meeting or ballot meeting at which a quorum is present, the Board of Directors may be increased from three directors to five directors. At the next annual meeting or a special meeting called for such purpose, two additional directors will be elected, one to serve for a two-year term and one to serve for a one-year term. Term selection will be in the same manner as provided in paragraph (a) above.

(c) All directors hold office until their respective successors have been elected by the members. Election is by plurality.

#### 4.5 **Vacancies.**

(a) A vacancy in the Board of Directors will exist upon the death, resignation or removal of any director, or if the authorized number of directors is increased, or if the members fail at any annual or special meeting of members at which any director or directors are to be elected to elect the full authorized number of directors to be voted for at that meeting.

(b) Vacancies in the Board of Directors caused by any reason other than the removal of a director by a vote of the Association will be filled by vote of the majority of the remaining directors, even though they may constitute less than a quorum, or by a sole remaining director. Each person so elected will serve as a director until a successor is elected to fill the unexpired term at the next annual meeting of the Association or the next special meeting of the Association called for that purpose. Vacancies in interim directors are filled by Declarant.

4.6 **Removal of Directors.** At any regular or special meeting of the Association duly called, any one or more of the directors, other than interim directors, may be removed with or without cause by a majority vote of the members present in person or by proxy, and a successor may be elected at that meeting to fill the vacancy thus created. The members must vote on the removal of each director separately. The notice and agenda of any such meeting will state that such removal is to be considered, and any director whose removal has been proposed must be given an opportunity to be heard at that meeting and prior to the vote. A removed director remains a director until the vacancy has been filled.

4.7 **Powers.** The Board of Directors has all the powers and duties necessary for the administration of the affairs of the Association, except such powers and duties as by law or by the Declaration or by these Bylaws may not be delegated to the Board by the Owners. The Board may delegate responsibilities to committees or a managing agent but must retain ultimate control and supervision. The powers and duties to be exercised by the Board include, but not be limited to, those set forth in Section 8.5 of the Declaration and the following:

(a) Carry out the program for maintenance, upkeep, repair and replacement of any property required to be maintained by the Association as described in the Declaration and these Bylaws.

(b) Determine the amounts required for operation, maintenance and other affairs of the Association, and the making of such expenditures.

(c) Prepare a budget for the Association, and assessment and collection of the Assessments.

(d) Employ and dismiss such personnel as may be necessary for such maintenance, upkeep and repair.

(e) Employ legal, accounting or other personnel for reasonable compensation to perform such services as may be required for the proper administration of the Association; provided,



however, the Board of Directors may not incur or commit the Association to incur legal fees in excess of \$5,000 for any specific litigation or claim matter or enter into any contingent fee contract on any claim in excess of \$100,000 unless the Owners have enacted a resolution authorizing the incurring of such fees by a vote of 75 percent of the total voting rights. These limitations are not applicable to legal fees incurred in defending the Association or the Board from claims or litigation brought against them. The limitations set forth in this paragraph will increase by ten percent on each fifth anniversary of the recording of the Declaration. To the extent required by the Oregon Planned Community Act, the Board will notify the Owners before instituting litigation or administrative proceedings. With regard to any pending litigation involving the Association, the Board will periodically report to the Owners the status (including settlement offers), progress and method of funding such litigation. Nothing in this paragraph may be construed as requiring the Board to disclose any privileged communication between the Association and its counsel.

(f) Open bank accounts on behalf of the Association and designating the signatories required therefor.

(g) Prepare and file, or cause to be prepared and filed, any required income tax returns or forms for the Association.

(h) Purchase Lots at foreclosure or other judicial sales in the name of the Association or its designee.

(i) Sell, lease, mortgage, vote the votes appurtenant to (other than for the election of directors), or otherwise deal with Lots acquired by the Association or its designee.

(j) Obtain insurance or bonds pursuant to the provisions of these Bylaws and review such insurance coverage at least annually.

(k) Make additions and improvements to, or alterations of, the Common Areas, or modify, close, remove, eliminate or discontinue use of any common facility, including any improvement or landscaping, except that any such modification, closure, removal, elimination or discontinuance (other than on a temporary basis) of any swimming pool, spa or recreational or community building must be approved by a majority vote of the members at a meeting or by written ballot held or conducted in accordance with these Bylaws.

(l) From time to time adopt, modify, or revoke such rules and regulations governing the details for the operation of the Association, the conduct of Persons and the operation and use of the Property as the Board of Directors may deem necessary or appropriate to ensure the peaceful and orderly use and enjoyment of the Property. Such action may be overruled or modified by vote of not less than 75 percent of the voting rights of each class of members present, in person or by proxy, at any meeting, the notice of which will have stated that such modification or revocation of rules and regulations will be under consideration.

(m) Enforce by legal means the provisions of the Declaration, these Bylaws and any rules and regulations adopted hereunder.

(n) In the name of the Association, maintain a current mailing address of the Association, file annual reports with the Oregon Secretary of State, and maintain and keep current the information required to enable the Association to comply with ORS 94.670(7).

(o) Subject to Section 8.8 of the Declaration, enter into management agreements with professional management firms.

#### 4.8 Meetings.

(a) Meetings of the Board of Directors will be held at such place as may be designated from time to time by the Board or other Persons, calling the meeting.

(b) Annual meetings of the Board of Directors will be held within 30 days following the adjournment of the annual meetings of the members.

(c) Special meetings of the Board of Directors for any purpose or purposes may be called at any time by the President or by any two directors.

Unless other rules of order are adopted by resolution of the Association or the Board of Directors, all meetings of the Board will be conducted according to the latest edition of *Robert's Rules of Order*, published by Robert's Rules Association.

#### 4.9 Open Meetings.

(a) All meetings of the Board of Directors must be open to Owners except that, in the discretion of the Board, the Board may close the meeting to Owners other than Board members and meet in executive session to consult with legal counsel or to consider personnel matters, including salary negotiations and employee discipline, negotiation of contracts with third parties or collection of unpaid assessments. Except in the case of an emergency, the Board will vote in an open meeting on whether to meet in executive session. If the Board votes to meet in executive session, the presiding officer will state the general nature of the action to be considered and; as precisely as possible, when and under what circumstances the deliberations can be disclosed to Owners. The statement, motion or decision to meet in the executive session must be included in the minutes of the meeting, and any contract or action considered in executive session does not become effective unless the Board, following the executive session, reconvenes in open meeting and votes on the contract or action, which is reasonably identified in the open meeting and included in the minutes.

(b) Meetings of the Board of Directors may be conducted by telephonic communication or by other means of communication that allows all members of the Board participating to hear each other simultaneously or otherwise to be able to communicate during the meeting, except that if a majority of the Lots are principal residences of the occupants, then: (i) for other than emergency meetings, notice of each Board's meeting must be posted at a place or places on the property at least three days before the meeting, or notice will be provided by a method otherwise reasonably calculated to inform the Owners of such meeting; and (ii) only emergency meetings of the Board may be conducted by telephonic communication. The meeting and notice requirements of this section may not be circumvented by chance, social meetings, or any other means.

#### 4.10 Notice of Meetings.

(a) Notice of the time and place of meetings will be given to each director orally, or delivered in writing personally, by mail or to the extent permitted by the Oregon Planned Community Act, by electronic mail, facsimile or other form of electronic communication acceptable to the Board of Directors, at least 24 hours before the meeting. Notice is sufficient if received at the required time or if mailed or sent electronically not less than 72 hours before the meeting. If mailed, the notice will be directed to the address shown on the Association's records or to the director's actual address ascertained by the person giving the notice. Such notice need not be given for an adjourned meeting if such time and place is fixed at the meeting adjourned. For a period of 10 years following recording of the Declaration, notices of meetings (including agendas) must also be given to Declarant in the same manner as given to the directors.

(b) Attendance of a director at a meeting constitutes a waiver of notice of such meeting except when a director attends a meeting for the express purpose of objecting to the transaction of any business because the meeting is not lawfully called or convened.

#### 4.11 Quorum and Vote.

(a) A majority of the directors constitutes a quorum for the transaction of business. A minority of the directors, in the absence of a quorum, may adjourn from time to time but may not transact any business.

(b) The action of a majority of the directors present at any meeting at which there is a quorum is the act of the Board of Directors unless a greater number is required by law, the Declaration, the Articles of incorporation or these Bylaws.

(c) A director who is present at a meeting of the Board of Directors at which action is taken on any Association matter is presumed to have assented to the action unless the director votes against the action or abstains from voting on the action because the director claims a conflict of interest. When action is taken on any matter at a meeting of the Board, the vote or abstention of each director present must be recorded in the minutes of the meeting. Directors may not vote by proxy or by secret ballot at meetings of the Board, except that officers may be elected by secret ballot.

4.12 Right Of Declarant To Disapprove Actions. So long as Declarant or any affiliate of Declarant owns any property within Stafford Meadows, directly or indirectly, in whole or in part, Declarant has a right to disapprove any action, policy or program of the Association, the Board of Directors and any committee which, in the sole judgment of the Declarant, would tend to impair the rights of Declarant or builders under the Declaration or these Bylaws, or interfere with development, construction or marketing of any portion of the Property, or diminish the level of services being provided by the Association. This right to disapprove is in addition to, and not in lieu of, any right to approve or disapprove specific actions of the Association, the Board or any committee as may be granted to the Class B Member or Declarant in the Declaration or these Bylaws.

(a) The Declarant must be given written notice of all meetings of the Association, the Board of Directors or any committee thereof and of all proposed actions of the Association, the Board or any committee thereof to be approved at such meetings or by written request in lieu of a meeting. Such notice will be given by certified mail, return receipt requested, or by personal delivery



at the address it has registered with the Secretary of the Association, which notice complies with the requirements for Board meetings set forth in these Bylaws and which notice will, except in the case of the regular meetings held pursuant to the Bylaws, set forth with reasonable particularity the agenda to be followed at such meeting.

(b) The Declarant must be given the opportunity at any such meeting to join in or to have its representatives or agents join in discussion from the floor of any prospective action, policy, or program which would be subject to the right of disapproval set forth herein. The Declarant, its representatives or agents may make its concerns, thoughts, and suggestions known to the Board of Directors and/or the members of the subject committee.

(c) No action, policy or program subject to the right of disapproval set forth herein become effective or be implemented until and unless the requirements of subsections (a) and (b) above have been met and the time period set forth in subsection (d) below has expired.

(d) The Declarant, acting through any officer or director, agent or authorized representative, may exercise its right to disapprove at any time within 10 days following the meeting at which such action was proposed or, in the case of any action taken by written consent in lieu of a meeting, at any time within 10 days following receipt of written notice of the proposed action. This right to disapprove may be used to block proposed actions but does not include a right to require any action or counteraction on behalf of any committee, the Board of Directors, or the Association unless such action or counteraction countermands an action, policy or program that was not properly noticed and implemented. The Declarant will not use its right to disapprove to reduce the level of services which the Association is obligated to provide or to prevent capital repairs or any expenditure required to comply with applicable laws and regulations.

4.13 **Liability.** Neither a member of the Board of Directors nor an officer of the Association or a member of the Architectural Review Committee or any other committee established by the Board will be liable to the Association, any Owner or any third party for any damages, loss or prejudice suffered or claimed on account of any action or failure to act in the performance of his or her duties, so long as the individual acted in good faith, believed that the conduct was in the best interests of the Association, or at least was not opposed to its best interests; and in the case of criminal proceedings, had no reason to believe the conduct was unlawful. In the event any member of the Board or any officer or committee member of the Association is made a party to any proceeding because the individual is or was a director, officer or committee member of the Association, the Association will defend such individual against such claims and indemnify such individual against liability and expenses incurred to the maximum extent permitted by law.

4.14 **Compensation.** No director will receive any compensation from the Association for acting as such.

4.15 **Executive, Covenants and Other Committees.** Subject to law, the provisions of the Declaration and these Bylaws, the Board of Directors, may appoint an Executive Committee, a Covenants Committee to be responsible for covenant enforcement as provided in Section 4.16 and such other standing or temporary committees as may be necessary from time to time consisting of Owners and at least one member of the Board and having such powers as the Board may designate. Such committees hold office at the pleasure of the Board.

4.16 **Enforcement Procedures.** The Association has the power, as provided in the Declaration, to impose sanctions for any violation of the Declaration, these Bylaws or the Rules and Regulations. To the extent specifically required by the Declaration, the Board of Directors must comply with the following procedures prior to the imposition of sanctions:

(a) **Notice.** The Board of Directors or its delegate must serve the alleged violator with written notice describing (i) the nature of the alleged violation, (ii) the proposed sanction to be imposed, (iii) a statement that the alleged violator will have 14 days to present a written request for a hearing before the Board or a Covenants Committee appointed by the Board, if any; and (iv) a statement that the proposed sanction may be imposed as contained in the notice unless a hearing is requested within 14 days of the notice.

(b) **Response.** The alleged violator must respond to the notice of the alleged violation in writing within such 14 day period, regardless of whether the alleged violator is challenging the imposition of the proposed sanction. If the alleged violator cures the alleged violation and notifies the Board of Directors in writing within such 14 day period the Board may, but is not obligated to, waive the sanction. Such waiver does not constitute a waiver of the right to sanction future violations of the same or other provisions by any Person. If a timely request for a hearing is not made, the sanction stated in the notice will be imposed; provided, however, that the Board or Covenants Committee may, but is not obligated to, suspend any proposed sanction if the violation is cured within the 14 day period. Any response or request for a hearing must be delivered to the Association's manager, President or Secretary, or as otherwise specified in the notice of violation.

(c) **Proof of Notice.** Prior to the effectiveness of sanctions imposed pursuant to this section, proof of proper notice must be placed in the minutes of the Board of Directors or Covenants Committee, as applicable. Such proof will be deemed adequate if a copy of the notice, together with a statement of the date and manner of delivery, is entered by the officer, director, or agent who delivered such notice. The notice requirement will be deemed satisfied if the alleged violator or its representative requests and appears at the hearing.

(d) **Hearing.** If a hearing is requested within the allotted 14 day period, the hearing will be held before the Board of Directors or the Covenants Committee, as applicable. The alleged violator will be afforded a reasonable opportunity to be heard. The minutes of the meeting must contain a written statement of the results of the hearing (i.e., the decision) and the sanction, if any, to be imposed.

(e) **Appeal.** Following a hearing before the Covenants Committee, if applicable, the violator must have the right to appeal the decision to the Board of Directors. To exercise this right, the violator must deliver a written notice of appeal to the Association's manager, President or Secretary within 10 days after the hearing date.

(f) **Enforcement Policies.** The Board of Directors, by Resolution, may adopt additional policies and procedures governing enforcement of the Declaration, these Bylaws or the Rules and Regulations.

## Article 5

### OFFICERS

5.1 **Designation and Qualification.** The officers of the Association are the President, the Secretary, the Treasurer, and such Vice Presidents and subordinate officers as the Board of Directors will from time to time appoint. The President must be a member of the Board, but the other officers need not be directors. Any two offices, except the offices of President and Secretary, may be held by the same person.

5.2 **Election and Vacancies.** The officers of the Association are appointed annually by the Board of Directors at the organization meeting of each new Board to serve for one year and until their respective successors are elected. If any office becomes vacant by reason of death, resignation, removal, disqualification or any other cause, the Board will appoint a successor to fill the unexpired term at any meeting of the Board.

5.3 **Removal and Resignation.**

(a) Any officer may be removed upon the affirmative vote of a majority of the directors whenever, in their judgment, the best interests of the Association will be served thereby. The removal of an officer will be without prejudice to the contract rights, if any, of the officer so removed.

(b) Any officer may resign at any time by giving written notice to the Board of Directors, the President or the Secretary of the Association. Any such resignation takes effect upon receipt of such notice or at any later time specified therein. Unless otherwise specified therein, the acceptance of such resignation is not necessary to make it effective, provided, however, that the Board may reject any postdated resignation by notice in writing to the resigning officer. The effectiveness of such resignation will not prejudice the contract rights, if any, of the Association against the officer so resigning.

5.4 **President.** The President is the chief executive officer of the Association and, subject to the control of the Board of Directors, has powers of general supervision, direction and control of the business and affairs of the Association. He or she presides at all meetings of the members and of the Board. He or she is an ex officio member of all the standing committees, including the executive committee, if any, has the general powers and duties of management usually vested in the office of president of a nonprofit corporation, and has such other powers and duties as may be prescribed by the Board or these Bylaws.

5.5 **Vice Presidents.** The Vice Presidents, if any, performs such duties as the Board of Directors prescribe. In the absence or disability of the President, the President's duties and powers are performed and exercised by the Senior Vice President as designated by the Board.

5.6 **Secretary.**

(a) The Secretary keeps or causes to be kept a book of minutes of all meetings of directors and members showing the time and place of the meeting, whether it was regular or special,

and if special, how authorized, the notice given, the names of those present at directors' meetings, the number of memberships present or represented at members' meetings and the proceedings thereof.

(b) The Secretary gives or causes to be given such notice of the meetings of the members and of the Board of Directors as is required by these Bylaws or by law. The Secretary keeps the seal of the Association, if any, and affixes it to all documents requiring a seal, and has such other powers and perform such other duties as may be prescribed by the Board or these Bylaws.

(c) If there are no Vice Presidents, then in the absence or disability of the President, the President's duties and powers are performed and exercised by the Secretary.

5.7 **Treasurer.** The Treasurer keeps and maintains, or causes to be kept and maintained, adequate and correct accounts of the properties and business transactions of the Association, including accounts of its assets, liabilities, receipts and disbursements. The books of accounts must at all reasonable times be open to inspection by any director. The Treasurer deposits or causes to be deposited all moneys and other valuables in the name and to the credit of the Association with such depositories as may be designated by the Board of Directors. The Treasurer disburses or causes to be disbursed the funds of the Association as may be ordered by the Board, renders to the President and directors, whenever they request it, an account of all of the Treasurer's transactions as Treasurer and of the financial condition of the Association, and has such other powers and perform such other duties as may be prescribed by the Board or these Bylaws.

5.8 **Compensation of Officers.** No officer who is a member of the Board of Directors will receive any compensation from the Association for acting as an officer, unless such compensation is authorized by a resolution duly adopted by the members. The Board may fix any compensation to be paid to other officers.

## Article 6

### ASSESSMENTS, RECORDS AND REPORTS

6.1 **Assessments.** As provided in the Declaration, the Association, through its Board of Directors, will do the following:

(a) Assess and collect from every Owner Assessments in the manner described in the Declaration.

(b) Keep all funds received by the Association as Assessments, other than reserves described in the Declaration, in the Operations Fund and keep all reserves collected pursuant to the Declaration in the Reserve Fund and use such funds only for the purposes described in the Declaration. All assessments will be deposited and maintained in the name of the Association in one or more separate federally insured accounts, including certificates of deposit, at a financial institution as defined in ORS 706.008, other than an extranational institution. Such funds may be used to purchase obligations of the United States government. All expenses of the Association are paid from the Association's bank account.

(c) From time to time, and at least annually, prepare a budget for the Association, estimating the common expenses expected to be incurred with adequate allowance for reserves based



upon the reserve study required by the Declaration and determine whether the General Assessment should be increased or decreased. Within 30 days after adopting a proposed annual budget, the Board of Directors will provide a summary of the budget to all Owners. If the Board fails to adopt a budget, the last adopted annual budget continues in effect.

(d) Fix the amount of the General Assessment against each Lot at least 30 days in advance of each General Assessment period. Written notice of any Assessment will be sent to every Owner subject thereto and to any first Mortgagee requesting such notice. The due dates will be established by the Board of Directors, which may fix a regular flat Assessment payable on a monthly, quarterly, semiannual or annual basis. The Board will cause to be prepared a roster of the Lots showing Assessments applicable to each Lot. The roster will be kept in the Association office and subject to inspection by any Owner or Mortgagee during regular business hours. Within 10 business days after receiving a written request, and for a reasonable charge, the Association will furnish to any Owner or Mortgagee a recordable certificate setting forth the unpaid Assessments against such Owner's Lot. Such certificate is binding upon the Association, the Board, and every Owner as to the amounts of unpaid Assessments.

(e) When Additional Properties are annexed, the Board of Directors will assess any Lots included therein in accordance with Section 10.5 of the Declaration.

(f) Enforce the Assessments in the manner provided in the Declaration.

(g) Keep records of the receipts and expenditures affecting the Operations Fund and Reserve Fund and make the same available for examination by members and their Mortgagees at convenient hours, maintain an Assessment roll showing the amount of each Assessment against each Owner, the amounts paid upon the account and the balance due on the Assessments, give each member written notice of each Assessment at least 30 days before the time when such Assessments will become due and payable; and for a reasonable charge, promptly provide any Owner or Mortgagee who makes a request in writing with a written certificate of such Owner's unpaid Assessments.

6.2 **Records.** The Association will keep within the State of Oregon correct and complete financial records sufficiently detailed for proper accounting purposes, keep minutes of the proceedings of its members, Board of Directors and committees having any of the authority of the Board, and retain all documents, information and records turned over to the Association by Declarant. All documents, information and records delivered to the Association by Declarant pursuant to ORS 94.616 will be kept within the State of Oregon.

6.3 **Statement of Assessments Due.** The Association will provide, within 10 business days after receipt of a written request from an Owner, a written statement that provides: (a) the amount of assessments due from the Owner and unpaid at the time the request was received, including regular and special assessments, fines and other charges, accrued interest, and late-payment charges; (b) the percentage rate at which interest accrues on assessments that are not paid when due; and (c) the percentage rate used to calculate the charges for late payment or the amount of a fixed-rate charge for late payment. The Association is not required to comply with this section if the Association has commenced litigation by filing a complaint against the Owner and the litigation is pending when the statement would otherwise be due.

6.4 **Inspection of Books and Records.** Except as otherwise provided in ORS 94.670(5), during normal business hours or under other reasonable circumstances, the Association must make reasonably available for examination and, upon written request, available for duplication, by Owners, lenders, and holders of any Mortgage of a Lot that make the request in good faith for a proper purpose, current copies of the Declaration, Articles, Bylaws, Rules and Regulations, amendments or supplements to such documents and the books, records, financial statements and current operating budget of the Association. The Association will maintain a copy, suitable for purposes of duplication, of each of the following: (a) the Declaration, these Bylaws, the Rules and Regulations and any amendments or supplements to them, (b) the most recent financial statement of the Association, and (c) the current operating budget of the Association. The Association, within 10 business days after receipt of a written request by an Owner, will furnish copies of such documents to the requesting Owner. Upon written request, the Association will make such documents, information and records available to such Persons for duplication during reasonable hours. The Board of Directors, by resolution, may adopt reasonable rules governing the frequency, time, location, notice and manner of examination and duplication of Association records and the imposition of a reasonable fee for furnishing copies of such documents, information or records. The fee may include reasonable personnel costs for furnishing the documents, information or records.

6.5 **Payment of Vouchers.** The Treasurer or managing agent will pay all vouchers for all budgeted items and for any nonbudgeted items, up to \$1,000 signed by the President, managing agent, manager or other person authorized by the Board of Directors. Any voucher for nonbudgeted items in excess of \$1,000 requires the authorization of the President or a resolution of the Board.

6.6 **Execution of Documents.** The Board of Directors may, except as otherwise provided in the Declaration, Articles of Incorporation; or these Bylaws, authorize any officer or agent to enter into any contract or execute any instrument in the name of and on behalf of the Association. Such authority may be general or confined to specific instances. Unless so authorized by the Board, no officer, agent, or employee has any power or authority to bind the Association by any contract or engagement, to pledge its credit, or to render it liable for any purpose or for any amount.

6.7 **Reports and Audits.** An annual financial statement consisting of a balance sheet and an income and expense statement for the preceding year will be rendered by the Board of Directors to all Owners and to all Mortgagees who have requested the same within 90 days after the end of each fiscal year. Commencing with the fiscal year following the Turnover Meeting, if the General Assessments exceed \$75,000 for the year, then the Board will cause such financial statements to be reviewed within 300 days after the end of the fiscal year by an independent certified public accountant licensed in Oregon in accordance with the Statements on Standards for Accounting and Review Services issued by the American Institute of Certified Public Accountants, or if the General Assessments are \$75,000 or less, will cause such review within 300 days after receipt of a petition requesting such review signed by at least a majority of owners. The Board need not cause such a review to be performed if so directed by an affirmative vote of at least 60 percent of the Owners, not including votes of Declarant with respect to Lots owned by Declarant. From time to time, the Board, at the expense of the Association, may obtain an audit of the books and records pertaining to the Association and furnish copies thereof to the members. At any time an Owner or holder of a Mortgage may, at their own expense, cause an audit or inspection to be made of the books and records of the Association.

## Article 7

### INSURANCE

7.1 **Types of Insurance.** For the benefit of the Association and the Owners, the Board of Directors will obtain and maintain at all times, and pay for out of the Operations Fund, the following insurance:

(a) **Property Damage Insurance.**

(1) The Association will maintain a policy or policies of insurance covering loss or damage from fire, with standard extended coverage and “all risk” endorsements, and such other coverages as the Association may deem desirable.

(2) The amount of the coverage will be for not less than 100 percent of the current replacement cost of the improvements on the Common Areas (exclusive of land, foundation, excavation and other items normally excluded from coverage), subject to a reasonable deductible not to exceed \$10,000.

(3) The policy or policies will include all fixtures and building service equipment to the extent that they are part of the Common Areas and all personal property and supplies belonging to the Association.

(b) **Liability Insurance.**

(1) The Association will maintain comprehensive general liability insurance coverage insuring the Declarant, the Association, the Board of Directors, and the managing agent, against liability to the public or to Owners and their invitees or tenants, incident to the operation, maintenance, ownership or use of the Common Areas, including legal liability arising out of lawsuits related to employment contracts of the Association. There may be excluded from such policy or policies coverage of an Owner (other than as a member of the Association or Board) for liability arising out of acts or omissions of such Owner and liability incident to the ownership and/or use of the part of the Property as to which such Owner has the exclusive use or occupancy.

(2) Limits of liability under such insurance will not be less than \$1,000,000 on a combined single-limit basis.

(3) Such policy or policies will be issued on a comprehensive liability basis and provide a cross-liability endorsement wherein the rights of named insureds under the policy or policies are not prejudiced as respects his, her or their action against another named insured.

(c) **Workers’ Compensation Insurance.** The Association will maintain workers’ compensation insurance to the extent necessary to comply with any applicable laws.

(d) **Fidelity Insurance.**

(1) The Board of Directors will cause the Association to maintain blanket fidelity insurance for all officers, directors, trustees and employees of the Association and all other



Persons handling or responsible for funds of, or administered by, the Association. In the event that the Association has retained a management agent, the Board may require such agent to maintain fidelity insurance for its officers, employees and agents handling or responsible for funds of, or administered on behalf of, the Association. The cost of such insurance, if any, is borne by the Association.

(2) The total amount of fidelity insurance coverage required will be based upon the best business judgment of the Board of Directors.

(3) Such fidelity insurance will name the Association as obligee and contain waivers by the insurers of all defenses based upon the exclusion of Persons serving without compensation from the definition of “employees” or similar terms or expressions. The insurance will provide that it may not be canceled or substantially modified (including cancellation for nonpayment of premium) without at least 10 days’ prior written notice to the Association.

(e) **Director’s and officers’ liability insurance.** The Association will maintain a policy of directors’ and officers’ liability insurance with coverage in the amount of not less than \$1,000,000 subject to a reasonable deductible, which deductible is the responsibility of the Association. Such insurance will cover both interim and regular directors and will include coverage for claims brought by the Association, Owners and/or third parties, including, without limitation, claims arising out of construction defects or failure to maintain adequate reserves. Directors and officers will be accepting such positions in reliance upon such insurance protection being maintained by the Association. Therefore, in the event the Association fails to carry such insurance or amends these Bylaws to delete or reduce these insurance requirements, the Association and Owners will be deemed to have released such claims and deemed to have covenanted not to sue or prosecute any claims against its current or former directors or officers that would have been insured under such a policy.

7.2 **Insurance by Lot Owners.** Each Owner are responsible for obtaining, at his or her own expense, homeowner’s insurance covering the improvements on the Owner’s Lot and liability resulting from use or ownership of the Lot, unless the Association agrees otherwise. The insurance coverage maintained by the Association may not be brought into contribution with the insurance obtained under this section by the Owners.

7.3 **Planned Community Act Requirements.** The insurance maintained by the Association must comply with the requirements of the Oregon Planned Community Act, ORS 94.550 to 94.780.

## Article 8

### GENERAL PROVISIONS

8.1 **Seal.** The Board of Directors may, by resolution, adopt a corporate seal.

8.2 **Notice.** All notices to the Association or to the Board of Directors will be sent care of the managing agent, or if there is no managing agent, to the principal office of the Association or to such other address as the Board of Directors may hereafter designate from time to time. All notices to members will be sent to the member’s unit or to such other address as may have been designated by the member from time to time in writing to the Board of Directors.

8.3 **Waiver of Notice.** Whenever any notice to any member or director is required by law, the Declaration, the Articles of Incorporation, or these Bylaws, a waiver of notice in writing signed at any time by the Person entitled to notice is equivalent to the giving of the notice.

8.4 **Action Without Meeting.** Any action that the law, the Declaration, the Articles of Incorporation or the Bylaws require or permit the members or directors to take at any meeting may be taken without a meeting or ballot meeting if a consent in writing setting forth the action so taken is signed by all of the members or directors entitled to vote on the matter. The consent, which will have the same effect as a unanimous vote of the members or directors, will be filed in the records of minutes of the Association.

8.5 **Conflicts.** These Bylaws are intended to comply with the Oregon Planned Community Act, the Oregon Nonprofit Corporation Law, the Declaration and the Articles of Incorporation. In case of any irreconcilable conflict, such statutes and documents control over these Bylaws.

## Article 9

### AMENDMENTS TO BYLAWS

9.1 **How Proposed.** Amendments to these Bylaws must be proposed by either a majority of the Board of Directors or by members holding at least 30 percent of the voting rights entitled to be cast for such amendment. The proposed amendment must be reduced to writing and must be included in the notice of any meeting at which action is to be taken thereon or be attached to any request for consent to the amendment.

9.2 **Adoption.**

(a) A resolution adopting a proposed amendment may be proposed by either the Board of Directors or by the members and may be approved by the membership at a meeting called for such purpose, or by written consent of the members. Members not present at the meeting considering such amendment may express their approval in writing or by proxy. Any resolution must be approved by members holding a majority of the voting rights, together with the written consent of the Class B Member, if any. Amendment or repeal of any provision of these Bylaws that is also contained in the Declaration must be approved by the same voting requirement for amendment of such provision of the Declaration.

(b) Notwithstanding the provisions of the preceding paragraph, until the Turnover Meeting has occurred, Declarant has the right to amend these Bylaws in order to comply with the requirements of the Federal Housing Administration, the United States Department of Veterans Affairs, the Farmers Home Administration of the United States, the Federal National Mortgage Association, the Government National Mortgage Association, the Federal Home Mortgage Loan Corporation, any department, bureau, board, commission or agency of the United States or the State of Oregon, or any corporation wholly owned, directly or indirectly, by the United States or the State of Oregon that insures, guarantees or provides financing for a planned community or lots in a planned community. After the Turnover Meeting, any such amendment must be approved as provided in Section 9.2(a).

9.3 **Execution and Recording.** An amendment will not be effective until certified by the President and Secretary of the Association as being adopted in accordance with these Bylaws and ORS 94.625 and recorded in the Deed Records of Clackamas County, Oregon.

23

# Appendix H

Example Building Elevations





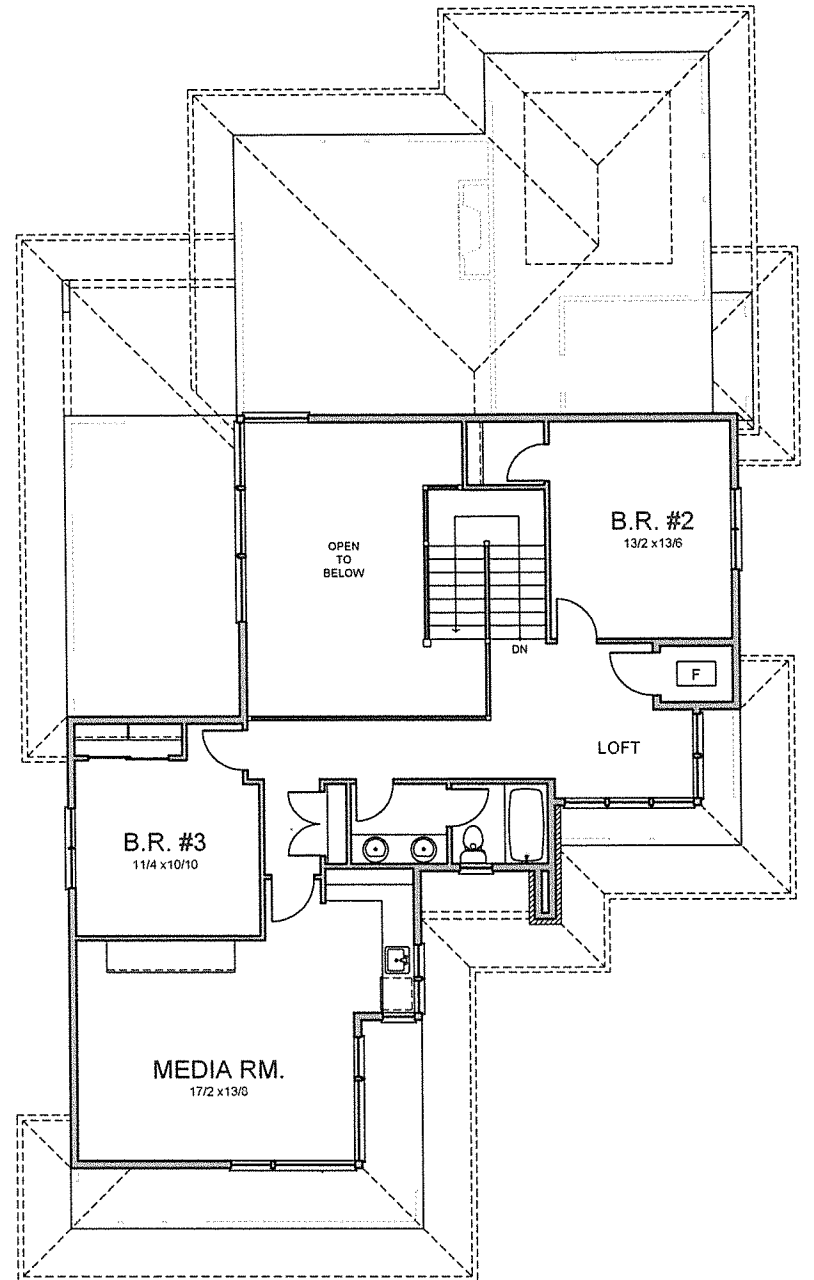
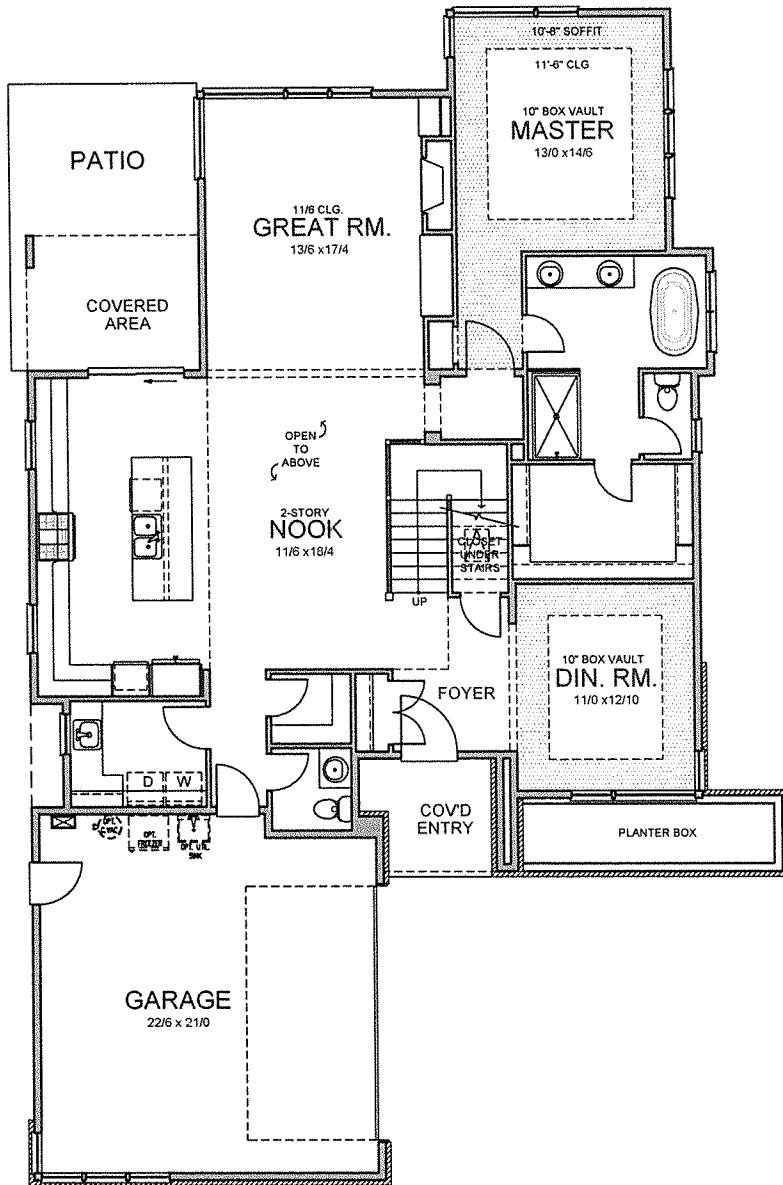
**WEST HILLS**  
HOMES NORTHWEST

<b>2746 BAYBERRY PRAIRIE (2-CAR)</b>	
M. FLR.	= 1,685 S.F.
U. FLR.	= 1,061 S.F.
TOTAL	= 2,746 S.F.
GARAGE	= 499 S.F.



**EVERETT**  
CUSTOM HOMES

3-BEDROOMS  
2.5-BATHS  
MEDIA  
2-CAR GARAGE



MAIN LEVEL FLOOR PLAN (9' & 11/6 CLG.)

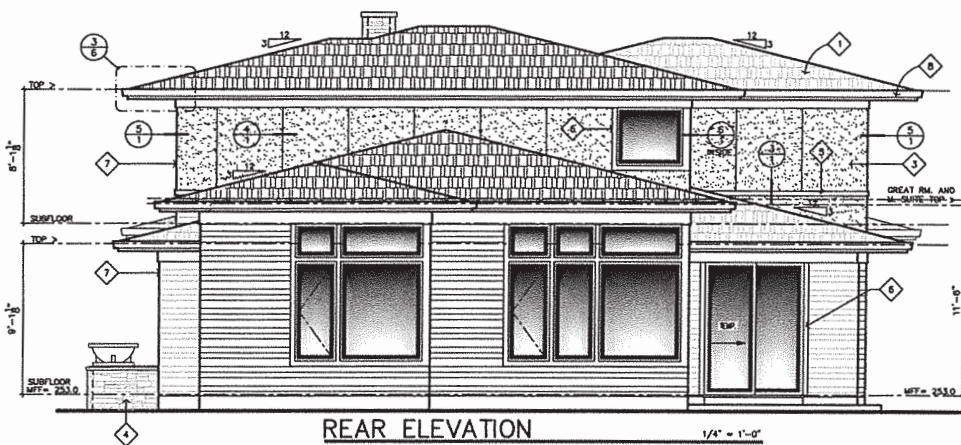
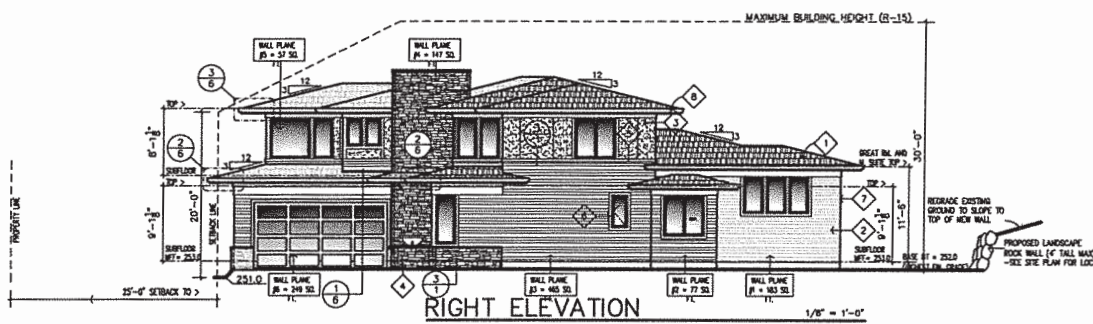
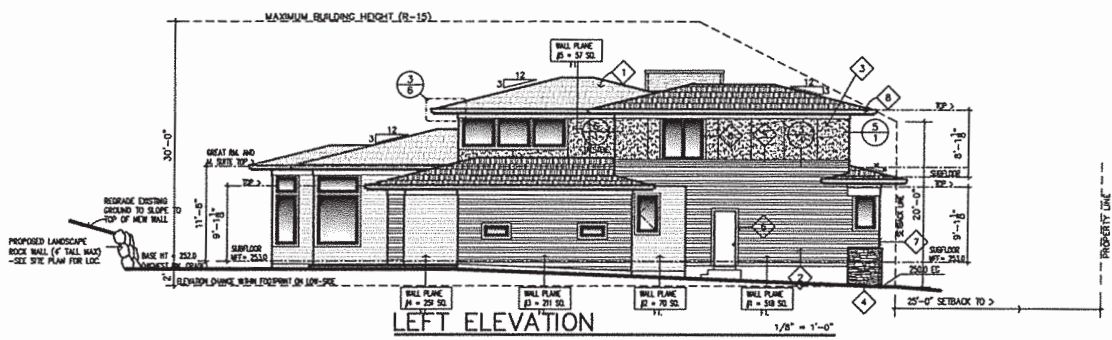
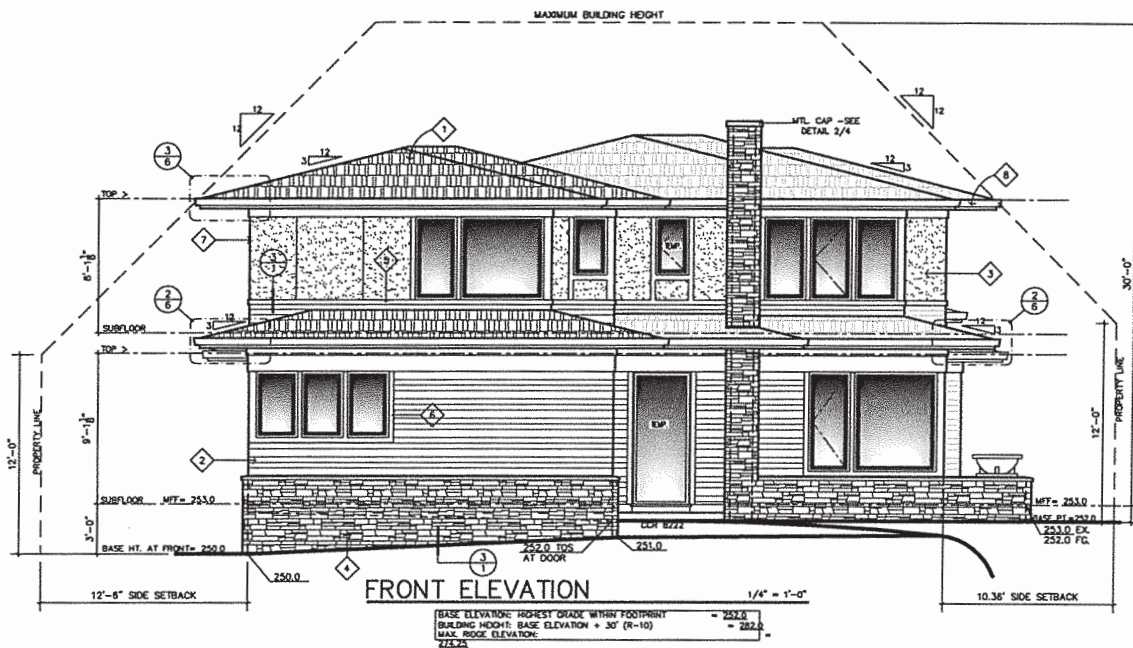
UPPER LEVEL FLOOR PLAN (8' CLG.)



3330 NW YEON AVE. STE 100  
 PORTLAND, OREGON 97210  
 PHONE (503) 726-7060

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5/13/17, PRELIM. LAYOUT DDR  
 4/3/17, PRELIM. ENG. CHK. DDR  
 5/2/17, FINAL ENG. CHK. DDR  
 5/2/17, PUBLISH PLAN DDR



**NOTE:**  
 FOR ALL STRUCTURAL  
 INFORMATION REFER  
 TO THE (S) SHEETS

JOB#

**PLAN 2746**  
**BAYBERRY**  
**PRAIRIE**  
**2-CAR**  
**GARAGE LEFT**

MAIN LEVEL: 1,685 SQ FT  
 UPPER LEVEL: 1,061 SQ FT  
 GRAND TOTAL: 2,746 SQ FT  
 GARAGE: 499 SQ FT

SHEET#





**WEST HILLS**  
HOMES NORTHWEST

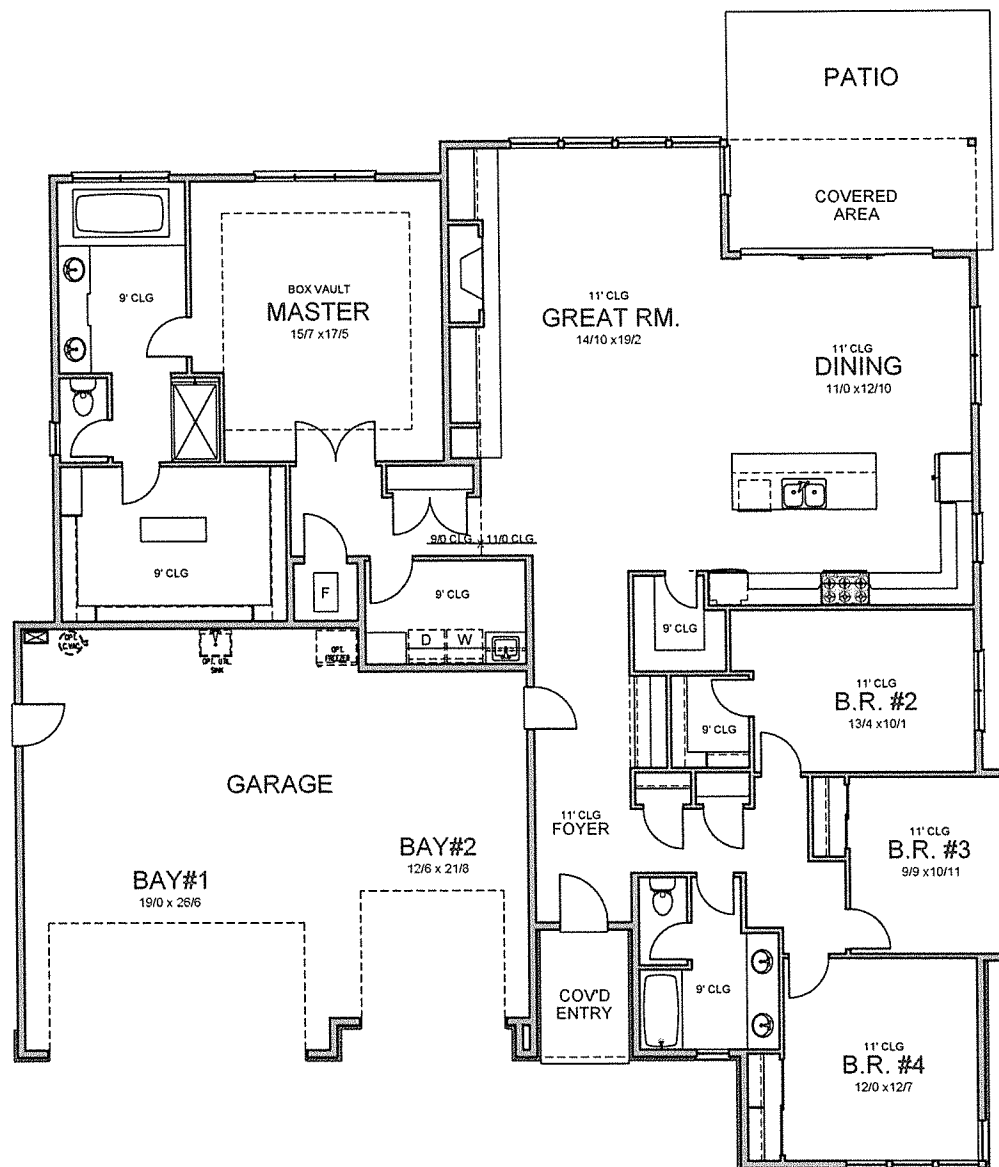
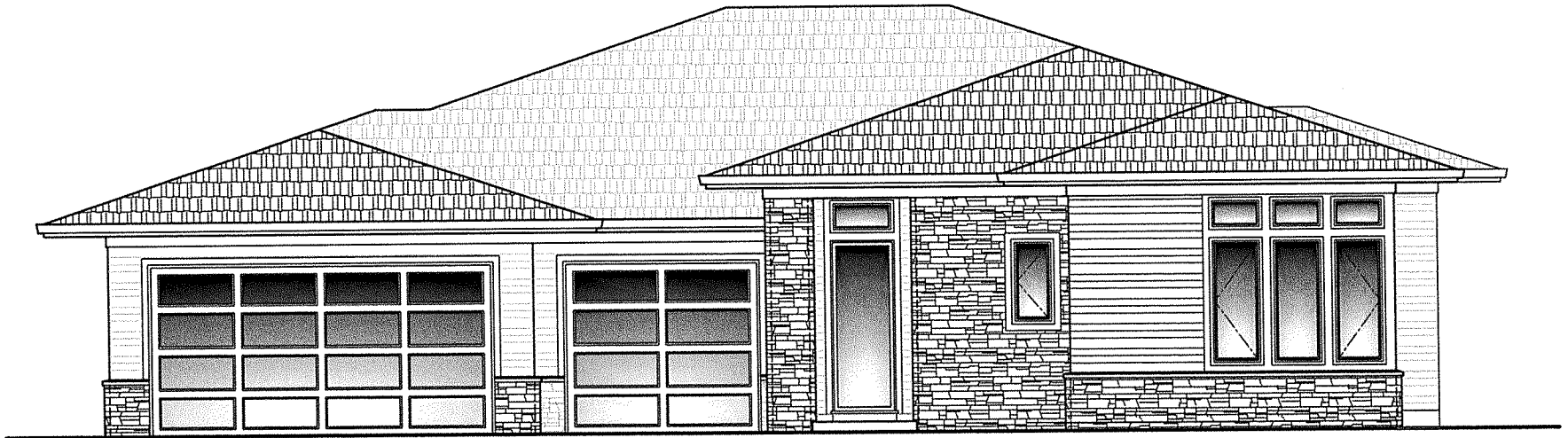
**2480 ESLINGER  
PRAIRIE**

M. FLR.	=	2,480 S.F.
TOTAL	=	2,480 S.F.
GARAGE	=	826 S.F.



**EVERETT**  
CUSTOM HOMES

4-BEDROOMS  
2-BATHS  
3-CAR GARAGE



MAIN LEVEL FLOOR PLAN (9' & 11' CLG'S.)

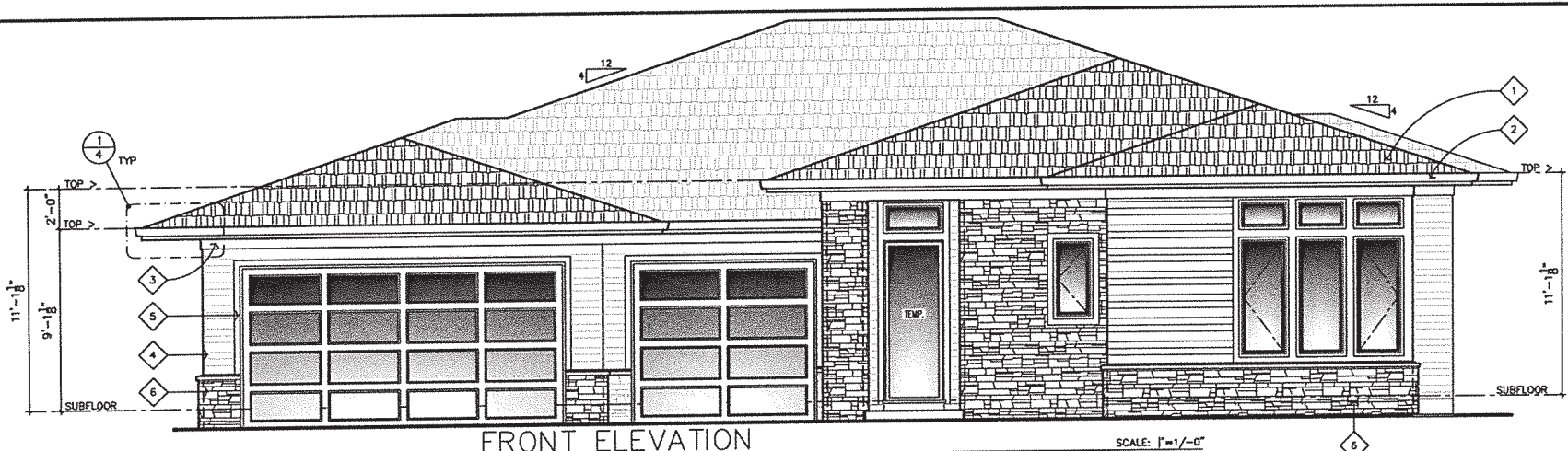
WEST HILLS  
HOMES NORTHWEST

PKZ  ORK  
**EVERETT**  
CUSTOM HOMES

3330 NW YEON AVE STE 100  
PORTLAND, OREGON 97210  
PHONE (503) 726-7060

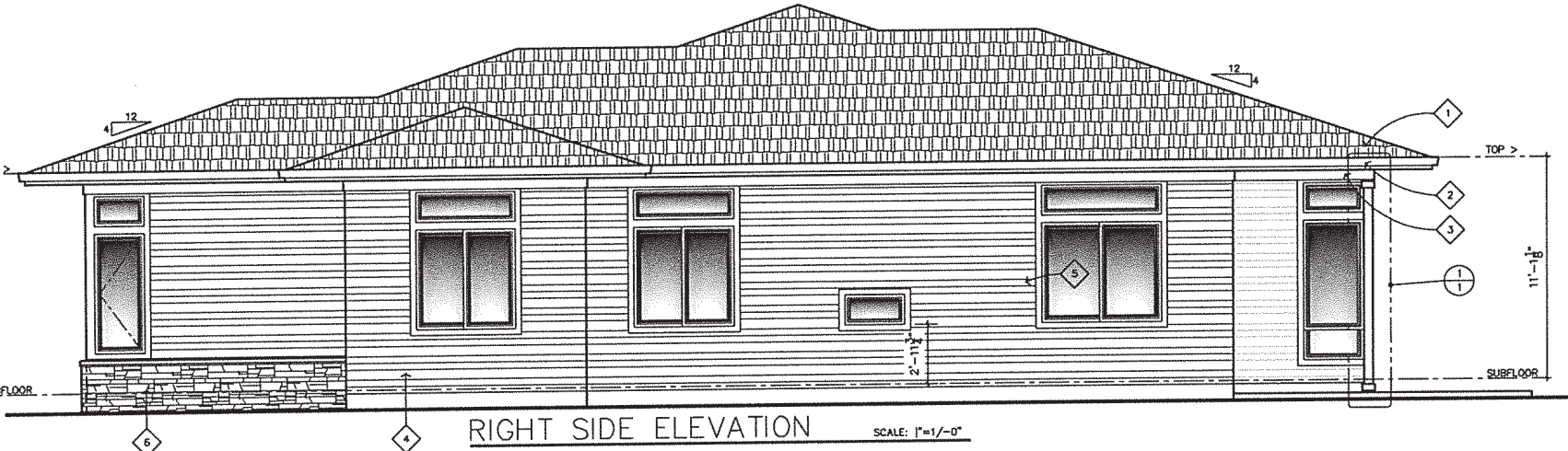
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8/18/17, PRELIM. LAYOUT DOR  
9/7/17, PRELIM. ENG. CHK. DOR  
10/20/17, FIN. ENG. CHK. DOR  
10/20/17, PUBLISH PLAN DOR



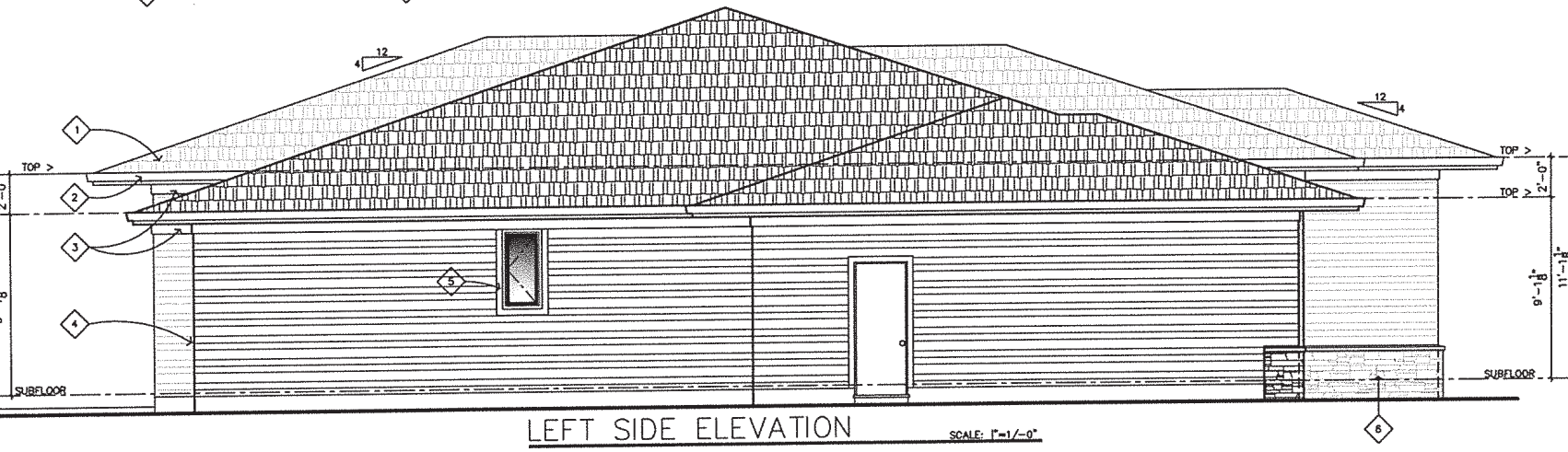
FRONT ELEVATION

SCALE: 1/8"=1'-0"



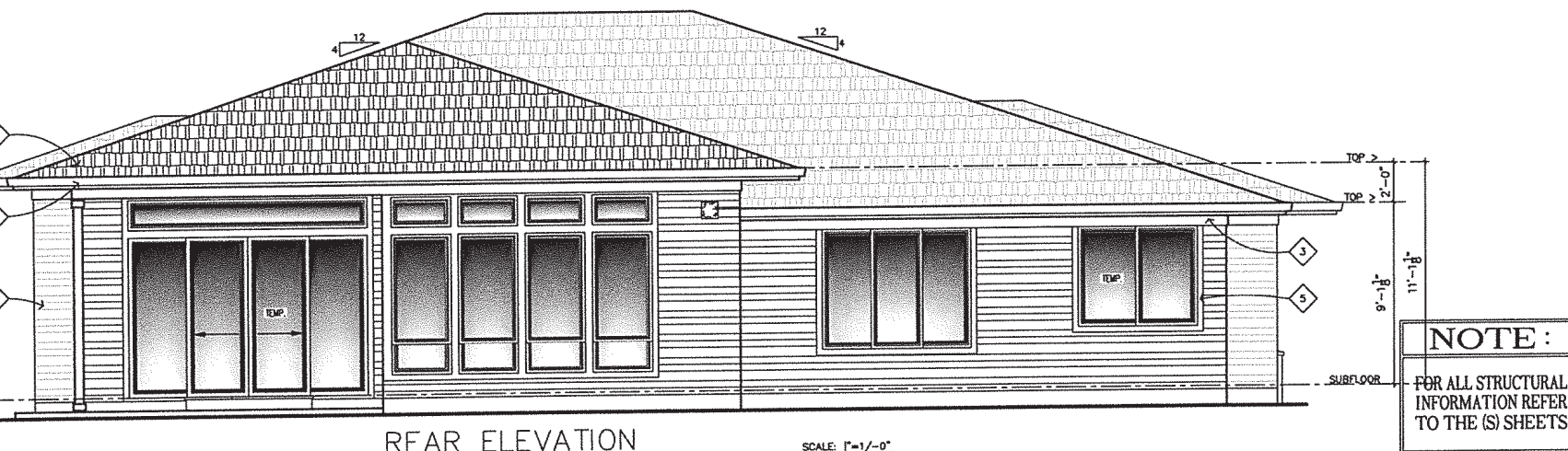
RIGHT SIDE ELEVATION

SCALE: 1/8"=1'-0"



LEFT SIDE ELEVATION

SCALE: 1/8"=1'-0"



REAR ELEVATION

SCALE: 1/8"=1'-0"

**PLAN 2480  
ESLINGER  
PRAIRIE  
GARAGE LEFT**

MAIN LEVEL:	2,480 SQ FT
GRAND TOTAL:	2,480 SQ FT
GARAGE:	826 SQ FT
SHEET#	

**NOTE:**  
FOR ALL STRUCTURAL  
INFORMATION REFER  
TO THE (S) SHEETS





**WEST HILLS**  
HOMES NORTHWEST

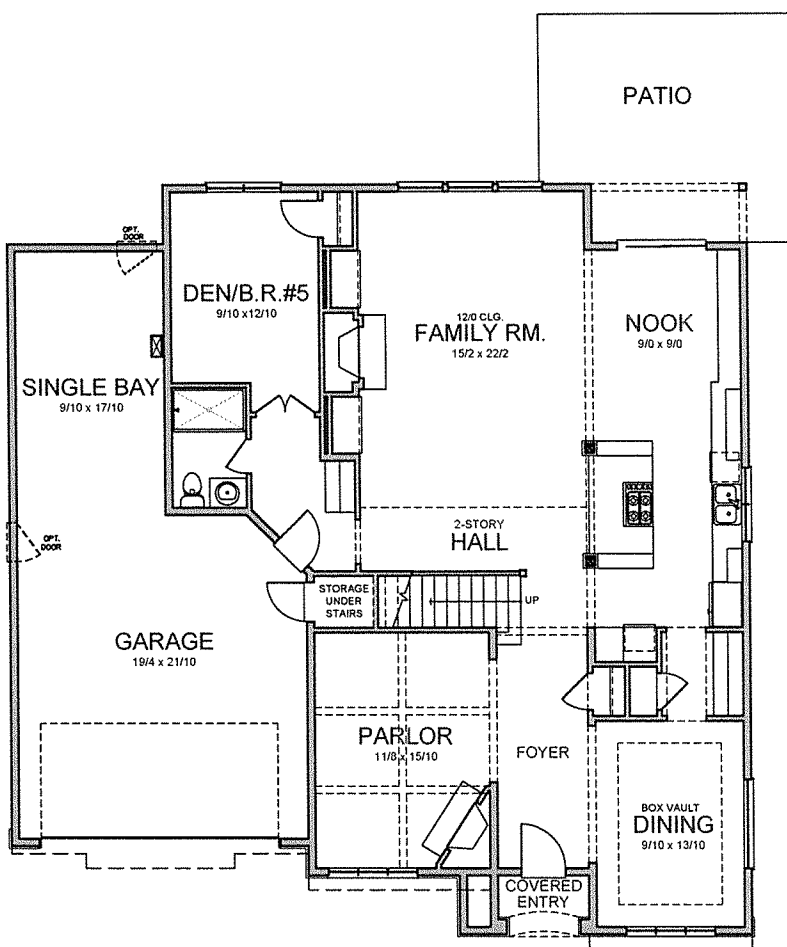
**3557 DUNTHORPE  
FRENCH**

M. FLR.	=	1,605 S.F.
U. FLR.	=	1,917 S.F.
BONUS	=	451 S.F.
TOTAL	=	3,973 S.F.
GARAGE	=	636 S.F.

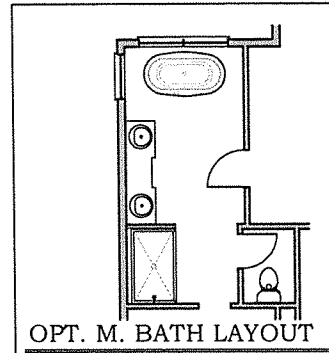


**EVERETT**  
CUSTOM HOMES

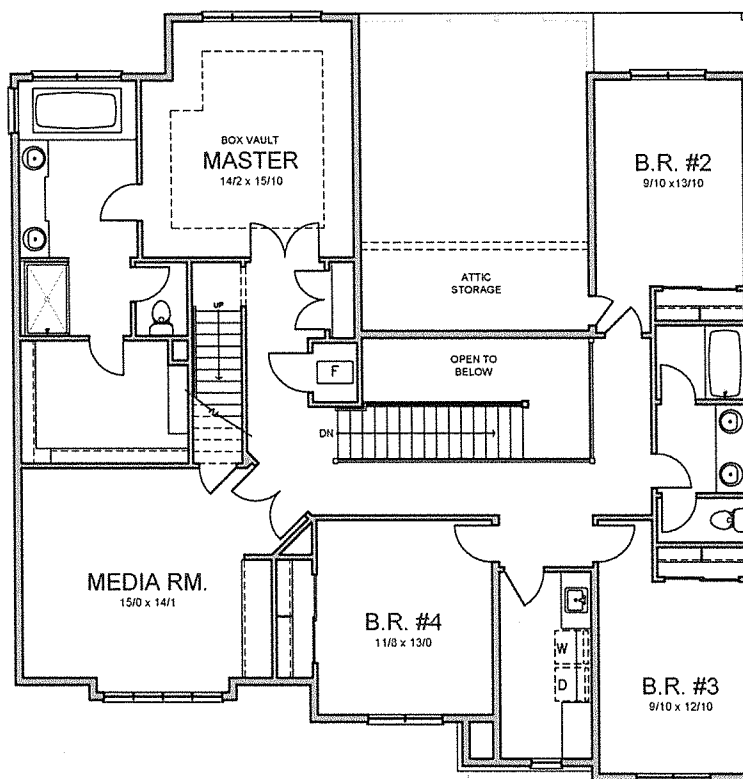
5-BEDROOMS  
3-BATHS  
MEDIA, BONUS  
TANDEM 3-CAR GARAGE



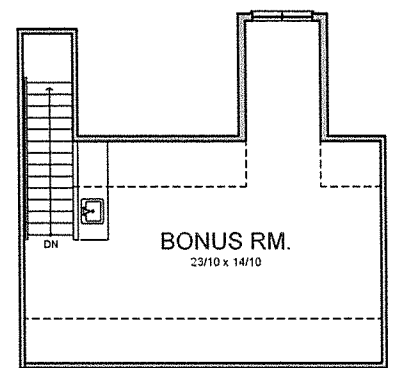
MAIN LEVEL FLOOR PLAN (9' CLG.)



OPT. M. BATH LAYOUT



UPPER LEVEL FLOOR PLAN (8' CLG.)



BONUS LVL FLOOR PLAN

REV: 3/9/17 DDR

WEST HILLS  
HOMES NORTHWEST

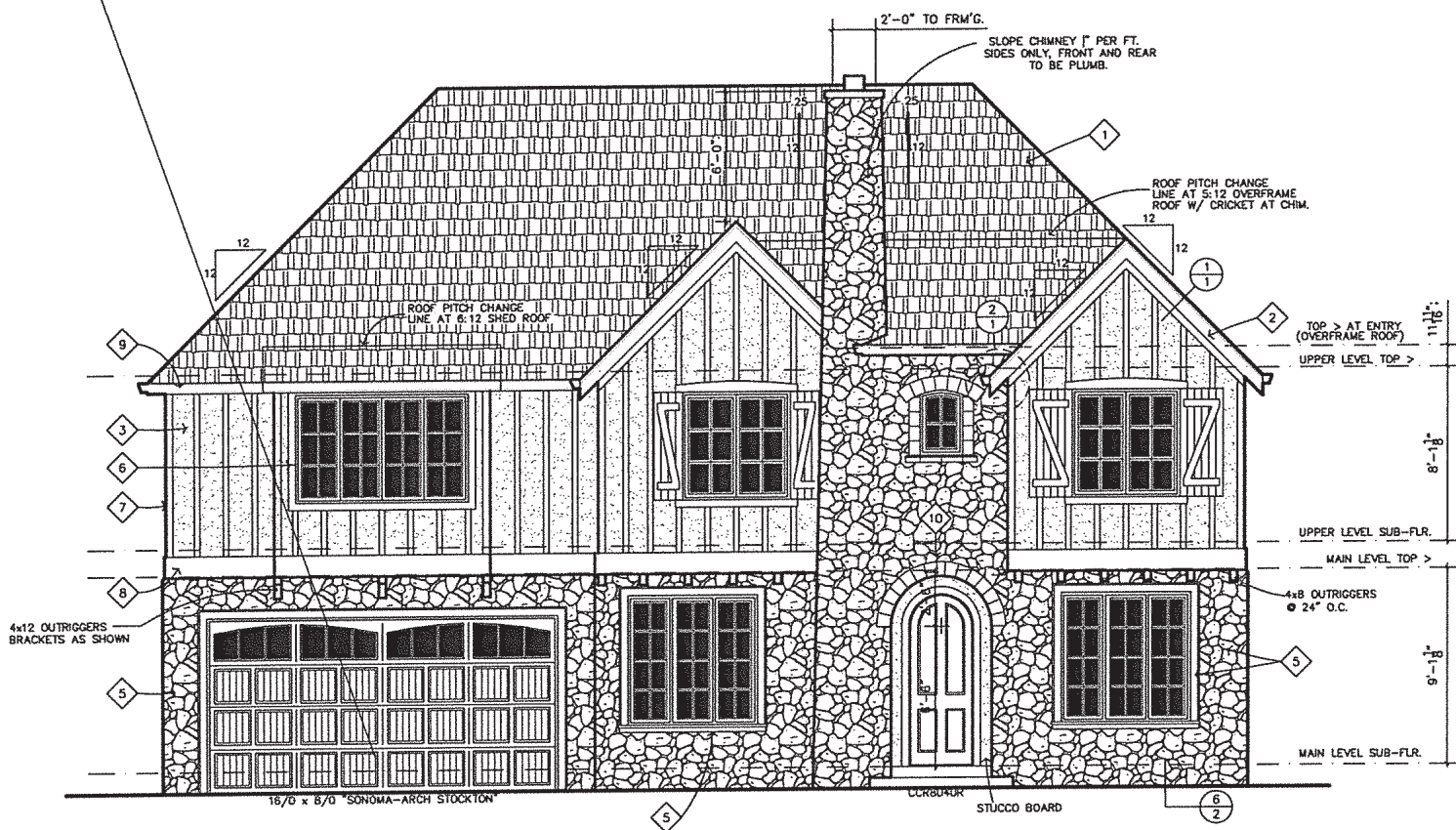


EVERETT  
CUSTOM HOMES

3330 NW YEON AVE STE 100  
PORTLAND, OREGON 97210  
PHONE (503) 726-7060

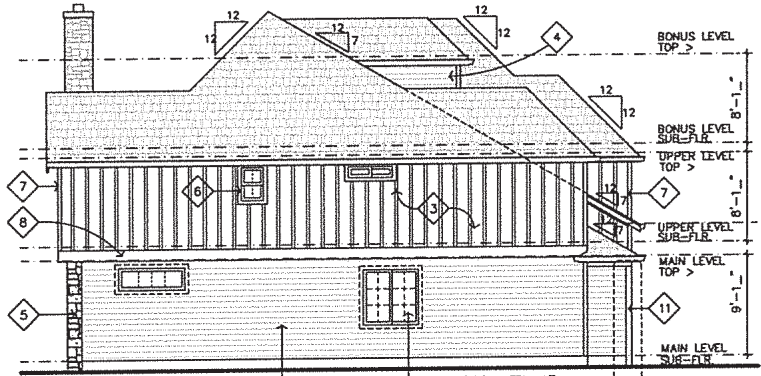
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10/27/16 ECH-WALK-THROUGH UPDT. FOR FUTURE SUB. DOR  
3/9/17 ECH UPDATE FH-29, FH-33 DOR  
3/2/17 ECH UPDATE FH-29, FH-33 DOR  
3/9/17 ECH FOLDER TRANSFER DOR



FRONT ELEVATION

1/4"=1'-0"



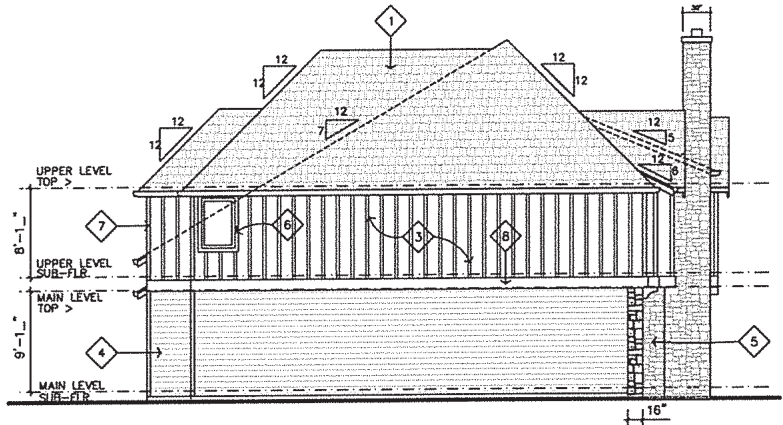
RIGHT SIDE ELEVATION

1/8"=1'-0"



REAR ELEVATION

1/8"=1'-0"



LEFT SIDE ELEVATION

1/8"=1'-0"

- ELEVATION KEYNOTES**
- ROOFING (TYPICAL): 30 YEAR HEAVY WEIGHT FIBERGLASS COMPOSITION ROOFING.
  - VERGE BOARD TYPICAL: RS 1x3 TRIM ON 2x8 VERGE BOARD. PROVIDE 5/4x8 (Ø SHINGLES AND LAP SIDING) OR 1x8 (Ø PANEL SIDING) TRIM BOARD FLAT ON WALL AND BUTT TO UNDERSIDE OF ROOF SHEATHING FOLLOWING GABLE END VERGE BOARD.
  - SIDING (TYPICAL): HARDIE STUCCO BRD. SIDING W/ 1 x 3 BATTENS SPACED AT 16" O.C.
  - SIDING (TYPICAL WHERE SHOWN): HARDIE-BOARD LAP SIDING.
  - CULTURED STONE (TYPICAL): INSTALL STONE, SILL & TRIM STONE WHERE SHOWN ON ELEV. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEE VENEER DETAILS 3/1, 4/1, 5/3 FOR INFO.
  - WINDOW TRIM: 5/4 x 4 AROUND ALL WINDOWS AND DOORS AT FRONT AND ALL WINDOWS AT PANEL AND BATTEN SIDING. NO WINDOW TRIM AT LAP SIDING UNLESS AT ENHANCED ELEVATIONS. FLASH ABOVE ALL HORIZONTAL TRIM.
  - 5/4 x 4 CORNER TRIM AT LAP SIDING, 1 x 4 CORNER TRIM AT PANEL SIDING.
  - HORIZONTAL TRIM: 5/4 x 12 W/ 26 GA. 2" FLASHING OVER TOP AND INTEGRATED W/ WRB.
  - GUTTERS (TYP-U.N.O.): 6" FASCIA STYLE, 26 GA. STEEL GUTTER WITH 2"x3" STEEL DOWNSPOUTS. ALL GUTTERS TO BE SPIKED A MIN. OF 24" O.C. ALL JOINTS TO BE SCREWED AND SEALED WITH 'ALOCCO' GUTTER SEAL OR EQUIV. CONNECT ALL DOWNSPOUTS TO RAIN DRAINS WHERE PROVIDED.
  - 6XB TRIMSTONE PER MFR.
  - P.T. 6x6 POST -RATED FOR BURIAL. SEE DETAIL 5/3

**NOTE:**  
FOR ALL STRUCTURAL INFORMATION REFER TO THE (S) SHEETS

**PLAN 3557  
DUNTHORPE  
FRENCH  
GARAGE LEFT**

MAIN LEVEL:	1605 SQ FT
UPPER LEVEL:	1917 SQ FT
TOTAL:	3522 SQ FT
BONUS:	451 SQ FT
GRAND TOTAL:	3973 SQ FT.

GARAGE: 636 SQ FT



**WEST HILLS**  
HOMES NORTHWEST

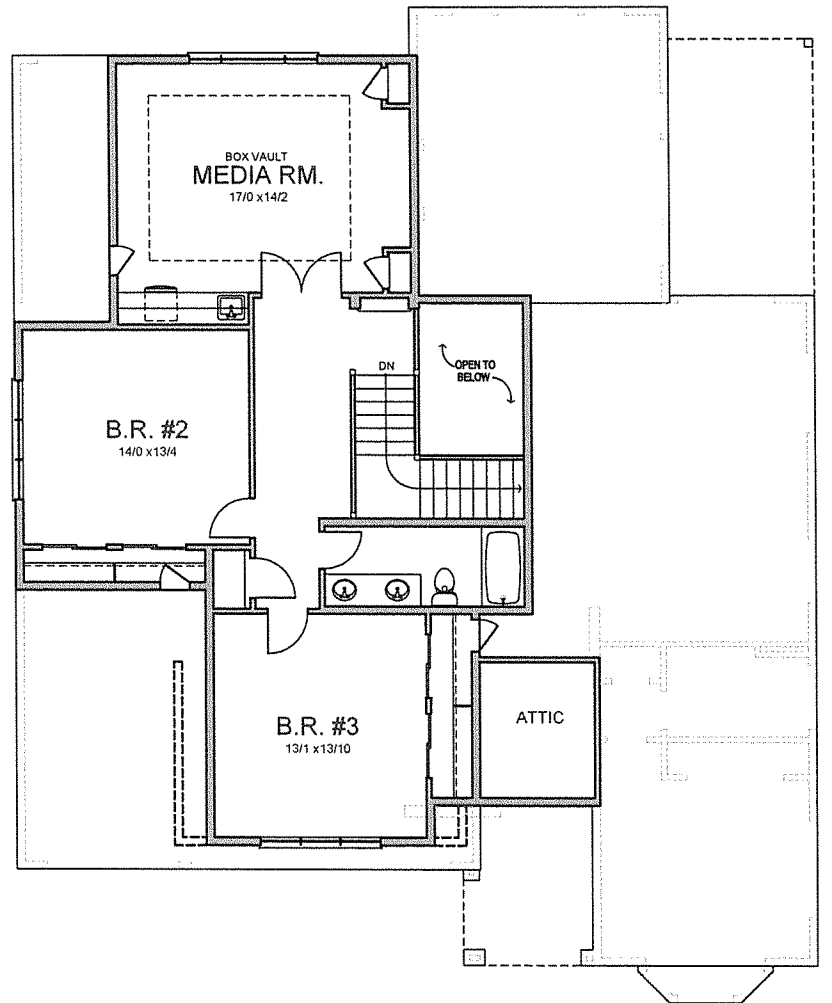
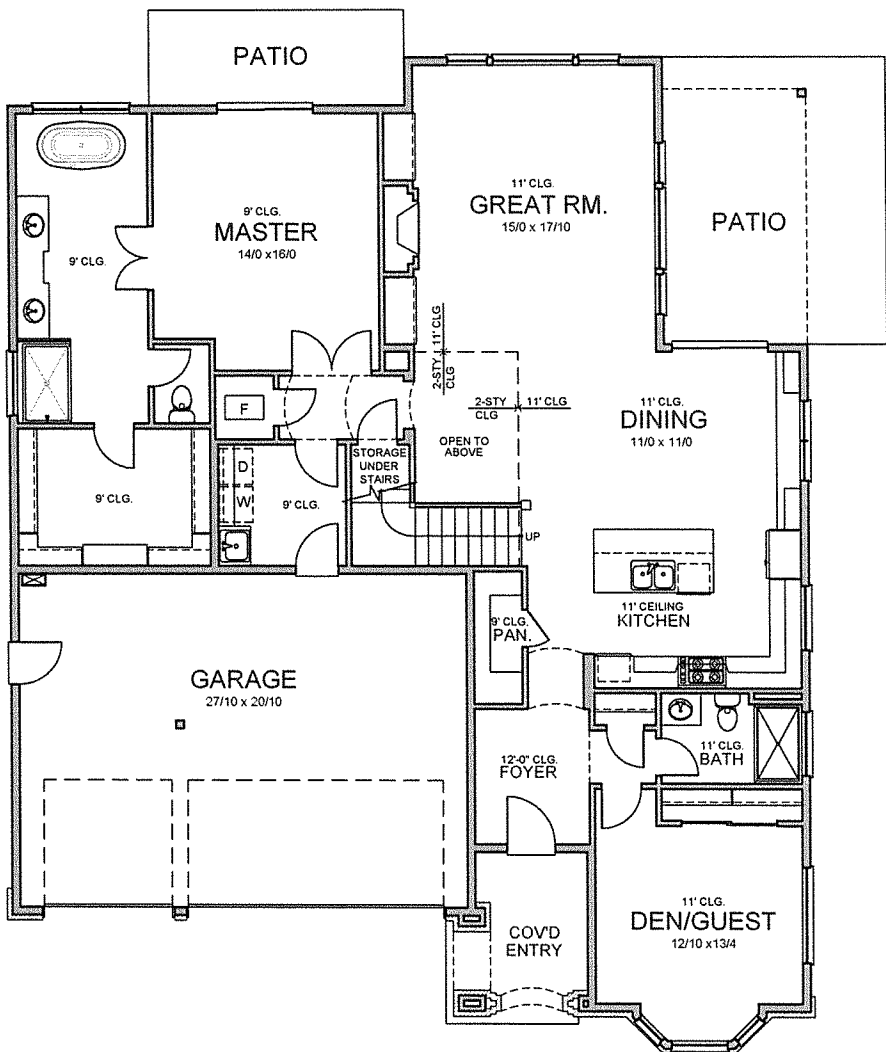
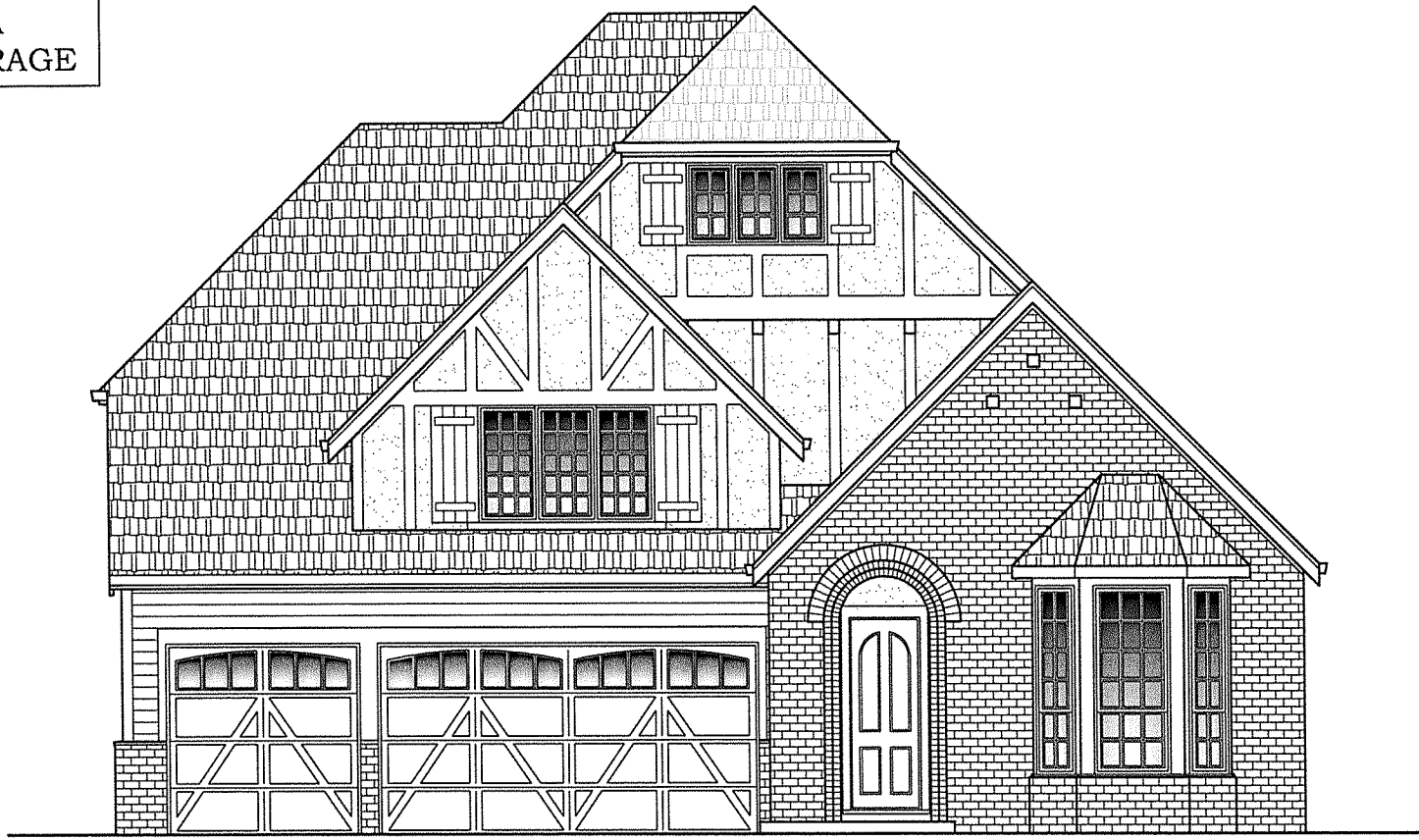
**2957 WESTLAKE  
ENGLISH (PH-23)**

M. FLR.	=	1,877 S.F.
U. FLR.	=	1,080 S.F.
TOTAL	=	2,957 S.F.
GARAGE	=	615 S.F.



**EVERETT**  
CUSTOM HOMES

4-BEDROOMS  
3-BATHS  
MEDIA  
3-CAR GARAGE

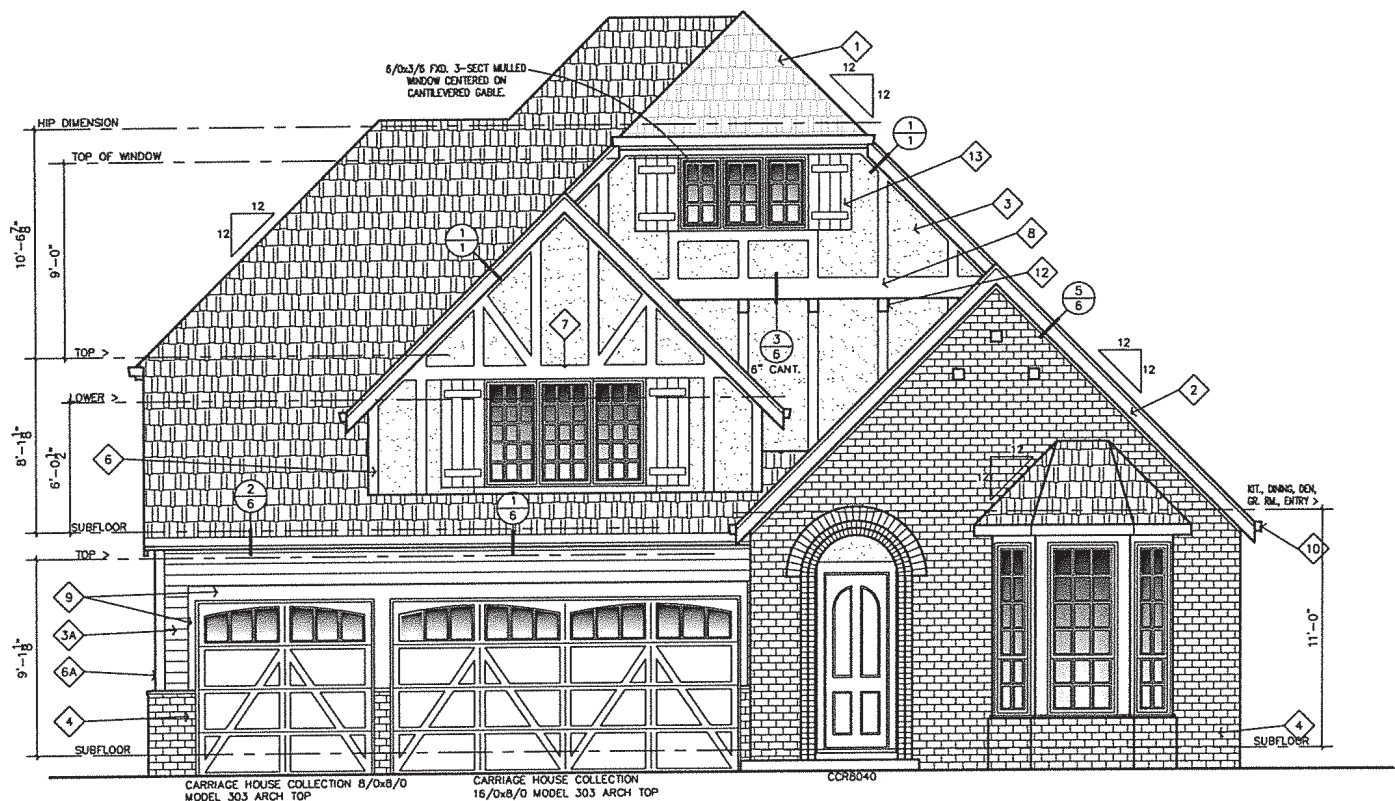


REV: 9/21/17 DDR



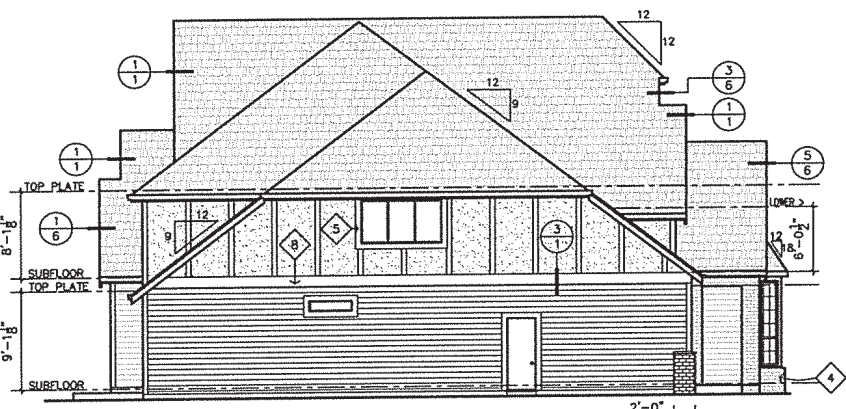
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4/11/17, ECH CONVERSION DDR  
5/5/17, PRELIM ENG. CHK. DDR  
8/7/17, FIN. ENG. CHK. DDR  
8/28/17, PUBLISH PLAN DDR  
9/22/17, PH-23 FRAME-WALK CHG. P.C. #1 IMPLEMENTED DDR



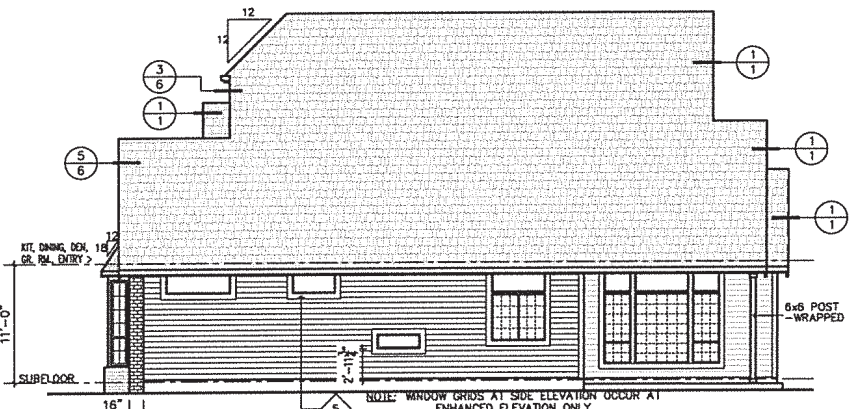
**FRONT ELEVATION**

1/4" = 1'-0"



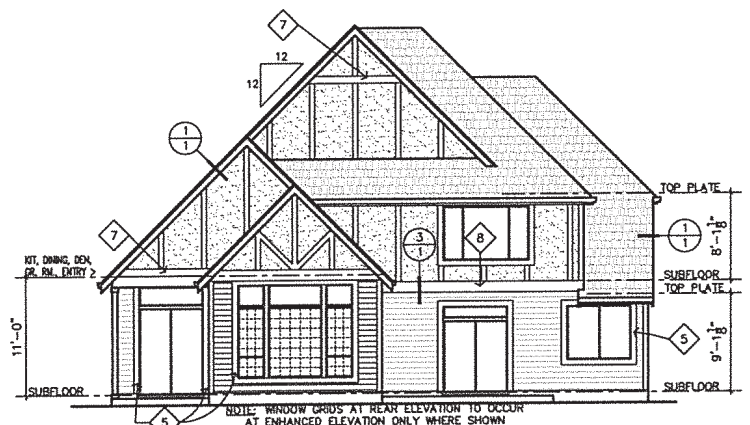
**LEFT SIDE ELEVATION**

1/8" = 1'-0"



**RIGHT SIDE ELEVATION**

1/8" = 1'-0"



**REAR ELEVATION**

1/8" = 1'-0"

**PLAN 2957  
WESTLAKE  
ENGLISH  
GARAGE LEFT**

MAIN LEVEL:	1,877 SQ FT
UPPER LEVEL:	1,080 SQ FT
GRAND TOTAL:	2,957 SQ FT
GARAGE:	615 SQ FT

SHEET#

**NOTE :**  
FOR ALL STRUCTURAL  
INFORMATION REFER  
TO THE (S) SHEETS

JOB#





**WEST HILLS**  
HOMES NORTHWEST

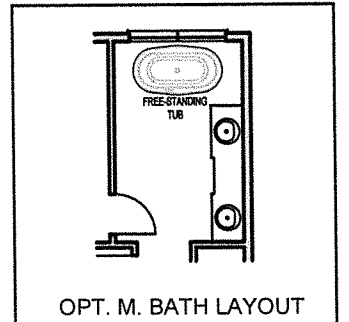
**3017 BROOKLYN  
FRENCH**

M. FLR.	=	1,268 S.F.
U. FLR.	=	1,772 S.F.
TOTAL	=	3,040 S.F.
GARAGE	=	466 S.F.

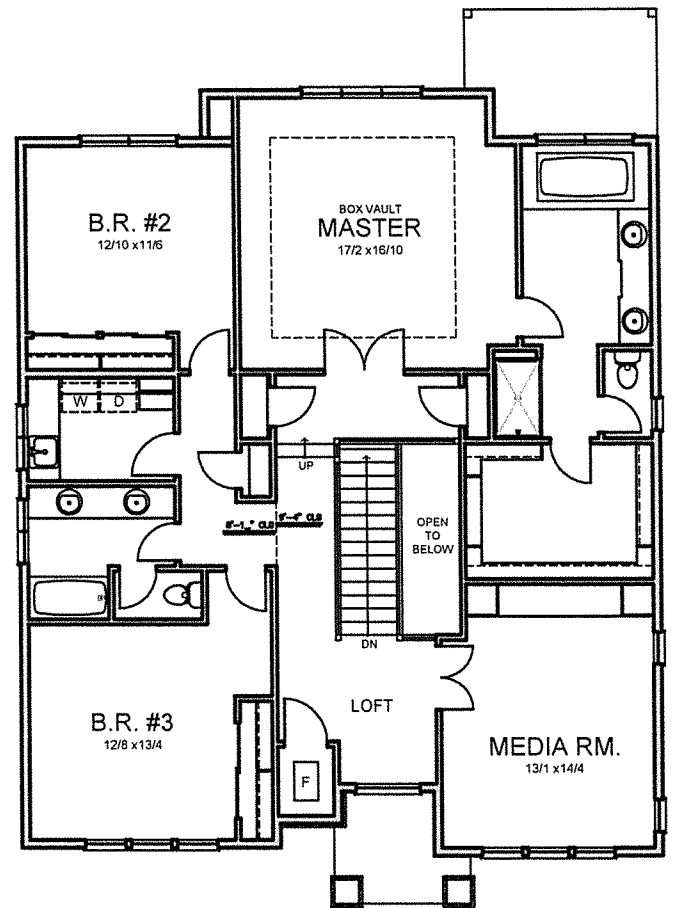
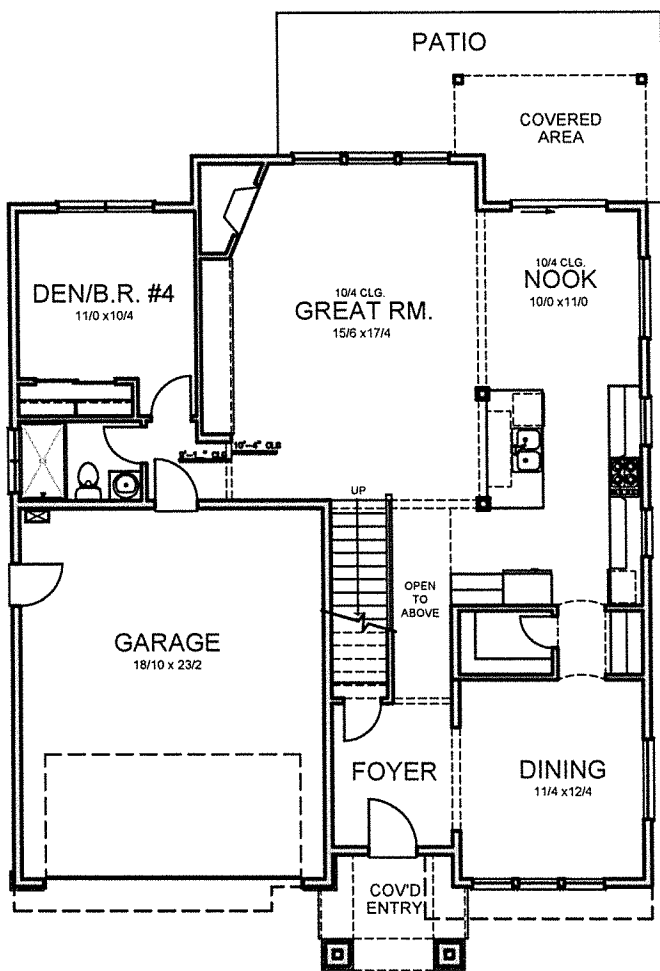


**EVERETT**  
CUSTOM HOMES

4-BEDROOMS  
3-BATHS  
MEDIA  
2-CAR GARAGE



OPT. M. BATH LAYOUT



REV. 11/2/17 DDR

WEST HILLS  
HOMES NORTHWEST

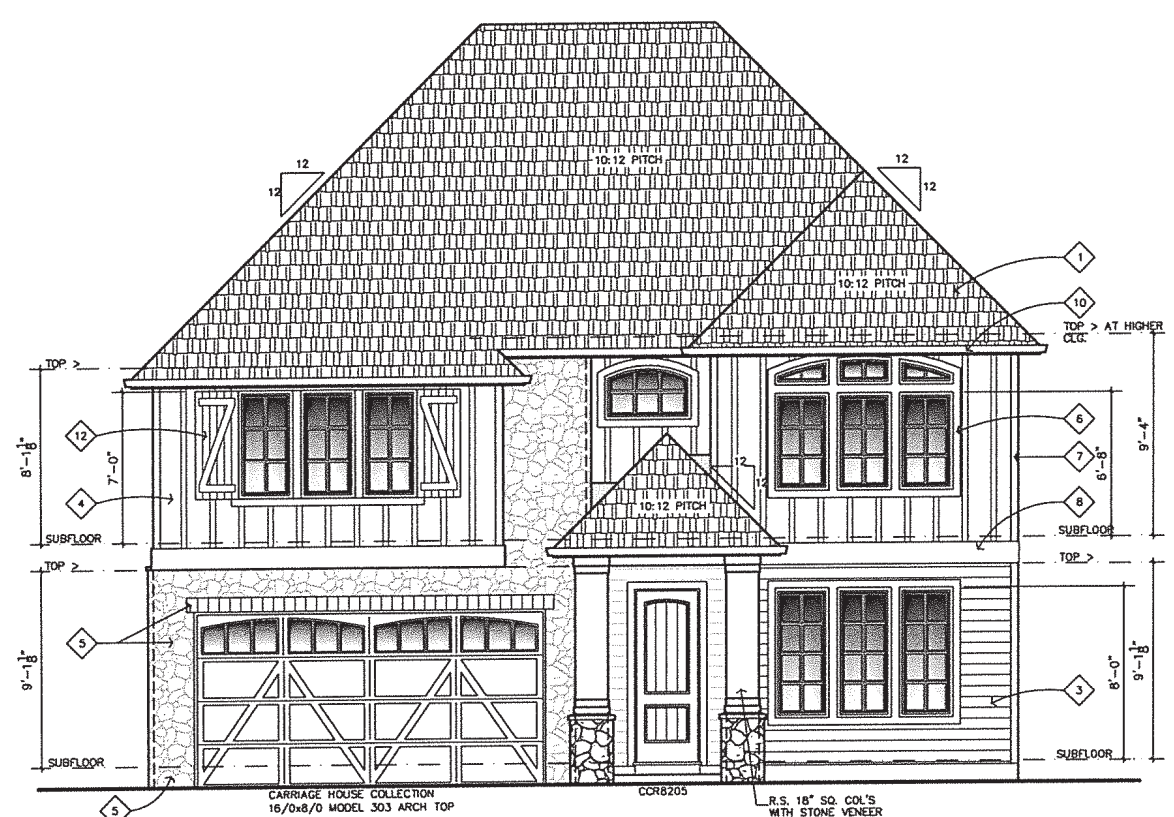


EVERETT  
CUSTOM HOMES

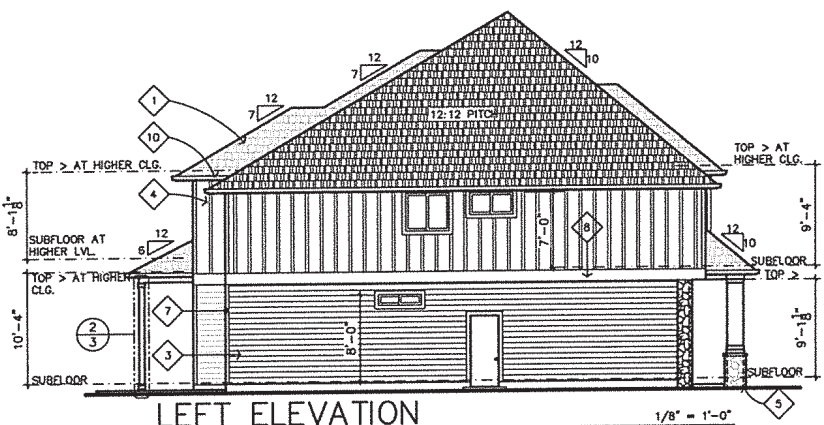
3330 NW YEON AVE STE 100  
PORTLAND, OREGON 97210  
PHONE (503) 726-7060

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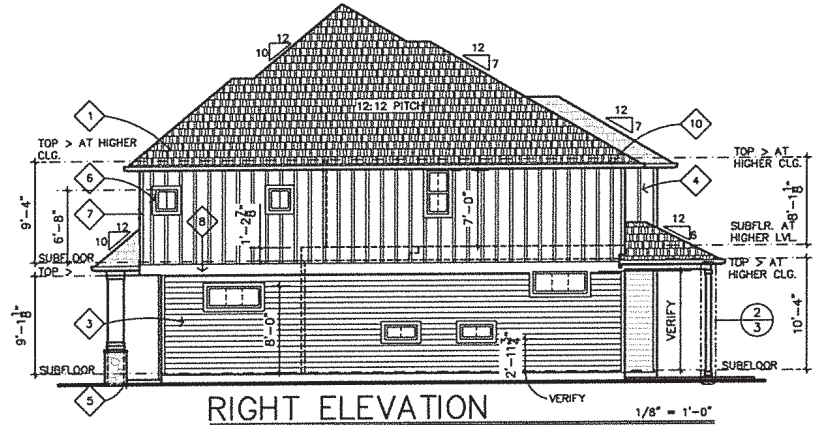
4/7/16, PRELIM. LAYOUT DDR  
4/18/16, PRELIM. ENG. CHK. DDR  
5/1/16, FINAL ENG. CHK. DDR  
5/1/16, PUBLISH PLAN DDR  
8/25/16, PC#1 IMPLEMENTED DDR  
12/9/16, PC#2 IMPLEMENTED DDR  
11/2/17, PC#3 IMPLEMENTED DDR



FRONT ELEVATION  
1/4" = 1'-0"

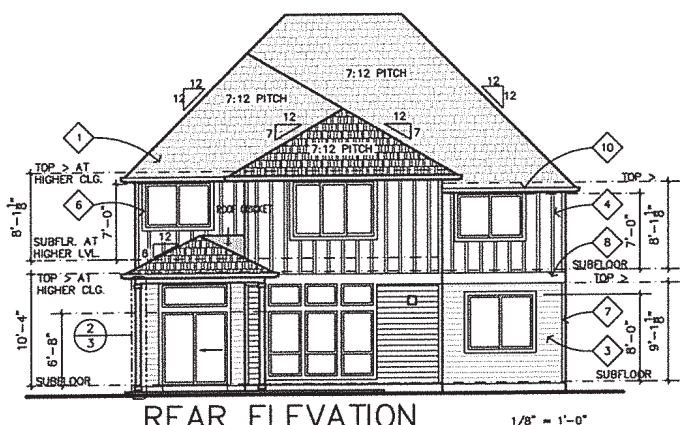


LEFT ELEVATION  
1/8" = 1'-0"



RIGHT ELEVATION  
1/8" = 1'-0"

GRIDS @ WINDOWS THIS SIDE AT ENHANCED ELEVATION ONLY



REAR ELEVATION  
1/8" = 1'-0"

PLAN 3017  
BROOKLYN  
FRENCH  
GARAGE LEFT

MAIN LEVEL: 1,368 SQ FT  
UPPER LEVEL: 1,772 SQ FT  
GRAND TOTAL: 3,040 SQ FT  
GARAGE: 466 SQ FT

SHEET#

NOTE:  
FOR ALL STRUCTURAL  
INFORMATION REFER  
TO THE (S) SHEETS

JOB#

**Appendix I**  
Service Provider Letter from Republic Services dated  
January 19, 2022





10,295 Southwest Ridder Road, Wilsonville, OR 97070  
o 503.370.0626 f 503.537.9307 republicservices.com

January 19, 2022

Keith Buisman

Re: Otak, Frog Pond Overlook  
Wilsonville, OR 97070

Dear Keith,

Thank you, for sending us the preliminary site plans for this proposed development in Wilsonville.

My Company: Republic Services of Clackamas and Washington Counties has the franchise agreement to service this area with the City of Wilsonville. We will provide complete commercial waste removal and recycling services as needed on a weekly basis for this location

Your proposal for Lot 12 along Frog Pond Lane is to have receptacles moved by homeowner to west side of new proposed street as shown on plan is approved.

Your proposed plan for a turnaround for both fire and waste hauling along the new interior street and sign(s) posting "NO PARKING AT ANY TIME" is approved. The option of using grasscrete or similar surface that allows for vegetation is approved provided it can support the weight of our collection trucks with a GVW of 58,000 lbs.

Your proposal for Lots 6 and 7 located on the outside edge of the dedicated turnaround, to require homeowners to locate their receptacles closer to the turnaround as shown on the plan is approved.

It is understood that the turnaround will be removed, and the easement extinguished upon future extension of interior street to the east where a loop would be created.

Lots 6, 7 and 12 pickup requirements will be addressed with specific recorded CC&Rs against the lots with compliance and enforcement by the HOA. Any future changes to service to be approved by Republic Services (e.g. interior street is extended east to create full loop).

Thanks Keith, for your help and concerns for our services prior to this project being developed.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kelly Herrod", written over a horizontal line.

Kelly Herrod  
Operations Supervisor  
Republic Services Inc.

**Appendix J**  
Service Provider Letter from Tualatin Valley Fire and Rescue dated  
January 17, 2022





**FIRE CODE / LAND USE / BUILDING REVIEW  
APPLICATION**



North Operating Center  
11945 SW 70<sup>th</sup> Avenue  
Tigard, OR 97223  
Phone: 503-649-8577

South Operating Center  
8445 SW Elligsen Rd  
Wilsonville, OR 97070  
Phone: 503-649-8577

REV 6-30-20

**Project Information**

Applicant Name: West Hills Land Development  
Address: 3330 NW Yeon Ave Suite 200 Portland, OR 97210  
Phone: (503) 641-7342  
Email: dan@westhillsdevelopment.com  
Site Address: 7315 SW Frog Pond Ln  
City: Wilsonville, OR 97070  
Map & Tax Lot #: (3S 1W 12D TL 700)  
Business Name: N/A  
Land Use/Building Jurisdiction: Wilsonville  
Land Use/ Building Permit # N/A

Choose from: Beaverton, Tigard, Newberg, Tualatin, North Plains, West Linn, Wilsonville, Sherwood, Rivergrove, Durham, King City, Washington County, Clackamas County, Multnomah County, Yamhill County

**Project Description**  
**12-lot single family detached subdivision**

**Permit/Review Type (check one):**

- Land Use / Building Review - Service Provider Permit
- Emergency Radio Responder Coverage Install/Test
- LPG Tank (Greater than 2,000 gallons)
- Flammable or Combustible Liquid Tank Installation (Greater than 1,000 gallons)
  - \* Exception: Underground Storage Tanks (UST) are deferred to DEQ for regulation.
- Explosives Blasting (Blasting plan is required)
- Exterior Toxic, Pyrophoric or Corrosive Gas Installation (in excess of 810 cu.ft.)
- Tents or Temporary Membrane Structures (in excess of 10,000 square feet)
- Temporary Haunted House or similar
- OLCC Cannabis Extraction License Review
- Ceremonial Fire or Bonfire (For gathering, ceremony or other assembly)

**For Fire Marshal's Office Use Only**

TVFR Permit # 2022-0006  
Permit Type: SPP COW  
Submittal Date: 1/17/2022  
Assigned To: DFM Arn  
Due Date: 1/20/2022  
Fees Due: Ø  
Fees Paid: Ø

**Approval/Inspection Conditions**  
(For Fire Marshal's Office Use Only)

**This section is for application approval only**

[Signature] 0430 1/20/2022  
Fire Marshal or Designee Date

Conditions:

See attached approved Fire Service Plan

See Attached Conditions:  Yes  No

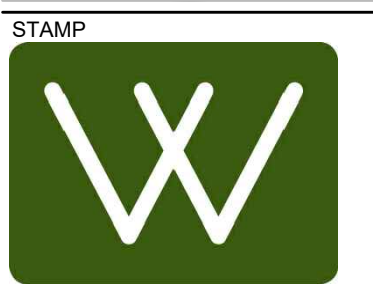
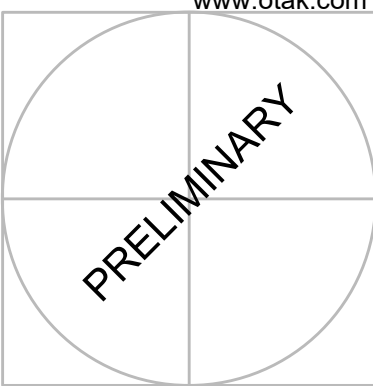
Site Inspection Required:  Yes  No

**This section used when site inspection is required**

Inspection Comments:

Final TVFR Approval Signature & Emp ID Date





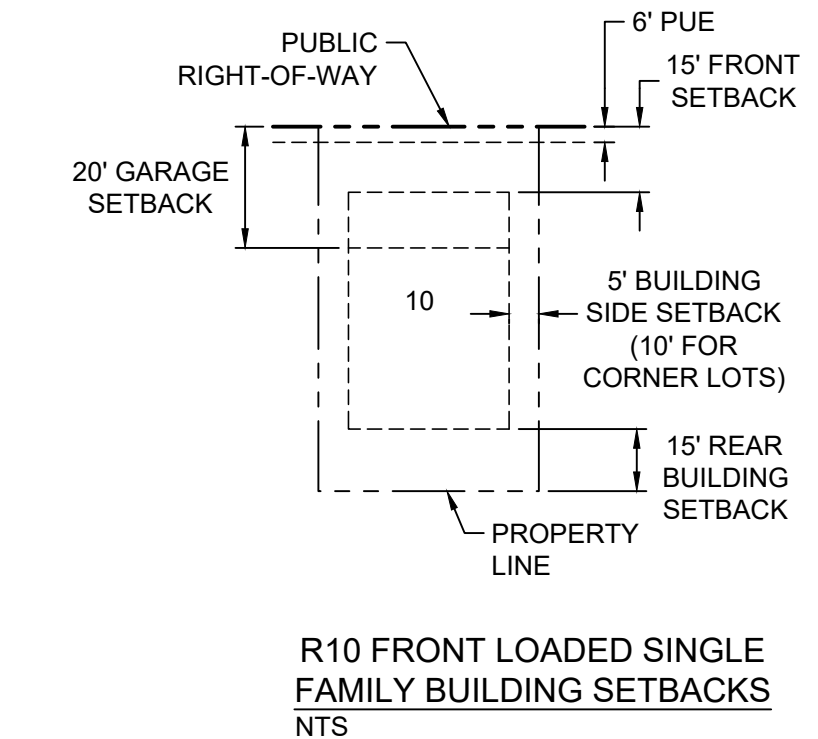
CONSULTANT

**FROG POND OVERLOOK**  
12 DETACHED SINGLE FAMILY LOTS  
CITY OF WILSONVILLE, OREGON

**SITE PLAN**

**LEGEND**

- PROPERTY LINE
- CENTER LINE
- LOT LINE
- LOT SETBACK
- LOT NUMBER / NAME 16
- EASEMENT LINE
- STANDARD CURB
- SIDEWALK
- RETAINING WALL
- INTERSECTION SIGHT DISTANCE [x]  
x=DESIGN SPEED(MPH)X10/MPH
- TYPICAL STREET CROSS SECTION (SEE SHEET P2.10)
- PUBLIC RAIN GARDEN
- DRIVEWAY
- CURB RAMP



LOT AREA	
LOT	AREA
1	8,020 SF
2	8,050 SF
3	8,287 SF
4	8,027 SF
5	8,033 SF
6	8,183 SF
7	9,604 SF
8	11,413 SF
9	8,191 SF
10	8,068 SF
11	9,717 SF
12	10,531 SF

TRACT/ROW AREA	
TRACT	AREA
TRACT A	36,585 SF
TRACT B	5,344 SF

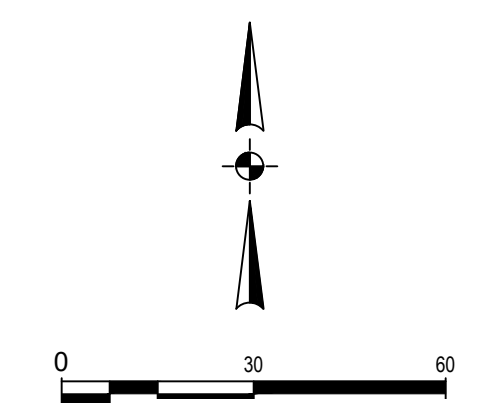
**TVFR**  
Tualatin Valley Fire & Rescue

APPROVED PLANS

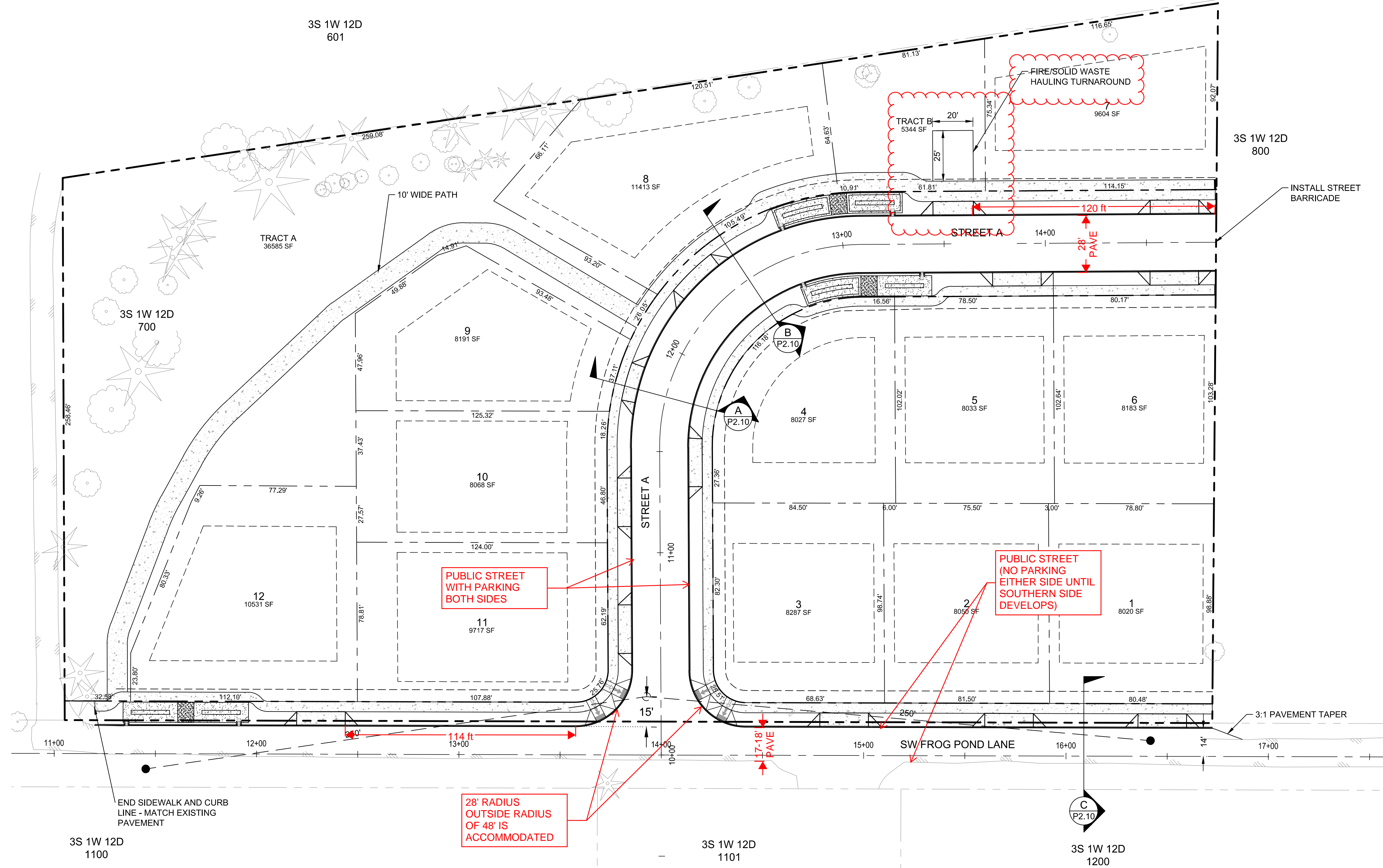
APPROVAL OF PLANS IS NOT AN APPROVAL OF OMISSIONS OR OVERSIGHTS.

*Jason D. Gale*  
Deputy Fire Marshal II

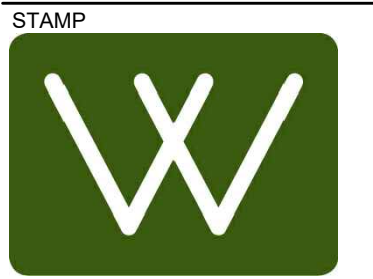
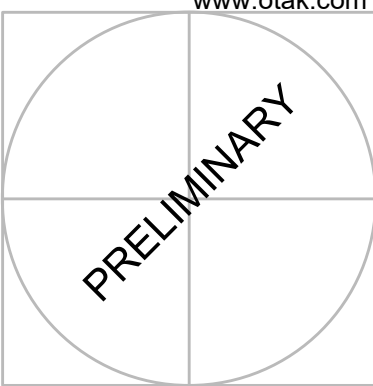
TVFR SPP# 2022-0006



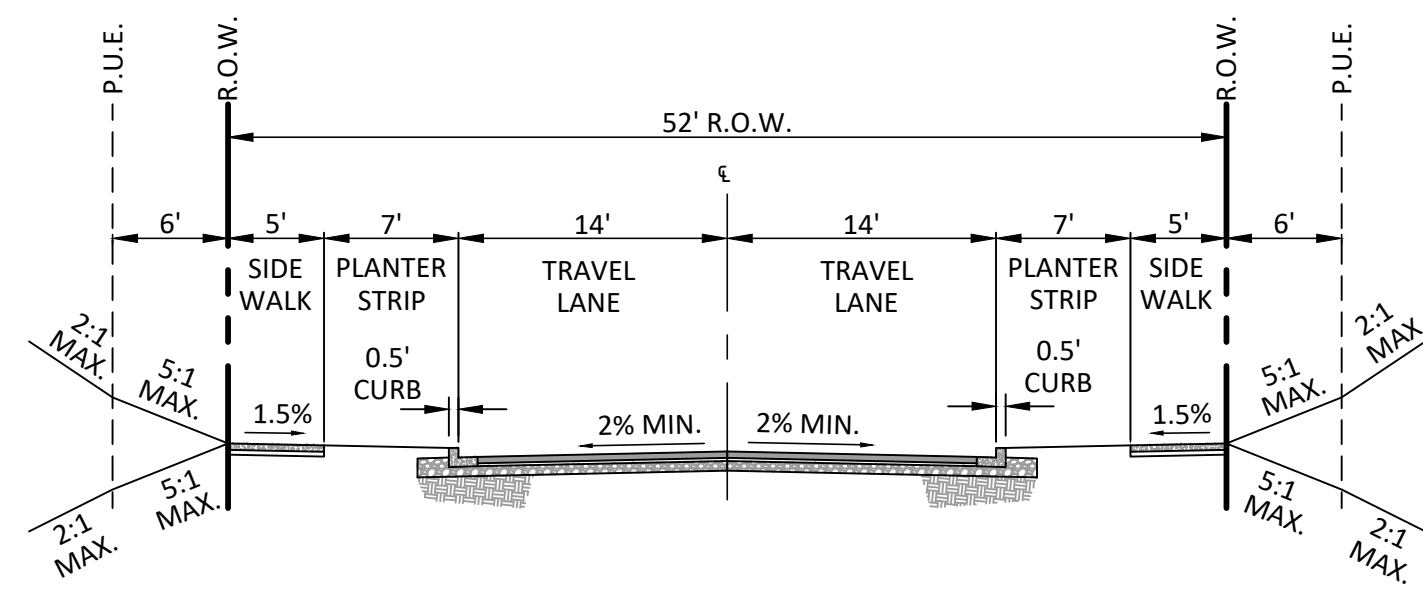
**EXHIBIT FP-1**



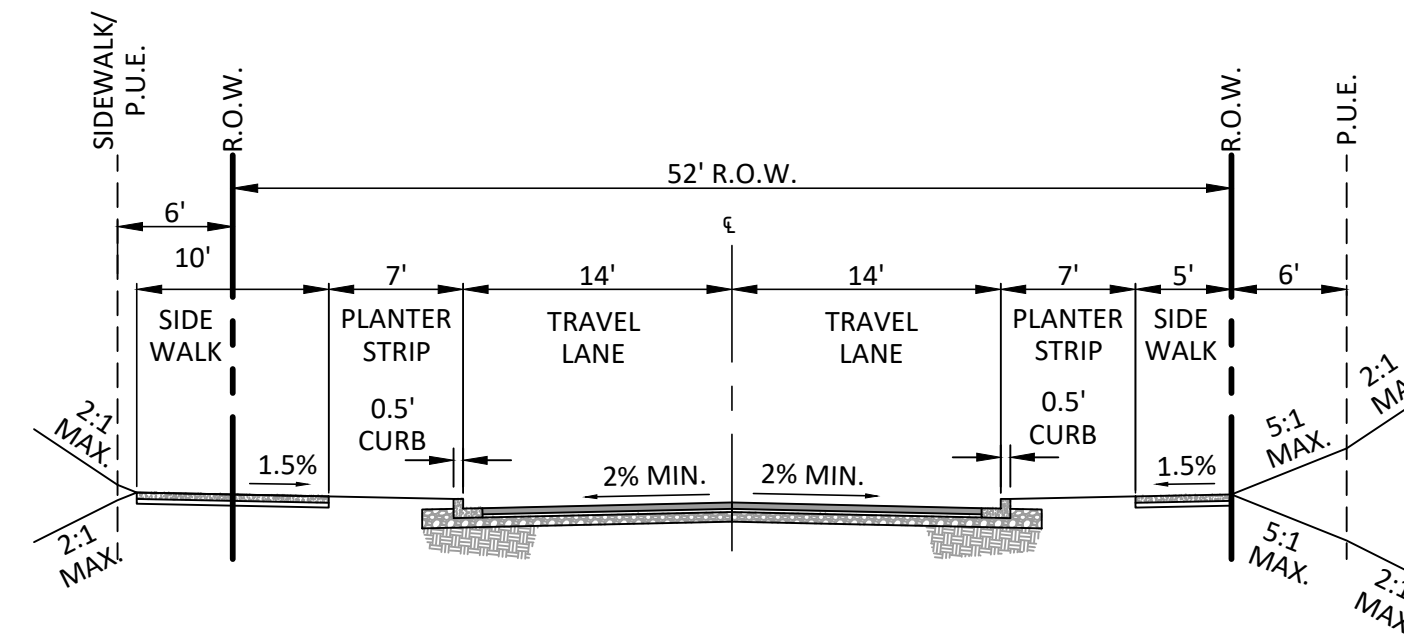
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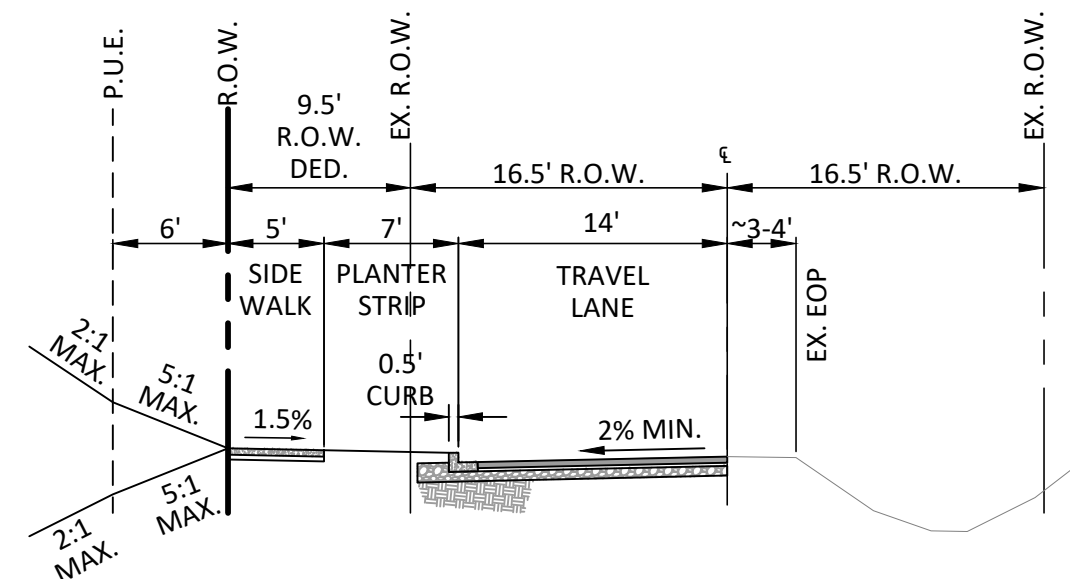
CONSULTANT



**A** STREET A  
(LOCAL STREET - PARKING ON BOTH SIDES)  
SCALE: 1" = 10'-0"



**B** STREET A  
(LOCAL STREET - PARKING ON BOTH SIDES)  
SCALE: 1" = 10'-0"



**C** SW FROG POND LANE  
(LOCAL STREET - PARKING ON BOTH SIDES)  
SCALE: 1" = 10'-0"

PUBLIC STREET  
(NO PARKING  
EITHER SIDE UNTIL  
SOUTHERN SIDE  
DEVELOPS)

**TVFR**  
Tualatin Valley  
Fire & Rescue  
APPROVED PLANS  
APPROVAL OF PLANS IS NOT AN APPROVAL  
OF OMISSIONS OR OVERSIGHTS.  
Jason Ann [Signature]  
Deputy Fire Marshal II  
TVFR SPP# 2022-0006

**STREET CROSS SECTIONS**  
SEE SHEET P2.00 FOR SECTION LOCATIONS

**EXHIBIT FP-2**

**FROG POND OVERLOOK**  
12 DETACHED SINGLE FAMILY LOTS  
CITY OF WILSONVILLE, OREGON

**PRELIMINARY STREET CROSS SECTIONS**

TITLE	#	DATE	DESCRIPTION

REVISIONS	
NAV/D88	
DATUM	
OTAK CAD	KJB
DRAWN BY	CHECKED BY
LAND USE SUBMITTAL	
STATUS	
TBD	
DATE	
20015	
PROJECT NUMBER	

**P2.10**

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If this drawing is not 22" x 34", it has been reduced/enlarged. Scale accordingly.



