Land Use Application for Annexation, Zone Change, and Dotson Farms Subdivision

Date: December 2017

Submitted to:
City of Oregon City
Planning Division
221 Molalla Avenue, Suite 200
Oregon City, OR 97045

Owners:
Ross R. Smith and Kay D. Smith
19691 S Leland Road
Oregon City, OR 97045

Applicant:
Oregon Builders & Restoration
19695 S Leland Road
Oregon City, OR 97045

AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
(503) 563-6151

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Applicant's Consultant:	AKS Engineering & Forestry, LLC 12965 SW Herman Road, Suite 100 Tualatin, OR 97062 Contact(s): Monty Hurley (monty@aks-eng.com) Chris Goodell (chrisg@aks-eng.com) Phone: (503) 563-6151 Fax: (503) 563-6152
Clackamas County Assessor's Information:	Assessor's Map: 03S02E07C, Tax Lot 199
Site Size:	±2.98 Acres
Land Use District:	R-6 Single-Family Dwelling District

I. Executive Summary

On behalf of Oregon Builders & Restoration (applicant), AKS Engineering & Forestry, LLC submits this application for annexation by the City of Oregon City, zone change, and 12-lot subdivision (Dotson Farms) for the future construction of single-family detached residential homes. The subject property is situated generally south of the intersection of S Leland Road and S McCord Road, with frontage along the southwest side of S Leland Road in unincorporated Clackamas County (Figure 1). The subject site consists of one Tax Lot (199) totaling approximately ±2.98 acres which abuts the Urban Growth Boundary (UGB) to the southwest. This application includes the following components:

- Annexation by the City of Oregon City (City) and zone change to Residential Low-Density (R-6)
- 12 lots for the future construction of single-family detached homes with lot areas and dimensions that satisfy applicable approval criteria and are consistent with the adjoining communities to the south
- A complete range of services including public sanitary sewer, public water, on-site stormwater management, and other necessary utilities such as power, telecommunications, gas, etc.
- New interior public streets to City standards with curbs, sidewalks, on-street parking, and street trees
- Creation of a cohesive neighborhood with the continuation of Cherrywood Way and Cedarwood Way (via right-of-way dedication) from the adjoining Lindsay Anne Estates Too Subdivision (in review) to the southeast, through the project site connecting to the project's new east/west local street extending from S Leland Road
- Frontage improvements along S Leland Road

Figure 1: Subject Site

II. Site Description/Setting

The subject property is located at 19691 S Leland Road within unincorporated Clackamas County (County). The ±2.98-acre site comprises Tax Lot 199 on Clackamas County Assessor's Map 03S 02E 07C. There are no structures on the property, but its southern corner is bisected by a portion of the 125-foot-wide Portland General Electric (PGE) transmission line utility easement. Energized overhead transmission lines are located in the air above the mapped utility easement and span the distance between offsite transmission towers located east and west of the property. The subject property has been historically used for agriculture, and consists of open fields with scattered stands of trees. There are no designated or identified wetlands or perennial streams on the project site.

The subject property is situated between the UGB boundary to the southwest and the Lindsay Anne Estates Too Subdivision to the southeast, which is in the process of being annexed to the City of Oregon City. Tax Lot 199 and adjacent properties to the north and west are located within Clackamas County's Future Urban 10-acre (FU-10) zoning district. Generally, adjacent properties to the south and east are located within the City's Residential Low-Density (R-6) zoning district, have recently subdivided, and have newly constructed homes. Adjacent properties in both the County and the City are developed with detached single-family residential homes.

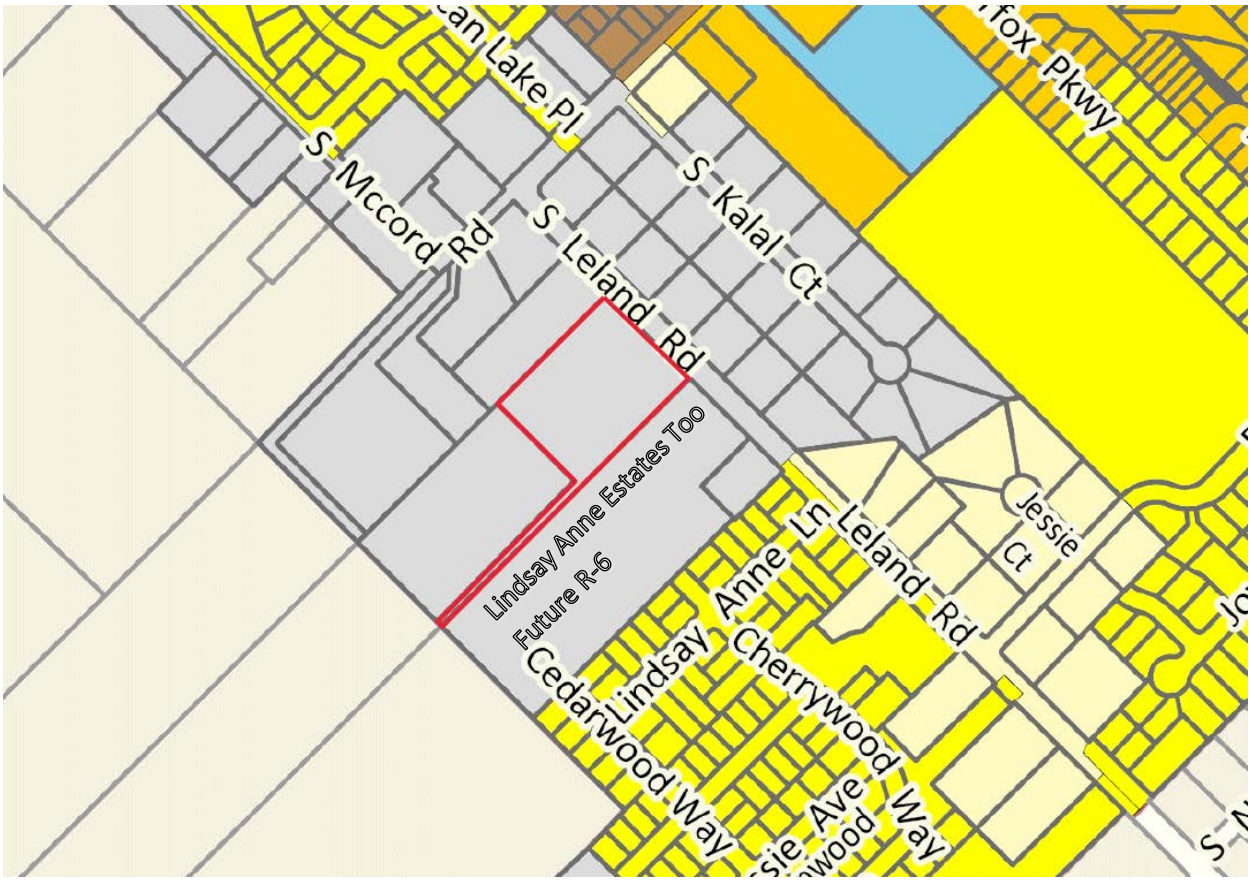


Figure 2: Existing Zoning

III. Project Information

As stated above, this application involves annexation to the City of Oregon City, a zone change, and a 12-lot residential subdivision. The adjacent property to the south, Lindsay Anne Estates Too, is in the process

of being annexed into the City of Oregon City, and rezoned from Clackamas County's zoning of Future Urban 10-Acre (FU-10) to the City of Oregon City's R-6 zone through a separate land use application. This application for annexation of the subject property by the City would promote a community consistent with several other residential areas to the southeast.

Following annexation, the zone change application would change the subject property's zoning designation from the County's FU-10 to the City's Residential Low-Density (R-6). As mentioned previously, nearby properties on the south and west side of S Leland Road are zoned R-6, have recently been subdivided, and have newly constructed homes. Dotson Farms is planned to match this designation and comply with the R-6 standards.

The subdivision application involves a 12-lot residential subdivision for the future build out of single-family detached homes. As shown on the preliminary plans, the 12 lots are planned to range in size from ±6,000 square feet (SF) to ±9,558 SF. Lots meet the minimum size, width, and depth requirements for lots within the R-6 zoning designation, and future building setbacks are shown to accommodate residential building pads that meet minimum front, rear, and side yard setbacks.

The planned street network into and through the subdivision ties into the existing S Leland Road access point to the northeast, while Cherrywood Way connects to adjacent properties to the south. S Leland Road is classified as a Minor Arterial, which requires a 9-foot dedication for a 39-foot half-street right-of-way (ROW) width. Cherrywood Way, Cedarwood Way, and a new street (Dotson Way) created with this project are classified as Local Streets, and will require a 54-foot ROW. The preliminary plans demonstrate how lot and street patterns within Dotson Farms Subdivision extend to adjacent properties and accommodate potential future development in accordance with the existing Oregon City Municipal Code.

Utilities (water, sanitary, and storm) are shown within the streets, with utility stubs to each lot. Water service is planned to be obtained by connecting to existing water mains located within S Leland Road and Cherrywood Way, while sanitary service is planned to be obtained by connecting to an existing sewer main within Cherrywood Way. There are existing storm drain mains located within S Leland Road and Cherrywood Way which are planned to be extended through the site, and connect to the planned stormwater management facility in Tract A.

IV. Applicable Review Criteria

OREGON CITY MUNICIPAL CODE

Title 10 - VEHICLES AND TRAFFIC

Chapter 10.32 - TRAFFIC SIGHT OBSTRUCTIONS

10.32.020 Definitions.

"Clear vision area" means a triangular area at the intersection of two streets or a street and a railroad, the area of which is to be determined by the city engineer or his designee, using the following criteria:

1. **Type of intersection;**
2. **Site characteristics;**
3. **Types of vehicle controls;**
4. **Vehicle speed;**
5. **Traffic volume;**

6. Suggested intersection sight distances prescribed in the Transportation and Traffic Engineering Handbook published by the Institute of Traffic Engineers, 1976 Edition, as follows:

Speed Limit:	20	25	30	35	40	45
Sight Distance:	200	250	300	350	400	450

Corner sight distance is measured from a point on the center line of the minor road at least fifteen feet from the edge of the major road pavement and measured from a height of eye of three and seventy-five hundredths feet on the minor road to a height of object of four and five-tenths feet on the major road. The clear vision area is in the form of a triangle, two sides of which are lot lines measured from the corner intersection of the street lines. Where the lot lines have rounded corners, the lot lines are extended in a straight line to a point of intersection. The third side of the clear vision area is a line across the corner of the lot joining the nonintersecting ends of the other two sides.

Response: Clear vision areas are planned to be maintained at intersections as shown on the preliminary plans, and intersection sight distance is sufficient as discussed in the Transportation Analysis Letter (TAL). Therefore, this standard is met.

10.32.030 Sight line requirements

A clear vision area shall contain no vegetation or fences or other artificial obstruction exceeding three feet in height measured from the top of the curb or, where no curb exists, from the established street center line grade, except that trees exceeding this height may be located in this area provided all branches and foliage are removed to a height of eight feet above the grade.

Response: Clear vision areas are not planned to contain vegetation, fences, or other obstructions exceeding 3 feet in height, except for allowed trees branched up to 8 feet in height. This standard is met.

Title 12 - STREETS, SIDEWALKS AND PUBLIC PLACES

Chapter 12.04 - STREETS, SIDEWALKS AND PUBLIC PLACES

12.04.003 Applicability.

A. Compliance with this chapter is required for all land divisions, site plan and design review, master plan, detailed development plan and conditional use applications and all public improvements.

B. Compliance with this chapter is also required for new construction or additions which exceed fifty percent of the existing square footage, of all single and two-family dwellings. All applicable single and two-family dwellings shall provide any necessary dedications, easements or agreements as identified in the transportation system plan and this

chapter. In addition, the frontage of the site shall comply with the following prioritized standards identified in this chapter:

1. Improve street pavement, construct curbs, gutters, sidewalks and planter strips; and

2. Plant street trees.

The cost of compliance with the standards identified in 12.04.003.B.1 and 12.04.003.B.2 is limited to ten percent of the total construction costs. The value of the alterations and improvements as determined by the community development director is based on the entire project and not individual building permits. It is the responsibility of the applicant to submit to the community development director the value of the required improvements. Additional costs may be required to comply with other applicable requirements associated with the proposal such as access or landscaping requirements.

Response: The project is planned to comply with the provisions of this chapter, as shown in the responses to the approval criteria in this narrative. Street improvements and street trees are planned to comply with the standards of the Oregon City Municipal Code, addressed later in this narrative.

12.04.005 Jurisdiction and management of the public rights-of-way.

A. The city has jurisdiction and exercises regulatory management over all public rights-of-way within the city under authority of the City Charter and state law by issuing separate public works right-of-way permits or permits as part of issued public infrastructure construction plans. No work in the public right-of-way shall be done without the proper permit. Some public rights-of-way within the city are regulated by the State of Oregon Department of Transportation (ODOT) or Clackamas County and as such, any work in these streets shall conform to their respective permitting requirements.

B. Public rights-of-way include, but are not limited to, streets, roads, highways, bridges, alleys, sidewalks, trails, paths, public easements and all other public ways or areas, including the subsurface under and air space over these areas.

C. The city has jurisdiction and exercises regulatory management over each public right-of-way whether the city has a fee, easement, or other legal interest in the right-of-way. The city has jurisdiction and regulatory management of each right-of-way whether the legal interest in the right-of-way was obtained by grant, dedication, prescription, reservation, condemnation, annexation, foreclosure or other means.

D. No person may occupy or encroach on a public right-of-way without the permission of the city. The city grants permission to use rights-of-way by franchises, licenses and permits.

E. The exercise of jurisdiction and regulatory management of a public right-of-way by the city is not official acceptance of the right-of-way, and does not obligate the city to maintain or repair any part of the right-of-way.

Response: The applicant understands that the City has jurisdictional management over the future public rights-of-way within the project. However, Clackamas County has jurisdictional

management over S Leland Road. Therefore, planned improvements to S Leland Road will be coordinated with Clackamas County staff.

12.04.007 Modifications.

The review body may consider modification of this standard resulting from constitutional limitations restricting the city's ability to require the dedication of property or for any other reason, based upon the criteria listed below and other criteria identified in the standard to be modified. All modifications shall be processed through a Type II Land Use application and may require additional evidence from a transportation engineer or others to verify compliance. Compliance with the following criteria is required:

Response: Modifications are not planned with this application. This standard does not apply.

12.04.010 Construction specifications—Improved streets.

All sidewalks hereafter constructed in the city on improved streets shall be constructed to city standards and widths required in the Oregon City Transportation System Plan. The curb shall be constructed at the same time as the construction of the sidewalk and shall be located as provided in the ordinance authorizing the improvement of said street next proceeding unless otherwise ordered by the city commission. Both sidewalks and curbs are to be constructed according to plans and specifications provided by the city engineer.

Response: Sidewalks and curbs are planned to comply with applicable portions of the City's construction standards and Transportation System Plan. This standard is met.

12.04.020 Construction specifications—Unimproved streets.

Sidewalks constructed on unimproved streets shall be constructed of concrete according to lines and grades established by the city engineer and approved by the city commission. On unimproved streets curbs do not have to be constructed at the same time as the sidewalk.

Response: This application does not involve unimproved streets. Therefore, this standard is not applicable.

12.04.025 Street design—Driveway curb cuts.

A. One driveway shall be allowed per frontage. In no case shall more than two driveways be allowed on any single or two-family residential property with multiple frontages.

B. With the exception of the limitations identified in 12.04.025.C, all driveway curb cuts shall be limited to the following dimensions.

Property Use	Minimum Driveway Width at sidewalk or property line	Maximum Driveway Width at sidewalk or property line
Single or two-family dwelling with one car garage/parking space	10 feet	12 feet
Single or two-family dwelling with two car garage/parking space	12 feet	24 feet
Single or two-family dwelling with three or more car garages/parking space	18 feet	30 feet

The driveway width abutting the street pavement may be extended three feet on either side of the driveway to accommodate turn movements. Driveways may be widened onsite in locations other than where the driveway meets sidewalk or property line (for example between the property line and the entrance to a garage).

C. The decision maker shall be authorized through a Type II process, unless another procedure applicable to the proposal applies, to minimize the number and size of curb cuts (including driveways) as far as practicable for any of the following purposes:

1. To provide adequate space for on-street parking;

2. To facilitate street tree planting requirements;

3. To assure pedestrian and vehicular safety by limiting vehicular access points; and

4. To assure that adequate sight distance requirements are met.

   a. Where the decision maker determines any of these situations exist or may occur due to the approval of a proposed development for non-residential uses or attached or multi-family housing, a shared driveway shall be required and limited to twenty-four feet in width adjacent to the sidewalk or property line and may extend to a maximum of thirty feet abutting the street pavement to facilitate turning movements.

   b. Where the decision maker determines any of these situations exist or may occur due to approval of a proposed development for detached housing within the "R-5" Single-Family Dwelling District or "R-3.5" Dwelling District, driveway curb cuts shall be limited to twelve feet in width adjacent to the sidewalk or property line and may extend to a maximum of eighteen feet abutting the street pavement to facilitate turning movements.

D. For all driveways, the following standards apply.

1. Each new or redeveloped curb cut shall have an approved concrete approach or asphalted street connection where there is no concrete curb and a minimum hard surface for at least ten feet and preferably twenty feet back into the lot as measured from the current edge of street pavement to provide for controlling gravel tracking onto the public street. The hard surface may be concrete, asphalt, or other surface approved by the city engineer.

2. Driving vehicles, trailers, boats, or other wheeled objects across a sidewalk or roadside planter strip at a location other than an approved permanent or city-approved temporary driveway approach is prohibited. Damages caused by such action shall be corrected by the adjoining property owner.

3. Placing soil, gravel, wood, or other material in the gutter or space next to the curb of a public street with the intention of using it as a permanent or temporary driveway is prohibited. Damages caused by such action shall be corrected by the adjoining property owner.

4. Any driveway built within public street or alley right-of-way shall be built and permitted per city requirements as approved by the city engineer.

E. Exceptions. The public works director reserves the right to waive this standard, if it is determined through a Type II decision including written findings that it is in the best interest of the public to do so.

Response: The existing asphalt driveway from S Leland Road which provides access to Tax Lots 101, 109, and 1402 is planned to be abandoned, with access rerouted through the project site. As shown on the preliminary plans, one driveway is planned to be provided per lot. Driveway and curb cut design, dimensions, and spacing are planned in accordance with the above-listed requirements, to the extent applicable. This standard is met.

12.04.030 Maintenance and repair.
The owner of land abutting the street where a sidewalk has been constructed shall be responsible for maintaining said sidewalk and abutting curb, if any, in good repair.

Response: The applicant understands that future home owners are responsible for maintaining sidewalks and abutting curbs along their respective lot frontage. This criterion is met.

12.04.031 Liability for sidewalk injuries.

A. The owner or occupant of real property responsible for maintaining the adjacent sidewalk shall be liable to any person injured because of negligence of such owner or occupant in failing to maintain the sidewalk in good condition.

B. If the city is required to pay damages for an injury to persons or property caused by the failure of a person to perform the duty that this ordinance imposes, the person shall compensate the city for the amount of the damages paid. The city may maintain an action in a court of competent jurisdiction to enforce this section.

Response: The applicant understands that future home owners are responsible for maintaining sidewalks and abutting curbs along their respective lot frontage. These criteria are met.

12.04.032 Required sidewalk repair.

A. When the public works director determines that repair of a sidewalk is necessary he or she shall Issue a notice to the owner of property adjacent to the sidewalk.

B. The notice shall require the owner of the property adjacent to the defective sidewalk to complete the repair of the sidewalk within ninety days after the service of notice. The notice shall also state that if the repair is not made by the owner, the city may do the work and the cost of the work shall be assessed against the property adjacent to the sidewalk.

C. The public works director shall cause a copy of the notice to be served personally upon the owner of the property adjacent to the defective sidewalk, or the notice may be served by registered or certified mail, return receipt requested. If after diligent search the owner is not discovered, the public works director shall cause a copy of the notice to be posted in a conspicuous place on the property, and such posting shall have the same effect as service of notice by mail or by personal service upon the owner of the property.

D. The person serving the notice shall file with the city recorder a statement stating the time, place and manner of service or notice.

Response: The applicant understands that future home owners are responsible for maintaining sidewalks along their respective lot frontage. These criteria are met.

12.04.033 City may do work.

If repair of the sidewalk is not completed within ninety days after the service of notice, the public works director shall carry out the needed work on the sidewalk. Upon completion of the work, the public works director shall submit an itemized statement of the cost of the work to the finance director. The city may, at its discretion, construct, repair or maintain sidewalks deemed to be in disrepair by the public works director for the health, safety and general welfare of the residents of the city.

Response: Please refer to the above narrative response to section 12.04.032.

12.04.034 Assessment of costs.

Upon receipt of the report, the finance director shall assess the cost of the sidewalk work against the property adjacent to the sidewalk. The assessment shall be a lien against the property and may be collected in the same manner as is provided for in the collection of street improvement assessment.

Response: Please refer to the above narrative response to section 12.04.032.

12.04.040 Streets – Enforcement.

Any person whose duty it is to maintain and repair any sidewalk, as provided by this chapter, and who fails to do so shall be subject to the enforcement procedures of Chapters 1.16, 1.20 and 1.24. Failure to comply with the provisions of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Response: Please refer to the above narrative response to section 12.04.032.

12.04.050 Retaining walls— Required.

Every owner of a lot within the city, abutting upon an improved street, where the surface of the lot or tract of land is above the surface of the improved street and where the soil or earth from the lot, or tract of land is liable to, or does slide or fall into the street or upon the sidewalk, or both, shall build a retaining wall, the outer side of which shall be on the line separating the lot, or tract of land from the improved street, and the wall shall be so constructed as to prevent the soil or earth from the lot or tract of land from falling or sliding into the street or upon the sidewalk, or both, and the owner of any such property shall keep the wall in good repair.

Response: As shown on the preliminary plans, retaining walls are not warranted or required with this application. Therefore, these criteria do not apply.

12.04.060 Retaining walls— Maintenance.

When a retaining wall is necessary to keep the earth from falling or sliding onto the sidewalk or into a public street and the property owner or person in charge of that property fails or refuses to build such a wall, such shall be deemed a nuisance. The violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Response: This application does not involve the installation or maintenance of retaining walls. The applicant understands that future home owners are planned to be responsible for installing and maintaining retaining walls as required by this section. These criteria are met.

12.04.070 Removal of sliding dirt.

It shall be the duty of the owner of any property as mentioned in Section 12.04.050, and in case the owner is a nonresident, then the agent or other person in charge of the same, to remove from the street or sidewalk or both as the case may be, any and all earth or dirt falling on or sliding into or upon the same from the property, and to build and maintain in order at all times, the retaining wall as herein required; and upon the failure, neglect or refusal of the land owner, the agent or person in charge of the same to clean away such earth or dirt, falling or sliding from the property into the street or upon the sidewalk, or both, or to build the retaining wall, shall be deemed guilty of a misdemeanor.

Response: Please refer to the above narrative response to section 12.04.050. Therefore, this standard does not apply.

12.04.080 Excavations – Permit required.

It shall be unlawful for any person to dig up, break, excavate, disturb, dig under or undermine any public street or alley, or any part thereof or any macadam, gravel, or other street pavement or improvement without first applying for and obtaining from the engineer a written permit so to do.

Response: The applicant understands that applicable permits and permissions are to be obtained prior to any excavation activities within the boundaries of the project site. This standard is met.

12.04.090 Excavations – Permit restrictions.

The permit shall designate the portion of the street to be so taken up or disturbed, together with the purpose for making the excavation, the number of days in which the work shall be done, and the trench or excavation to be refilled and such other restrictions as may be deemed of public necessity or benefit.

Response: Please refer to the above narrative response to section 12.04.080. This standard is met.

12.04.100 Excavations – Restoration of Pavement.

Whenever any excavation shall have been made in any pavement or other street improvement on any street or alley in the city for any purpose whatsoever under the permit granted by the engineer, it shall be the duty of the person making the excavation to restore the pavement in accordance with the City of Oregon City Public Works Pavement Cut Standard in effect at the time a right-of-way permit application is filed. The city commission may adopt and modify the City of Oregon City Public Works Pavement Cut Standards by resolution as necessary to implement the requirements of this chapter.

Response: Please refer to the above narrative response to section 12.04.080. This standard is met.

12.04.110 Excavations – Nuisance – Penalty.

Any excavation in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Response: The applicant understands this requirement applies to future excavation and associated ground-disturbing activities on the planned lots. This standard is met.

12.04.120 Obstructions – Permit required.

A. Permanent Obstructions. It is unlawful for any person to place, put or maintain any obstruction, other than a temporary obstruction, as defined in subsection B. of this section, in any public street or alley in the city, without obtaining approval for a right-of-way permit from the commission by passage of a resolution.

B. Temporary Obstructions.

C. Fees. The fee for obtaining a right-of-way permit for either a permanent obstruction or a temporary obstruction shall be set by resolution of the commission.

Response: Permanent obstructions are not planned with this application. If a temporary obstruction is required as part of the construction of the subdivision, a right-of-way permit application and appropriate fees are planned to be submitted to the City for review and approval. Therefore, to the extent these criteria apply, they are met.

12.04.130 Obstructions – Sidewalk sales.

A. It is unlawful for any person to use the public sidewalks of the city for the purpose of packing, unpacking or storage of goods or merchandise or for the display of goods or merchandise for sale. It is permissible to use the public sidewalks for the process of expeditiously loading and unloading goods and merchandise.

B. The city commission may, in its discretion, designate certain areas of the city to permit the display and sale of goods or merchandise on the public sidewalks under such conditions as may be provided.

Response: Sidewalk sales are not planned with this subdivision application. Therefore, these criteria are not relevant to the application.

12.04.140 Obstructions – Nuisance – Penalty.

Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Response: This application involves the annexation, zone change, and subdivision of the subject property for the creation of lots for future single-family detached residential homes. Please refer to the above narrative response to section 12.04.120. Therefore, to the extent this standard applies, it is satisfied.

12.04.150 Street and alley vacations – Cost.

At the time of filing a petition for vacation of a street, alley or any part thereof, a fee as established by city commission resolution shall be paid to the city.

Response: Street and alley vacations are not planned with this subdivision application. Therefore, this criterion does not apply.

12.04.160 Street vacations – Restrictions.

The commission, upon hearing such petition, may grant the same in whole or in part, or may deny the same in whole or in part, or may grant the same with such reservations as would appear to be for the public interest, including reservations pertaining to the maintenance and use of underground public utilities in the portion vacated.

Response: Please refer to the above narrative response to section 12.04.150.

12.04.170 Street design – Purpose and general provisions.

All development shall be in conformance with the policies and design standards established by this chapter and with applicable standards in the city's public facility master plan and city design standards and specifications. In reviewing applications for development, the city engineer shall take into consideration any approved development and the remaining development potential of adjacent properties. All street, water, sanitary sewer, storm drainage and utility plans associated with any development must be reviewed and approved by the city engineer prior to construction. All streets, driveways or storm drainage connections to another jurisdiction's facility or right-of-way must be reviewed by the appropriate jurisdiction as a condition of the preliminary plat and when required by law or intergovernmental agreement shall be approved by the appropriate jurisdiction.

Response: Street and utility stubs are planned to be located at the northwest extension of Cherrywood Way and the southwest end of Dotson Way to accommodate potential future development of adjoining properties in these locations. The project is planned to dedicate right-of-way adjacent to the stubbed Cedarwood Way located to the southeast within Lindsay Anne Estates Too in anticipation of potential future development of adjoining properties to the southwest. Existing patterns of development preclude other opportunities to extend services offsite. These criteria are met.

12.04.175 Street design—Generally.

The location, width and grade of street shall be considered in relation to: existing and planned streets, topographical conditions, public convenience and safety for all modes of travel, existing and identified future transit routes and pedestrian/bicycle accessways, overlay districts, and the proposed use of land to be served by the streets. The street system shall assure an adequate traffic circulation system with intersection angles, grades, tangents and curves appropriate for the traffic to be carried considering the terrain. To the extent possible, proposed streets shall connect to all existing or approved stub streets that abut the development site. The arrangement of streets shall either:

A. Provide for the continuation or appropriate projection of existing principal streets in the surrounding area and on adjacent parcels or conform to a plan for the area approved or adopted by the city to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impractical;

B. Where necessary to give access to or permit a satisfactory future development of adjoining land, streets shall be extended to the boundary of the development and the resulting dead-end street (stub) may be approved with a temporary turnaround as approved by the city engineer. Notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future. Access control in accordance with [Chapter] 12.04 shall be required to preserve the objectives of street extensions.

Response: Public streets are planned in the project to provide access to lots/future homes and provide for neighborhood connectivity/circulation. The preliminary plans show the locations and arrangement of these improvements. The project plans to extend Cherrywood Way from the adjoining Lindsay Anne Estates Too Subdivision to the southeast to the adjoining property to the northwest. Street and utility improvements are not extended to the property line in order to protect and preserve off-site coniferous trees per the Preliminary Tree Preservation and Removal Plan. The planned east/west local street (Dotson Way) extending though the project from S Leland Road is planned to stub to the adjoining property to the southwest. The project dedicates ROW adjacent to Cedarwood Way stubbed in the adjoining Lindsay Anne Estates Too Subdivision to the southeast in anticipation of potential future development of adjoining properties to the southwest. Streets stubbed within the project are planned to facilitate potential future development of adjacent properties. This standard is met.

12.04.180 Street design.

All development regulated by this chapter shall provide street improvements in compliance with the standards in Figure 12.04.180 depending on the street classification set forth in the Transportation System Plan and the Comprehensive Plan designation of the adjacent property, unless an alternative plan has been adopted. The standards provided below are maximum design standards and may be reduced with an alternative street design which may be approved based on the modification criteria in [Section] 12.04.007. The steps for reducing the maximum design below are found in the Transportation System Plan.

Table 12.04.180 Street Design										
Road Classification	Comprehensive Plan Designation	Right-of-Way Width	Pavement Width	Public Access	Sidewalk	Landscape Strip	Bike Lane	Street Parking	Travel Lanes	Median
Local	Residential	54 ft.	32 ft.	0.5 ft.	5 ft.	5.5 ft.	(2) 16 ft Shared Space			N/A

1. Pavement width includes, bike lane, street parking, travel lanes and median.
2. Public access, sidewalks, landscape strips, bike lanes and on-street parking are required on both sides of the street in all designations. The right-of-way width and pavement widths identified above include the total street section.
3. A 0.5-foot curb is included in landscape strip or sidewalk width.
4. Travel lanes may be through lanes or turn lanes.
5. The 0.5-foot public access provides access to adjacent public improvements.
6. Alleys shall have a minimum right-of-way width of twenty feet and a minimum pavement width of sixteen feet. If alleys are provided, garage access shall be provided from the alley.

Response: As shown on the preliminary plans, the planned extension of an adjoining residential street (Cherrywood Way), the new internal east/west local street (Dotson Way), and the planned ROW dedication for the potential future extension of Cedarwood Way have been designed to meet the minimum requirements outlined in the above table. The planned design is consistent with the guidance provided by City staff at the pre-application conference and in the updated City Pre-Application Conference Summary (PA 17-46) dated 09/05/17. This standard is met.

12.04.185 Street design—Access control.

A. A street which is dedicated to end at the boundary of the development or in the case of half-streets dedicated along a boundary shall have an access control granted to the city as a city controlled plat restriction for the purposes of controlling ingress and egress to the property adjacent to the end of the dedicated street. The access control restriction shall exist until such time as a public street is created, by dedication and accepted, extending the street to the adjacent property.

B. The city may grant a permit for the adjoining owner to access through the access control.

C. The plat shall contain the following access control language or similar on the face of the map at the end of each street for which access control is required: "Access Control (See plat restrictions)."

D. Said plats shall also contain the following plat restriction note(s): "Access to (name of street or tract) from adjoining tracts (name of deed document number[s]) shall be controlled by the City of Oregon City by the recording of this plat, as shown. These access controls shall be automatically terminated upon the acceptance of a public road dedication or the recording of a plat extending the street to adjacent property that would access through those Access Controls."

Response: As mentioned previously in this narrative, the existing asphalt driveway from S Leland Road which provides access to Tax Lots 101, 109, and 1402 is planned to be abandoned, with access rerouted through the project site. Appropriate access control language and required plat restrictions on access to adjoining properties, where the project's streets stub, are planned to be placed on the final plat prior to recording, as applicable. Therefore, these criteria are met.

12.04.190 Street design—Alignment.

The centerline of streets shall be:

A. Aligned with existing streets by continuation of the centerlines; or

B. Offset from the centerline by no more than five (5) feet, provided appropriate mitigation, in the judgment of the city engineer, is provided to ensure that the offset intersection will not pose a safety hazard.

Response: The extension of Cherrywood Way through the project is planned to align with the centerline of the existing stub for this street located in the adjacent Lindsay Anne Estates Too Subdivision to the southeast. Right-of-way dedication adjacent to the stubbed Cedarwood Way in anticipation of potential future development of adjoining properties to the southwest is located in accordance with the requirements of this section. Therefore, these criteria are met.

12.04.194 Traffic sight obstructions.

All new streets shall comply with the Traffic Sight Obstructions in Chapter 10.32.

Response: Traffic sight obstructions in Chapter 10.32 have been addressed in this narrative. This standard is met.

12.04.195 Spacing standards.

A. All new streets shall be designed as local streets unless otherwise designated as arterials and collectors in Figure 8 in the transportation system plan. The maximum block spacing between streets is five hundred thirty feet and the minimum block spacing between streets is one hundred fifty feet as measured between the right-of-way centerlines. If the maximum block size is exceeded, pedestrian accessways must be provided every three hundred thirty feet. The spacing standards within this section do not apply to alleys.

Response: As shown on the preliminary plans, streets within the project are planned to be local streets. Blocks created by this project are not planned to exceed the maximum block length spacing standard of 530 feet requiring a midblock pedestrian accessway. Therefore, this standard is met.

B. All new development and redevelopment shall meet the minimum driveway spacing standards identified in Table 12.04.195.B.

Table 12.04.195.B Minimum Driveway Spacing Standards		
Street Functional Classification	Minimum Driveway Spacing Standards	Distance
Local Streets	Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings	25 ft.

The distance from a street corner to a driveway is measured along the right-of-way from the edge of the intersection right-of-way to the nearest portion of the driveway and the distance between driveways is measured at the nearest portions of the driveway at the right-of-way.

Response: Driveways for the future homes within the project accessing the new local streets are planned to be located a minimum of 25 feet from the right-of-way line of intersections. Lots 1 and 2, and Lots 11 and 12, are planned to access Dotson Way via two joint rear loaded driveways located a minimum of 25 feet from the right-of-way line of intersections. As mentioned previously in this narrative, the existing asphalt driveway from S Leland Road which provides access to Tax Lots 101, 109, and 1402 is planned to be abandoned, with access rerouted through the project site via the extension of Cherrywood Way in conformance with this section. Please refer to the preliminary plans for additional information. Therefore, this standard is met.

12.04.199 Pedestrian and bicycle accessways.

Pedestrian/bicycle accessways are intended to provide direct, safe and convenient connections between residential areas, retail and office areas, institutional facilities, industrial parks, transit streets, neighborhood activity centers, rights-of-way, and pedestrian/bicycle accessways which minimize out-of-direction travel, and transit-orientated developments where public street connections for automobiles, bicycles and pedestrians are unavailable. Pedestrian/bicycle accessways are appropriate in areas where public street options are unavailable, impractical or inappropriate. Pedestrian and bicycle accessways are required through private property or as right-of-way connecting development to the right-of-way at intervals not exceeding three hundred thirty feet of frontage; or where the lack of street continuity creates inconvenient or out of direction travel patterns for local pedestrian or bicycle trips.

Response: As demonstrated on the preliminary plans, the planned street system includes public sidewalks on both sides of the project's interior streets. The project's sidewalks provide convenient pedestrian and bicycle access and connectivity for residents in the area. As indicated in the response to Section 12.04.195, the project does not create blocks that

exceed 530 feet in length. Therefore, pedestrian and bicycle accessways are not included or required within the project site. This standard does not apply.

12.04.205 Mobility standards.

Development shall demonstrate compliance with intersection mobility standards. When evaluating the performance of the transportation system, the City of Oregon City requires all intersections, except for the facilities identified in subsection D below, to be maintained at or below the following mobility standards during the two-hour peak operating conditions. The first hour has the highest weekday traffic volumes and the second hour is the next highest hour before or after the first hour. Except as provided otherwise below, this may require the installation of mobility improvements as set forth in the transportation system plan or as otherwise identified by the city transportation engineer.

Response: As documented in the Transportation Analysis Letter (TAL) prepared by Lancaster Engineering, the additional vehicle trips generated by the future build out of Dotson Farms Subdivision is expected to have a de minimis impact on operation of area intersections and the Level of Service (LOS). Please refer to the TAL for further information. This standard is met.

12.04.210 Street design—Intersection angles.

Except where topography requires a lesser angle, streets shall be laid out to intersect at angles as near as possible to right angles. In no case shall the acute angles be less than eighty degrees unless there is a special intersection design. An arterial or collector street intersecting with another street shall have at least one hundred feet of tangent adjacent to the intersection unless topography requires a lesser distance. Other streets, except alleys, shall have at least fifty feet of tangent adjacent to the intersection unless topography requires a lesser distance. All street intersections shall be provided with a minimum curb return radius of twenty-five feet for local streets. Larger radii shall be required for higher street classifications as determined by the city engineer. Additional right-of-way shall be required to accommodate curb returns and sidewalks at intersections. Ordinarily, intersections should not have more than two streets at any one point.

Response: As shown on the preliminary plans, intersection angles are planned to be laid out at right angles to the extent feasible, including at least 50 feet of tangent adjacent to the intersection, and have curb return radii of 25 feet. Necessary rights-of-way are planned to accommodate these street improvements. This standard is met.

12.04.215 Street design—Off-site street improvements.

During consideration of the preliminary plan for a development, the decision maker shall determine whether existing streets impacted by, adjacent to, or abutting the development meet the city's applicable planned minimum design or dimensional requirements. Where such streets fail to meet these requirements, the decision-maker shall require the applicant to make proportional improvements sufficient to achieve conformance with minimum applicable design standards required to serve the proposed development.

Response: Street improvements are planned in accordance with applicable design and dimensional requirements along the project's frontage on S Leland Road and at connection points with abutting streets planned to be extended through the project. Please refer to the preliminary plans for additional information. This requirement is met.

> **12.04.220 Street design—Half street.**
>
> Half streets, while generally not acceptable, may be approved where essential to the development, when in conformance with all other applicable requirements, and where it will not create a safety hazard. When approving half streets, the decision maker must first determine that it will be practical to require the dedication of the other half of the street when the adjoining property is divided or developed. Where the decision maker approves a half street, the applicant must construct an additional ten feet of pavement width so as to make the half street safe and usable until such time as the other half is constructed. Whenever a half street is adjacent to property capable of being divided or developed, the other half of the street shall be provided and improved when that adjacent property divides or develops. Access control may be required to preserve the objectives of half streets.
>
> When the remainder of an existing half-street improvement is made it shall include the following items: dedication of required right-of-way, construction of the remaining portion of the street including pavement, curb and gutter, landscape strip, sidewalk, street trees, lighting and other improvements as required for that particular street. It shall also include at a minimum the pavement replacement to the centerline of the street. Any damage to the existing street shall be repaired in accordance with the city's "Moratorium Pavement Cut Standard" or as approved by the city engineer.

Response: As shown on the preliminary plans, the extension of Cherrywood Way through the project is planned to align with the centerline of the existing stub for this street located in the adjacent Lindsay Anne Estates Too Subdivision to the southeast. Given the need for the subdivision layout to meet all applicable density thresholds, lot dimension requirements, and street design standards and specifications, the extension of Cherrywood Way is planned to be designed as a half street due to the constraints imposed by the site geometry and existing patterns of development. The half street is designed in accordance with applicable criteria listed in this section, and the remaining street improvement will include the required items listed above, as applicable, if and when the adjoining parcel is subdivided. Therefore, this requirement is met.

> **12.04.225 Street design—Cul-de-sacs and dead-end streets.**
>
> The city discourages the use of cul-de-sacs and permanent dead-end streets except where construction of a through street is found by the decision maker to be impracticable due to topography or some significant physical constraint such as geologic hazards, wetland, natural or historic resource areas, dedicated open space, existing development patterns, arterial access restrictions or similar situation as determined by the community development director. When permitted, access from new cul-de-sacs and permanent dead-end streets shall be limited to a maximum of twenty-five dwelling units and a maximum street length of two hundred feet, as measured from the right-of-way line of the nearest intersecting street to the back of

the cul-de-sac curb face. In addition, cul-de-sacs and dead end roads shall include pedestrian/bicycle accessways as required in this chapter. This section is not intended to preclude the use of curvilinear eyebrow widening of a street where needed.

Where approved, cul-de-sacs shall have sufficient radius to provide adequate turn-around for emergency vehicles in accordance with fire district and city adopted street standards. Permanent dead-end streets other than cul-de-sacs shall provide public street right-of-way/easements sufficient to provide turn-around space with appropriate no-parking signs or markings for waste disposal, sweepers, and other long vehicles in the form of a hammerhead or other design to be approved by the decision maker. Driveways shall be encouraged off the turnaround to provide for additional on-street parking space.

Response: As shown on the preliminary plans, cul-de-sacs and permanent dead-end streets are not included in the application. Temporary turnarounds for emergency vehicles are not required due to the short distances involved with the planned stub streets. Therefore, this standard does not apply.

12.04.230 Street design—Street names.

Except for extensions of existing streets, no street name shall be used which will duplicate or be confused with the name of an existing street. Street names shall conform to the established standards in the city and shall be subject to the approval of the city.

Response: This project includes the extension of an existing street (Cherrywood Way), and the dedication of right-of-way adjacent to a stubbed street (Cedarwood Way) from the adjacent Lindsay Anne Estates Too Subdivision to the southeast. The new east/west local street (Dotson Way) is planned to be named in accordance with this subsection and submitted to the City for approval. Therefore, this standard is met.

12.04.235 Street design—Grades and curves.

Grades and center line radii shall conform to the standards in the city's street design standards and specifications.

Response: As shown on the preliminary plans, grade lines and center line radii are planned to comply with the City's street design standards and specifications. This standard is met.

12.04.240 Street design—Development abutting arterial or collector street.

Where development abuts or contains an existing or proposed arterial or collector street, the decision maker may require: access control; screen planting or wall contained in an easement or otherwise protected by a restrictive covenant in a form acceptable to the decision maker along the rear or side property line; or such other treatment it deems necessary to adequately protect residential properties or afford separation of through and local traffic. Reverse frontage lots with suitable depth may also be considered an option for residential property that has arterial frontage. Where access for development abuts and connects for vehicular access to another jurisdiction's facility then authorization by that jurisdiction may be required.

Response: The project site abuts S Leland Road, which is classified as a minor arterial. Lots 1, 2, 11, and 12 are planned to take access from Dotson Way by way of joint access drives as allowed by Section 16.12.070.D, addressed further in this narrative. The use of a joint access for said lots meets the intent of this section in that "joint access" is a type of access control. Therefore, this standard is met.

> **12.04.245 Street design—Pedestrian and bicycle safety.**
>
> Where deemed necessary to ensure public safety, reduce traffic hazards and promote the welfare of pedestrians, bicyclists and residents of the subject area, the decision maker may require that local streets be so designed as to discourage their use by nonlocal automobile traffic.
>
> All crosswalks shall include a large vegetative or sidewalk area which extends into the street pavement as far as practicable to provide safer pedestrian crossing opportunities. These curb extensions can increase the visibility of pedestrians and provide a shorter crosswalk distance as well as encourage motorists to drive slower. The decision maker may approve an alternative design that achieves the same standard for constrained sites or where deemed unnecessary by the city engineer.

Response: As shown on the preliminary plans, and as previously described in this narrative, the public streets within the subdivision are designed to City standards. The overall street pattern is generally designed to discourage non-local through traffic. This standard is met.

> **12.04.255 Street design—Alleys.**
>
> Public alleys shall be provided in the following districts R-5, R-3.5, R-2, MUC-1, MUC-2 and NC zones unless other permanent provisions for private access to off-street parking and loading facilities are approved by the decision maker. The corners of alley intersections shall have a radius of not less than ten feet.

Response: This project is not located within any of the zoning districts listed in this standard. This standard is not relevant to the application.

> **12.04.260 Street design—Transit.**
>
> Streets shall be designed and laid out in a manner that promotes pedestrian and bicycle circulation. The applicant shall coordinate with transit agencies where the application impacts transit streets as identified in [Section] 17.04.1310. Pedestrian/bicycle access ways shall be provided as necessary in Chapter 12.04 to minimize the travel distance to transit streets and stops and neighborhood activity centers. The decision maker may require provisions, including easements, for transit facilities along transit streets where a need for bus stops, bus pullouts or other transit facilities within or adjacent to the development has been identified.

Response: Public streets and sidewalks are planned to provide access to the project's future homes and for neighborhood connectivity/circulation. The preliminary plans show the location and arrangement of planned improvements, which promote pedestrian and bicycle circulation. Planned streets and sidewalks, together with off-site connections, minimize the travel distance to transit streets and other off-site destinations. Additional transit facilities and bus stops are not required with this application. This standard is met.

12.04.265 Street design—Planter strips.

All development shall include vegetative planter strips that are five feet in width or larger and located adjacent to the curb. This requirement may be waived or modified if the decision maker finds it is not practicable. The decision maker may permit constrained sites to place street trees on the abutting private property within ten feet of the public right-of-way if a covenant is recorded on the title of the property identifying the tree as a city street tree which is maintained by the property owner. Development proposed along a collector, minor arterial, or major arterial street may use tree wells with root barriers located near the curb within a wider sidewalk in lieu of a planter strip, in which case each tree shall have a protected area to ensure proper root growth and reduce potential damage to sidewalks, curbs and gutters.

To promote and maintain the community tree canopy adjacent to public streets, trees shall be selected and planted in planter strips in accordance with Chapter 12.08, Street Trees. Individual abutting lot owners shall be legally responsible for maintaining healthy and attractive trees and vegetation in the planter strip. If a homeowners' association is created as part of the development, the association may assume the maintenance obligation through a legally binding mechanism, e.g., deed restrictions, maintenance agreement, etc., which shall be reviewed and approved by the city attorney. Failure to properly maintain trees and vegetation in a planter strip shall be a violation of this code and enforceable as a civil infraction.

Response: As shown on the preliminary plans, planter strips conform to City standards and are planned along public streets within and/or adjacent to the project site. These areas are planned to be improved and planted with street trees when new homes are built. This standard is met.

12.04.270 Standard construction specifications.

The workmanship and materials for any work performed under permits issued per this chapter shall be in accordance with the edition of the "Oregon Standard Specifications for Construction" as prepared by the Oregon Department of Transportation (ODOT) and the Oregon Chapter of American Public Works Association (APWA) and as modified and adopted by the city in accordance with this ordinance, in effect at the time of application. The exception to this requirement is where this chapter and the Public Works Street Design Drawings provide other design details, in which case the requirements of this chapter and the Public Works Street Design Drawings shall be complied with. In the case of work within ODOT or Clackamas County rights-of-way, work shall be in conformance with their respective construction standards.

Response: The preliminary plans for Dotson Farms Subdivision are designed by a professional engineer licensed in the State of Oregon. Construction plans are planned to be submitted to the appropriate review agency and reviewed for consistency with applicable requirements. Once construction permits are obtained, the improvements are planned to be constructed by a licensed general contractor in accordance with the approved plans. The improvements are planned to be inspected for consistency with the approved final plans and the applicable standards requirements listed in this section prior to acceptance. This standard is met.

12.04.280 Violation—Penalty.

Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Response: It is understood that any act in violation of this Chapter is to be deemed a nuisance and could be subject to code enforcement procedures. This standard is met.

Chapter 12.08 - PUBLIC AND STREET TREES

12.08.015 Street tree planting and maintenance requirements.

All new construction or major redevelopment shall provide street trees adjacent to all street frontages. Species of trees shall be selected based upon vision clearance requirements, but shall in all cases be selected from the Oregon City Street Tree List or be approved by a certified arborist. If a setback sidewalk has already been constructed or the Development Services determines that the forthcoming street design shall include a setback sidewalk, then all street trees shall be installed with a planting strip. If existing street design includes a curb-tight sidewalk, then all street trees shall be placed within the front yard setback, exclusive of any utility easement.

A. One street tree shall be planted for every thirty-five feet of property frontage. The tree spacing shall be evenly distributed throughout the total development frontage. The community development director may approve an alternative street tree plan if site or other constraints prevent meeting the placement of one street tree per thirty-five feet of property frontage.

B. The following clearance distances shall be maintained when planting trees:

1. Fifteen feet from streetlights;

2. Five feet from fire hydrants;

3. Twenty feet from intersections;

4. A minimum of five feet (at mature height) below power lines.

C. All trees shall be a minimum of two inches in caliper at six inches above the root crown and installed to city specifications.

D. All established trees shall be pruned tight to the trunk to a height that provides adequate clearance for street cleaning equipment and ensures ADA complaint clearance for pedestrians.

Response: Street trees are planned to be selected from the Oregon City Street Tree List and located where feasible to comply with the placement regulations listed in this section. Due to the proximity of intersections and driveways, street trees may be placed beyond every 35 feet of property frontage in certain locations. Please refer to the Preliminary Street and Street Tree Plan for additional information. Therefore, these criteria are met.

12.08.020 Street tree species selection.

The community development director may specify the species of street trees required to be planted if there is an established planting scheme adjacent to a lot frontage, if there are obstructions in the planting strip, or if overhead power lines are present.

Response: The applicant understands that the community development director may specify the species of street trees to be planted to accommodate established planting schemes and the presence of overhead power lines and planting strip obstructions. This standard is met.

12.08.025 General tree maintenance.

Abutting property owners shall be responsible for the maintenance of street trees and planting strips. Topping of trees is permitted only under recommendation of a certified arborist, or other qualified professional, if required by city staff. Trees shall be trimmed appropriately. Maintenance shall include trimming to remove dead branches, dangerous limbs and to maintain a minimum seven-foot clearance above all sidewalks and ten-foot clearance above the street. Planter strips shall be kept clear of weeds, obstructing vegetation and trash.

Response: General tree and planter strip maintenance is planned to be the responsibility of future home owners, as indicated in this standard. This standard is met.

12.08.030 Public property tree maintenance

The city shall have the right to plant, prune, maintain and remove trees, plants and shrubs in all public rights-of-way and public grounds, as may be necessary to ensure public safety or to preserve and enhance the symmetry or other desirable characteristics of such public areas. The natural resources committee may recommend to the community development director the removal of any tree or part thereof which is in an unsafe condition, or which by reason of its nature is injurious to above or below-ground public utilities or other public improvements.

Response: It is understood that the City has the right to maintain trees in the public right-of-way as described in this standard. This standard is met.

12.08.035 Public tree removal.

Existing street trees shall be retained and protected during construction unless removal is specified as part of a land use approval or in conjunction with a public facilities construction project, as approved by the community development director. A diseased or hazardous street tree, as determined by a registered arborist and verified by the City, may be removed if replaced. A non-diseased, non-hazardous street tree that is removed shall be replaced in accordance with the Table 12.08.035.

All new street trees will have a minimum two-inch caliper trunk measured six inches above the root crown. The community development director may approve off-site installation of replacement trees where necessary due to planting constraints. The community development director may additionally allow a fee in-lieu of planting the tree(s) to be placed into a city fund dedicated to planting trees in Oregon City in accordance with Oregon City Municipal Code 12.08.

Replacement Schedule for Trees Determined to be Dead, Diseased or Hazardous by a Certified Arborist	Replacement Schedule for Trees Not Determined to be Dead, Diseased or Hazardous by a Certified Arborist

Diameter of tree to be Removed (inches of diameter at 4-ft. height)	Number of Replacement Trees to be Planted	Diameter of tree to be Removed (inches of diameter at 4-ft. height)	Number of Replacement Trees to be Planted
Any diameter	1 tree	Less than 6”	1 Tree
		6” to 12”	2 Trees
		13” to 18”	3 Trees
		19” to 24”	4 Trees
		25” to 30”	5 Trees
		31” and over	8 Trees

Response: There are no existing street trees associated with the subject property. New street trees are planned to have a two-inch caliper trunk diameter measured six inches above the root crown as required by this section. Please refer to the Preliminary Street Tree Plan for additional information. Therefore, to the extent this standard applies, it is met.

Title 13 - PUBLIC SERVICES

Chapter 13.12 - STORMWATER MANAGEMENT

13.12.050 Applicability and exemptions.

This chapter establishes performance standards for stormwater conveyance, quantity and quality. Additional performance standards for erosion prevention and sediment control are established in OCMC 17.47.

A. Stormwater Conveyance. The stormwater conveyance requirements of this chapter shall apply to all stormwater systems constructed with any development activity, except as follows:

1. The conveyance facilities are located entirely on one privately owned parcel;

2. The conveyance facilities are privately maintained; and

3. The conveyance facilities receive no stormwater runoff from outside the parcel's property limits.

Those facilities exempted from the stormwater conveyance requirements by the above subsection will remain subject to the requirements of the Oregon Uniform Plumbing Code. Those exempted facilities shall be reviewed by the building official.

Response: The project is subject to applicable City stormwater conveyance requirements. Please refer to the Preliminary Stormwater Report included in the application materials for additional information regarding the project’s planned stormwater management facility. This standard is met.

B. Water Quality and Flow Control. The water quality and flow control requirements of this chapter shall apply to the following proposed uses or developments, unless exempted under subsection C:

1. Activities located wholly or partially within water quality resource areas pursuant to Chapter 17.49 that will result in the creation of more than five hundred square feet of impervious surface within the WQRA or will disturb more than one thousand square feet of existing impervious surface within the WQRA as part of a commercial or industrial redevelopment project. These square footage measurements will be considered cumulative for any given five-year period; or

2. Activities that create or replace more than five thousand square feet of impervious surface per parcel or lot, cumulated over any given five-year period.

Response: This project is subject to applicable City stormwater quality control requirements. Please refer to the Preliminary Stormwater Report included in the application materials for additional information regarding the project's planned stormwater system. This standard is met.

13.12.080 Submittal requirements.

A. Applications subject to stormwater conveyance, water quality, and/or flow control requirements of this chapter shall prepare engineered drainage plans, drainage reports, and design flow calculation reports in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards.

B. Each project site, which may be composed of one or more contiguous parcels of land, shall have a separate valid city approved plan and report before proceeding with construction.

Response: A Preliminary Stormwater Report is included in the application materials, in accordance with the applicable requirements listed in this section. Please refer to the Preliminary Stormwater Report for additional information. These standards are met.

13.12.090 Approval criteria for engineered drainage plans and drainage report.

An engineered drainage plan and/or drainage report shall be approved only upon making the following findings:

A. The plan and report demonstrate how the proposed development and stormwater facilities will accomplish the purpose statements of this chapter.

Response: The purpose statements, found in Section 13.12.010, discuss minimizing increases to stormwater runoff, preventing runoff from exceeding downstream capacities, preventing irresponsible discharge of stormwater onto adjacent property, and similar goals. These purpose statements are reflected in the approval criteria found in this section. As shown on the preliminary plans, the project's stormwater is planned to be collected and conveyed to Tract A, which is planned to contain a public stormwater management facility. Stormwater detained and treated in the project's stormwater facilities is planned to be discharged to the existing stormwater conveyance system abutting the project to the south (Lindsay Anne Estates Too) via Cherrywood Way, and the existing stormwater line located in S Leland Road. For additional information, please refer to the preliminary plans and Preliminary Stormwater Report included in the application materials. This standard is met.

B. The plan and report meet the requirements of the Public Works Stormwater and Grading Design Standards adopted by resolution under Section 13.12.020.

Response: The Preliminary Stormwater Report and preliminary plans included in the application materials meet the requirements of the City's Public Works Stormwater and Grading Design Standards adopted under Section 13.12.020. This standard is met.

C. The storm drainage design within the proposed development includes provisions to adequately control runoff from all public and private streets and roof, footing, and area drains and ensures future extension of the current drainage system.

Response: The Preliminary Stormwater Report included in the application materials demonstrates that the City's existing stormwater conveyance system and the project's planned stormwater management facility has adequate capacity to receive runoff from streets, roof, footing, and area drains within the project site. Please refer to the Preliminary Stormwater Report for additional information. This standard is met.

D. Streambank erosion protection is provided where stormwater, directly or indirectly, discharges to open channels or streams.

Response: As shown in the Preliminary Stormwater Report and preliminary plans, stormwater is not planned to be discharged directly or indirectly to open channels or streams. Therefore, this criterion does not apply.

E. Specific operation and maintenance measures are proposed that ensure that the proposed stormwater quantity control facilities will be properly operated and maintained.

Response: Specific operation and maintenance measures are planned to be provided to ensure that the project's stormwater facility is properly operated and maintained. For further information, please refer to the Preliminary Stormwater Report included in the application materials. This standard is met.

Title 14 – ANNEXATIONS

Chapter 14.04 - CITY BOUNDARY CHANGES AND EXTENSION OF SERVICES

14.04.050 Annexation procedures.

A. Application Filing Deadlines. Annexation elections shall be scheduled for March, May, September and November of each year. Each application shall first be approved by the city commission, which shall provide a valid ballot title in sufficient time for the matter to be submitted to the voters as provided by the election laws of the state of Oregon.

Response: In accordance with Senate Bill 1573, which went into effect March 16, 2016 and "…applies to a city whose laws require a petition proposing annexation of territory to be submitted to the electors of the city," the following criteria found in Section 2 and 3 of Senate Bill 1573 have been addressed to determine the territory's support for annexation.

Section 2. (2)

Notwithstanding a contrary provision of the city charter or a city ordinance, upon receipt of a petition proposing annexation of territory submitted by all owners of land in the territory, the legislative body of the city shall annex the territory without submitting the proposal to the electors of the city if:

(a) The territory is included within an urban growth boundary adopted by the city or Metro, as defined in ORS 197.015

Response: One hundred percent of the land owners have signed the annexation petition. This petition is included in the application materials, which has been certified by the Clackamas County Assessor's Office. The territory is included within the Portland Metropolitan UGB.

(b) The territory is, or upon annexation of the territory into the city will be, subject to the acknowledge comprehensive plan of the city.

Response: The subject property currently has an Oregon City Comprehensive Plan designation of Low Density Residential (LR), which includes the R-10, R-8, and R-6 zoning districts. Upon approval of this annexation and zone change application, the subject property is planned to be rezoned from the County FU-10 zone to the City's R-6 zone, which is consistent with the City's LR Comprehensive Plan designation.

(c) At least one lot or parcel within the territory is contiguous to the city limits or is separated from the city limits only by a public right of way or a body of water.

Response: As shown on the preliminary plans, and the certified legal description and map included in the application materials, the subject property's southeast property line is contiguous with a parcel (Lindsay Anne Estates Too) which is in the process of being annexed by the City of Oregon City. Upon completion of said annexation, the subject property's southeast property line will be contiguous with City limits.

(d) The proposal conforms to all other requirements of the city's ordinances.

Response: The requisite information, forms, and documents listed in Oregon City's "Annexation Application Submittal Checklist" are included in the application materials.

Section 2. (3)
The territory to be annexed under this section includes any additional territory described in ORS 222.111 (1) that must be annexed in order to locate infrastructure and right of way access for services necessary for development of the territory described in subsection (2) of this section at a density equal to the average residential density within the annexing city.

Response: The territory to be annexed includes territory that must be annexed in order to locate future infrastructure and right-of-way access for services necessary for the territory to meet density equal to the average residential density within Oregon City per the R-6 zoning designation. Access and City services are available from S Leland Road and the abutting street stub for Cherrywood Way.

Section 2. (4)

When the legislative body of the city determines that the criteria described in subsection (2) of this section apply to territory proposed for annexation, the legislative body may declare that the territory described in subsections (2) and (3) of this section is annexed to the city by an ordinance that contains a description of the territory annexed.

Response: A legal description and map for the subject property planned for annexation prepared by a Professional Land Surveyor and certified by the Clackamas County Assessor's Office is included in the application materials.

Section 3
This 2016 Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this 2016 Act takes effect on its passage.

Response: Senate Bill 1573 was signed by the Governor and became effective on March 15, 2016.

B. Preapplication Review. Prior to submitting an annexation application, the applicant shall confer in the manner provided by Section 17.50.050(A) with the representative of the planning division appointed by the city manager.

Response: A pre-application conference was held by the City on September 05, 2017. Copies of the City's Pre-Application Conference Meeting Notes (PA 17-46) have been included in the application materials. This standard is met.

C. Neighborhood Contact. Prior to filing an annexation application, the applicant is encouraged to meet with the city-recognized neighborhood association or associations within which the property proposed to be annexed is located. If the city manager deems that more than one such association is affected, the applicant is encouraged to meet with each such association, as identified by the city manager. Unwillingness or unreasonable unavailability of a neighborhood association to meet shall not be deemed a negative factor in the evaluation of the annexation application.

Response: A neighborhood meeting with the Hillendale Neighborhood Association was held on December 05, 2017. The required neighborhood meeting materials are included with this application. This standard is met.

D. Signatures on Consent Form and Application. The applicant shall sign the consent form and the application for annexation. If the applicant is not the owner of the property proposed for annexation, the owner shall sign the consent form and application in writing before the city manager may accept the same for review.

Response: The appropriate consent form and annexation application have been signed by 100% of the property owners, a copy of which has been included in the application materials. This standard is met.

E. Contents of Application. An applicant seeking to annex land to the city shall file with the city the appropriate application form approved by the city manager. The application shall include the following:

1. Written consent form to the annexation signed by the requisite number of affected property owners, electors or both, provided by ORS 222, if applicable;

Response: The appropriate consent form and annexation application have been signed by 100% of the property owners. Copies of the signed consent form and application have been included in the application materials. This standard is met.

> 2. A legal description of the territory to be annexed, meeting the relevant requirements of the Metro Code and ORS Ch. 308. If such a description is not submitted, a boundary survey may be required. A lot and block description may be substituted for the metes and bounds description if the area is platted. If the legal description contains any deed or book and page references, legible copies of these shall be submitted with the legal description;

Response: A copy of the legal description for the subject property to be annexed has been included in the application materials. This standard is met.

> 3. A list of property owners within three hundred feet of the subject property and, if applicable, those property owners that will be "islanded" by the annexation proposal, on mailing labels acceptable to the city manager;

Response: A list of all property owners within a 300-foot radius of the subject property including appropriate mailing labels has been included in the application materials. This standard is met.

> 4. Two full quarter-section county tax assessor's maps, with the subject property(ies) outlined;

Response: Two full quarter-section County Tax Assessor's Maps with the subject property outlined on each map have been included in the application materials. This standard is met.

> 5. A site plan, drawn to scale (not greater than one inch = fifty feet), indicating:
>
> a. The location of existing structures (if any);
>
> b. The location of streets, sewer, water, electric and other utilities, on or adjacent to the property to be annexed;
>
> c. The location and direction of all water features on and abutting the subject property. Approximate location of areas subject to inundation, stormwater overflow or standing water. Base flood data showing elevations of all property subject to inundation in the event of one hundred year flood shall be shown;
>
> d. Natural features, such as rock outcroppings, marshes or wetlands (as delineated by the Division of State Lands), wooded areas, identified habitat conservation areas, isolated preservable trees (trees with trunks over six inches in diameter—as measured four feet above ground), and significant areas of vegetation;

e. General land use plan indicating the types and intensities of the proposed, or potential development;

Response: Preliminary plans containing the information required by these criteria have been included in the application materials. These criteria are met.

6. If applicable, a double-majority worksheet, certification of ownership and voters. Certification of legal description and map, and boundary change data sheet on forms provided by the city.

Response: This application is using the Petition of Owners of 100% of Land Area method of annexation, not the double majority method. Valid forms contained in the City of Oregon City's Annexation Application Packet certifying the legal description, map, and boundary data sheet have been included in the application materials. This standard is met.

7. A narrative statement explaining the conditions surrounding the proposal and addressing the factors contained in the ordinance codified in this chapter, as relevant, including:

a. Statement of availability, capacity and status of existing water, sewer, drainage, transportation, park and school facilities;

Response: **Water Facilities**

Availability

The subject property is currently located within the Clackamas River Water (CRW) District but is not served by the CRW's existing 6-inch water main located in the S Leland Road right-of-way. A separate 12-inch City water main is also located within the S Leland Road right-of-way southeast of the subject property. As part of the concurrent subdivision application, the applicant would be required to extend the City's 12-inch water main in S Leland Road for a distance equal to the subject property's S Leland Road frontage. Water mains are planned to be extended through the property from both the 12-inch City water main located within S Leland Road, and a water main stubbed within abutting Cherrywood Way, to create a looped system. Water service extension to adjacent property owners along the S Leland Road property frontage may be required via a Developer Agreement with the City for the following addresses off S Leland Road: 19600, 19622, 19681, 19691, and 19695. The appropriate connection fees, System Development Charges (SDCs), and on-going user fees are planned to be paid for each lot created with the subdivision application.

Capacity

The extension of the City's water mains in S Leland Road and Cherrywood Way would provide adequate capacity to serve the lots created for future single-family detached residential homes. Per the City Water Master Plan there are no known capacity or pressure issues.

Status

The subject property is currently located within the Clackamas River Water (CRW) District but is not served by the CRW's existing 6-inch water main located in the S Leland Road

right-of-way. The lots created for future single-family detached residential homes are planned to obtain water service from Oregon City as indicated above. Please refer to the public facilities memorandum included in the application materials from a professional engineer discussing the adequacy of public facilities for further information.

Sanitary Sewer Facilities

Availability

At this time, the subject property is not connected to a sanitary sewer system, nor is it within the service area of a sewer district. Tri-City Service District provides wastewater treatment for Oregon City. The applicant plans to file the appropriate documents for annexation into the Tri-City Service District following successful annexation to the City.

The City of Oregon City currently operates the sanitary sewer collection system in this area, which connects to the Tri-City Service District interceptor. As part of the concurrent subdivision application, the applicant would be required to extend the City's 8-inch sanitary sewer main in S Leland Road for a distance equal to the subject property's S Leland Road frontage. Sanitary sewer service is planned to be provided to the future lots from both the 8-inch City sanitary sewer main located within S Leland Road, and a sewer main extended from a stubbed main within abutting Cherrywood Way. The appropriate connection fees, SDCs, and on-going user fees are planned to be paid for each lot created with the subdivision application.

Capacity

The extension of the City's sanitary sewer mains in S Leland Road and Cherrywood Way would provide adequate capacity to serve the lots created for future single-family detached residential homes. Per the City Sanitary Sewer Master Plan there are no known capacity issues. Please refer to the public facilities memorandum included in the application materials from a professional engineer discussing the adequacy of public facilities for further information.

Status

As noted above, the applicant plans to file the appropriate documents for annexation into the Tri-City Service District, following successful annexation to the City. Sanitary sewer service is planned to be provided to the future lots from both the 8-inch City sanitary sewer main extended along the property's frontage on S Leland Road, and a sewer main extended from a stubbed main within abutting Cherrywood Way.

Storm Drainage

Availability

Stormwater is planned to be retained and treated in a new onsite public stormwater management facility created with the subdivision application in Tract A. A new 12-inch storm main is planned to be installed within the S Leland Road right-of-way along the northwest portion of the subject property's S Leland Road frontage, and extended through the interior streets to connect with the stormwater management facility. Once retained and treated in Tract A, stormwater would discharge into an existing storm sewer conveyance system is located directly to the southeast along Cherrywood Way, one of

the stub streets located within the abutting Lindsay Anne Estates Too Subdivision. The appropriate connection fees, SDCs, and ongoing user fees are planned to be paid for each lot created with the subdivision application.

Capacity

Per the requirements of the City's Stormwater and Grading Design Standards, a downstream analysis is included with this application which documents existing conditions and demonstrates adequate conveyance capacity of the natural and constructed drainage system downstream of the subject property. Please refer to the Preliminary Stormwater Report for additional information.

Status

As noted above, existing stormwater infrastructure is available to provide service to lots created with this application for future single-family detached residential homes, which would connect to the City's stormwater system. Please refer to the public facilities memorandum included in the application materials from a professional engineer discussing the adequacy of public facilities for further information.

Transportation Facilities

Availability

As mentioned previously in this narrative, the existing asphalt driveway from S Leland Road which provides access to Tax Lots 101, 109, and 1402 is planned to be abandoned, with access rerouted through the project site via the extension of Cherrywood Way. Primary access to the subject property is planned via Dotson Way, a new east/west local street created with this application which connects to the property's frontage along S Leland Road. S Leland Road is classified as a minor arterial street owned by Clackamas County. Cherrywood Way (local street) is stubbed to the subject property from the adjacent Lindsay Anne Estates Too Subdivision to the southeast. The extension of Cherrywood Way associated with a concurrent subdivision application would provide future access to Miller Road, which has direct access to S Leland Road.

Capacity

Service demand is not anticipated to increase due to annexation of the subject property by the City. However, as part of the zone change application, a Transportation Analysis Letter (TAL) that includes a Transportation Planning Rule (TPR) analysis has been prepared by a registered professional traffic engineer. The analyses in the TAL and the TPR are based on a scope of work provided by the City's traffic engineering consultant. The TAL includes trip generation estimates for the existing FU-10 zoning designation, the planned R-6 zoning designation, traffic count data, trip distribution and assignments, operational analysis, crash data analysis, and capacity analysis for the 20-year planning horizon consistent with the requirements of the State Transportation Planning Rule (OAR 660-012-060). As documented in the TAL, the additional vehicle trips generated by the future build out of Dotson Farms Subdivision are expected to have a de minimis impact on operation of area intersections and the Level of Service (LOS). Please refer to the TAL for further information.

Park Facilities

Availability

The closest park to the subject property is Wesley Lynn Park, approximately ±540 feet to the northeast. The annexation application by itself will not impact the existing parks in the area. The City's Comprehensive Plan designated the subject property as Low Density Residential (LR). Once annexed, and the zone change application is approved, the property will be zoned R-6, a LR Comprehensive Plan designation. The creation of lots for future single-family detached residential homes is expected to marginally increase the need for park facilities. SDC fees and property taxes would be assessed and paid to offset these impacts. This is the accepted process for funding future parks.

Capacity

Annexation, zone change, and subdivision of the subject property is not anticipated to affect the capacity of park facilities.

Status

As noted above, the site is not adjacent to existing park facilities and the application for annexation, zone change, and subdivision of the subject property is not anticipated to affect the capacity of park facilities. A marginal increase in the need and usage of nearby park facilities is planned to be offset by SDC and property taxes, as previously mentioned.

School Facilities

Availability

The subject property is currently served by the Oregon City School District. The site is located within approximately one (±1) mile of Gaffney Lane Elementary School to the east and John McLoughlin Elementary School to the northwest; less than two (±2) miles from Gardiner Middle School to the northeast; roughly four (±4) miles from Oregon City High School, and two and a half (±2½) miles from Clackamas Community College to the east. The subdivision application for the creation of lots for future single-family detached residential homes is anticipated to marginally increase the service demands for the local schools. Oregon City School District has adopted a $1.00/square foot construction excise tax on residential development as permitted by state law. In addition, future property (home) owners would be responsible for additional property tax payments.

Capacity

The applicant has attended a Pre-Application Conference with City staff and was not informed of any existing issues regarding current capacity of schools that serve the subject property.

Status

As noted above, the subject property is currently served by the Oregon City School District, and annexation alone would have no impact on the School District. The details surrounding existing and future capacity are unknown, but the construction excise tax and additional property tax revenues associated with the future build out of Dotson Farms Subdivision would contribute to increase the School District's capacity.

The responses to the availability, capacity, and status of existing water, sewer, drainage, transportation, park, and school facilities of the annexation of the subject property meet the above standard.

b. Statement of increased demand for such facilities to be generated by the proposed development, if any, at this time;

Response:

Water Facilities

This application for annexation, zone change, and subdivision is planned to create lots for future single-family detached residential dwellings at R-6 residential densities, consistent with several other properties in this area. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that there is sufficient capacity to satisfy potential increased demand to the public water system at R-6 residential densities. Please refer to the public facilities memorandum included in the application materials from a professional engineer discussing the adequacy of public facilities for further information.

Sanitary Sewer Facilities

This application for annexation, zone change, and subdivision is planned to create lots for future single-family detached residential dwellings at R-6 residential densities, consistent with several other properties in this area. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that the Tri-City Service District has sufficient capacity to satisfy potential increased demand to the public sanitary sewer system at R-6 residential densities. Please refer to the public facilities memorandum included in the application materials from a professional engineer discussing the adequacy of public facilities for further information.

Storm Drainage Facilities

This application for annexation, zone change, and subdivision is planned to create lots for future single-family detached residential dwellings at R-6 residential densities, consistent with several other properties in the area. As previously discussed, stormwater is planned to be retained and treated in a new onsite public stormwater management facility which is planned to connect to existing storm mains in S Leland Road and Cherrywood Way. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that there is sufficient capacity to satisfy potential increased demand to the public storm drainage system at R-6 residential densities. Please refer to the Preliminary Stormwater Report and public facilities memorandum included in the application materials from a professional engineer discussing the adequacy of public facilities for further information.

Transportation Facilities

This application for annexation, zone change, and subdivision is planned to create lots for future single-family detached residential dwellings at R-6 residential densities, consistent with several other properties in this area. As noted above, the additional vehicle trips generated by the future build out of Dotson Farms Subdivision are expected to have a de minimis impact on operation of area intersections and the LOS. Based upon these data, discussions with City staff at the pre-application conference, and experience with nearby projects, it is understood that there is sufficient capacity to satisfy potential increased

demand to the existing transportation system at R-6 densities. Please refer to the TAL for additional information.

Park Facilities
This application for annexation, zone change, and subdivision is planned to create lots for future single-family detached residential dwellings at R-6 residential densities, consistent with several other properties in this area. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that there is sufficient capacity to satisfy potential increased demand to the public parks system at R-6 residential densities.

School Facilities
This application for annexation, zone change, and subdivision is planned to create lots for future single-family detached residential dwellings at R-6 residential densities, consistent with several other properties in this area. Based upon discussions with City staff at the pre-application conference and experience with nearby projects, it is understood that there is sufficient capacity to satisfy potential increased demand to the public school system at R-6 residential densities.

c. **Statement of additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand;**

Response:

Water Facilities
This application involves the annexation, zone change, and subdivision of the subject property to create lots for future single-family detached residential homes at R-6 residential densities. Based on the information discussed at the pre-application conference, written information subsequently provided by City and CRW staff, and previous experience with recent projects in the area, it is understood that the City of Oregon City will be the ultimate provider of water service in this area and that sufficient capacity exists to serve the property at R-6 residential densities. This is summarized in the Public Facilities Memorandum that is included in the application materials.

It is also understood that extensions of existing water mains within S Leland Road and Cherrywood Way are subject to compliance with applicable City design standards (and necessary permits), and that service connections to the City system are also subject to payment of required City fees (that fund plan review and inspections) and SDCs (which provide funding for necessary City water system infrastructure capacity improvements).

Sanitary Sewer Facilities
Based on the information discussed at the pre-application conference, written information subsequently provided by City staff, and previous experience with recent projects in the area, it is understood that Tri-City Service District has sufficient capacity to serve the property at R-6 residential densities. This is summarized in the Public Facilities Memorandum that is included in the application materials.

Storm Drainage Facilities

Based on the information discussed at the pre-application conference, written information subsequently provided by City staff, and previous experience with recent projects in the area, it is understood that sufficient capacity exists to serve the property at R-6 residential densities. Please refer to the Preliminary Stormwater Report and public facilities memorandum included in the application materials from a professional engineer discussing the adequacy of public facilities for further information.

It is also understood that the new onsite public stormwater management facility and extensions of existing storm mains in S Leland Road and Cherrywood Way are subject to compliance with applicable City design standards (and necessary permits), and that service connections to the City system are also subject to payment of required City fees (that fund plan review and inspections) and SDCs (which provide funding for necessary City stormwater management system infrastructure capacity improvements).

Transportation Facilities

Based on the information discussed at the pre-application conference, a scope of work provided by the City's traffic engineering consultant, and written information subsequently shared by City staff, a TAL, that includes a Transportation Planning Rule (TPR) analysis, has been prepared by a registered professional traffic engineer. The TAL includes trip generation estimates for the existing FU-10 zoning designation, the planned R-6 zoning designation, traffic count data, trip distribution and assignments, operational analysis, crash data analysis, and capacity analysis for the 20-year planning horizon consistent with the requirements of the State Transportation Planning Rule (OAR 660-012-060). As documented in the TAL, the additional vehicle trips generated by the future build out of Dotson Farms Subdivision are expected to have a de minimis impact on operation of area intersections and the Level of Service (LOS). Please refer to the TAL for further information.

It is also understood that transportation management system infrastructure improvements are subject to compliance with applicable City design standards (and necessary permits), and that service connections to the City system are also subject to payment of required City fees (that fund plan review and inspections) and SDCs (which provide funding for necessary transportation system infrastructure capacity improvements).

Park Facilities

Based on information discussed at the pre-application conference, written information subsequently shared by City staff, and previous experience with recent projects in the area, it is understood that sufficient capacity exists to serve the property at R-6 residential densities. It is also understood that SDCs and property taxes would provide funding for City parks system improvements.

School Facilities

Based on information discussed at the pre-application conference, written information subsequently shared by City staff, and previous experience with recent projects in the area, it is understood that sufficient capacity exists to serve the property at R-6 residential densities. It is also understood that construction excise taxes and property tax revenue would provide funding for school district improvements.

Additional Facilities

The subject property is currently within and served by Clackamas Fire District No. 1. Based on information discussed at the pre-application conference, written information subsequently shared by City staff, and previous experience with recent projects in the area, it is understood that the fire district has sufficient resources to serve the property at R-6 residential densities. It is also understood that property taxes, levies and SDCs during the construction, and potential district bonds would provide necessary funding for fire protection services.

The subject property is currently served by Clackamas County's Sheriff's Office. Upon successful annexation to the City, the property will be served by the Oregon City Police Department. Based on information discussed at the pre-application conference, written information subsequently shared by City staff, and previous experience with recent projects in the area, it is understood that the Police Department has sufficient resources to serve the property at R-6 residential densities. It is also understood that property taxes and potential district bonds would provide necessary funding for the Police Department.

Phasing of Facilities

Phasing of facilities is not planned or required for any of the aforementioned public services based on anticipated demand and capacity.

d. **Statement outlining method and source of financing required to provide additional facilities, if any;**

Response: Additional facilities, beyond those included in the project, are not anticipated to be necessary. Therefore, methods and sources for financing additional facilities are not necessary.

e. **Statement of overall development concept and methods by which the physical and related social environment of the site, surrounding area and community will be enhanced;**

Response: As shown on the preliminary plans, Dotson Farms Subdivision would continue the adjacent low density residential development pattern with connections to local streets. The project is planned to include features that typically accompany new residential communities such as frontage improvements on S Leland Road, public sanitary sewer and stormwater management infrastructure, new interior public streets with sidewalks and street trees, lots to build new single-family detached homes, landscaping, etc.

f. **Statement of potential physical, aesthetic, and related social effects of the proposed, or potential development on the community as a whole and on the small subcommunity or neighborhood of which it will become a part; and proposed actions to mitigate such negative effects, if any;**

Response: As shown on the preliminary plans, this application features a continuation of the adjacent low density residential development pattern with connections to adjacent developed streets. The project is planned to include features that typically accompany

new residential communities such as frontage improvements on S Leland Road, public sanitary sewer and stormwater management infrastructure, new interior public streets with sidewalks and street trees, lots to build new single-family detached homes, landscaping, etc. The physical, aesthetic, and related social effects are not anticipated to be negative or to require mitigation. That said, the City of Oregon City has established standards, requirements, and review procedures by which land use applications are considered. That process includes a neighborhood meeting and public notice which provides members of the community an opportunity to provide input on the application, identify potential issues, and propose remedies.

g. Statement indicating the type and nature of any comprehensive plan text or map amendments, or zoning text or map amendments that may be required to complete the proposed development;

Response: As noted above, the subject property already exhibits an Oregon City Comprehensive Plan designation of Low Density Residential (LR). Once the annexation and zone change applications are approved, the subject property will be zoned R-6, a LR Comprehensive Plan designation. Therefore, Comprehensive Plan Map or text amendments and zoning text or map amendments are not required for this application.

8. The application fee for annexations established by resolution of the city commission and any fees required by metro. In addition to the application fees, the city manager shall require a deposit, which is adequate to cover any and all costs related to the election;

Response: The required application fee and deposit are included with this application submittal. That said, pursuant to Senate Bill 1573, approval of the application will not involve an election.

9. Paper and electronic copies of the complete application as required by the community development director.

Response: The appropriate number of application packets and electronic copies of the application packet are included with this application submittal**.**

14.04.060 Annexation factors.

A. When reviewing a proposed annexation, the commission shall consider the following factors, as relevant:

1. Adequacy of access to the site;

Response: The subject property has direct access onto S Leland Road, a minor arterial controlled by Clackamas County. Local streets Cedarwood Way and Cherrywood Way are planned to be stubbed to the subject property from the adjacent Lindsay Anne Estates Too Subdivision. Therefore, this criterion is met.

2. Conformity of the proposal with the city's comprehensive plan;

Comprehensive Plan Section 2: Land Use

Goal 2.1: Efficient Use of Land

Ensure that property planned for residential, commercial, office, and industrial uses is used efficiently and that land is developed following principles of sustainable development.

Response: The subject property is located within the UGB, and has an existing Low Density Residential Comprehensive Plan designation. That said, the future anticipated use of the property is low density residential at R-6 densities as envisioned and consistent with other projects in the area, and with the City's Comprehensive Plan designation, and ensures an adequate supply of housing in an area that can be provided with urban services in an efficient and timely manner.

Goal 2.7: Oregon City Comprehensive Plan Land-Use Map
Maintain the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for land-use development of the city by type, density and location.

Response: This application for annexation, zone change, and subdivision of the subject property is consistent with and maintains the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for development within the area of the property.

Goal 14.3: Orderly Provision of Services to Growth Areas
Plan for public services to lands within the Urban Growth Boundary through adoption of a concept plan and related Capital Improvement Program, as amendments to the Comprehensive Plan.

Response: The subject property is located within the UGB; however, no concept plan has been adopted for the area. That said, this application involves the creation of lots for future single-family detached residential homes at R-6 densities as envisioned and consistent with other projects in the area. The City's Capital Improvement Program includes utility master plans that have been updated in anticipation of serving additional properties annexed in the area. The availability, capacity, and status of existing and planned services and facilities (water, sanitary sewer, storm drainage, access/transportation) in the area have been discussed previously in this narrative. Therefore, the application is consistent with this goal. The narrative responses below support this conclusion.

Policy 14.3.1
Minimize new public facilities and services by encouraging new development within the Urban Growth Boundary at maximum densities allowed by the Comprehensive Plan.

Response: The annexation and zone change of the subject property to the City's R-6 zoning district is consistent with this policy as it allows compatible residential density within the Low Density Residential Comprehensive Plan designation of the property. The availability, capacity, and status of existing and planned services and facilities (water, sanitary sewer, storm drainage, access/transportation) in the area have been discussed previously in this narrative. Therefore, the application is consistent with this policy.

Policy 14.3.2
Ensure that the extension of new services does not diminish the delivery of those same services to existing areas and residents in the city.

Response: As discussed previously in this narrative, the City's utility master plans have been updated to account for the extension of services to annexed properties within the area without diminishing the delivery of those same services to existing areas and residents within the City. Therefore, the application is consistent with this policy.

Policy 14.3.3

Oppose the formation of new urban services districts and oppose the formation of new utility districts that may conflict with efficient delivery of city utilities within the Urban Growth Boundary.

Response: This application does not involve the creation of new utility districts. Therefore, this policy is not relevant to the application.

Policy 14.3.4

Ensure the cost of providing new public services and improvements to existing public services resulting from new development are borne by the entity responsible for the new development to the maximum extent allowed under state law for Systems Development Charges. If the property were to be subdivided and additional homes built in the future, the utility connection fees, SDC's and ongoing user fees, would be paid for by private parties.

Response: As previously discussed in the written narrative, the cost of system infrastructure improvements for public utilities and services is planned to be borne by the applicant and private parties using a combination of financing strategies including, but not limited to, utility connection fees, SDCs, ongoing user fees, construction excise taxes, property taxes, levies, and district bonds. Therefore, the application is consistent with this policy.

Goal 14.4: Annexation of Lands to the City

Annex lands to the city through a process that considers the effects on public services and the benefits to the city as a whole and ensures that development within the annexed area is consistent with the Oregon City Comprehensive Plan, City ordinances, and the City Charter.

Response: This application is required by the City to be reviewed through a Type IV land use process, which ensures consideration of the effects of annexation and zone change on public services and the City as a whole. The creation of lots for future single-family detached residential homes at R-6 densities is consistent with other projects in the area, and the City's Low Density Comprehensive Plan designation. Therefore, the application is consistent with this goal. The narrative responses below support this conclusion.

Policy 14.4.1

Promote compact urban form and support efficient delivery of public services by ensuring that lands to be annexed are within the City's Urban Growth Boundary, and contiguous with the city limits. Do not consider long linear extensions, such as cherry stems and flag lots, to be contiguous with the city limits.

Response: As discussed previously in this narrative, the subject property is located within the UGB and is planned to be contiguous with City limits upon approval of a separate land use

application (in process) for annexation by the City of an adjoining property to the southeast (Lindsay Anne Too Subdivision). As shown on the preliminary plans and discussed above, the project is planned to support efficient delivery of public services and utilities and to support compact urban form. Cherry stems and flag lots are not part of this application. Therefore, the application is consistent with this policy.

Policy 14.4.2

Include an assessment of the fiscal impacts of providing public services to unincorporated areas upon annexation, including the costs and benefits to the city as a whole as a requirement for concept plans.

Response: As previously discussed in this narrative, no concept plan has been adopted for the area. That said, this application involves the creation of lots for future single-family detached residential homes at R-6 densities as envisioned and consistent with other projects in the area. The City's Capital Improvement Program includes utility master plans that have been updated in anticipation of serving additional properties annexed in the area. The availability, capacity, and status of existing and planned services and facilities (water, sanitary sewer, storm drainage, access/transportation) in the area have been discussed previously in this narrative. The cost of system infrastructure improvements for public utilities and services is planned to be borne by the applicant and private parties using a combination of financing strategies including, but not limited to, utility connection fees, SDCs, ongoing user fees, construction excise taxes, property taxes, levies, and district bonds. Therefore, the application is consistent with this policy.

Policy 14.4.3

Evaluate and in some instances require that parcels adjacent to proposed annexations be included to:

- *avoid creating unincorporated islands within the city;*
- *enable public services to be efficiently and cost-effectively extended to the entire area; or*
- *implement a concept plan or sub-area master plan that has been approved by the Planning and City Commissions*

Response: As shown on the preliminary plans, annexation of the subject property is not planned to create unincorporated islands within the City. Adjacent properties to the south and east are located within the City's Low Density Residential zoning district, have recently subdivided, and have newly constructed homes. Lindsay Anne Estates Too Subdivision is contiguous with the subject property, and is planned to be annexed by the City of Oregon City, rezoned from the County's FU-10 zoning district to the City's R-6 zoning district, and subdivided for the creation of lots for future detached single-family residential homes. As discussed previously, although a concept plan or sub-area master plan does not exist for this area, the City's Capital Improvement Program includes utility master plans that have been updated in anticipation of serving additional properties annexed in the area. The availability, capacity, and status of existing and planned services and facilities (water, sanitary sewer, storm drainage, access/transportation) in the area have been discussed previously in this narrative and are planned to promote efficient and cost-effective delivery of public services to the subject property in accordance with applicable requirements. Therefore, the application is consistent with this policy.

Policy 14.4.4

Expedite the annexation of property as provided by state law in order to provide sewer service to adjacent unincorporated properties when a public health hazard is created by a failing septic tank sewage system.

Response: The subject property is not subject to a public health hazard associated with a failing septic system. As previously noted, the applicant plans to file the appropriate documents for annexation into the Tri-City Service District, following successful annexation to the City. The existing sanitary sewer mains located in Cherrywood Way and S Leland Road are planned to be extended through the project site to provide public sewer service for lots created with the subdivision application. This policy does not apply.

3. Adequacy and availability of public facilities and services to service potential development;

Response: As described in the preceding sections of this narrative, adequate public facilities and services are available to support future single-family detached residential homes on lots created with this application. This criterion is met.

4. Compliance with applicable sections of ORS Ch. 222, and Metro Code Section 3.09;

Response: ORS 222 requires the proposed annexation property be contiguous with the city and provides several options for annexing land into a city. As noted in 14.04.050(E), this annexation relies on ORS 222.125, annexation by consent of all land owners and a majority of electors. Therefore, the requirements of ORS 222 are met. The following narrative responses address applicable criteria listed in Metro Section 3.09.

Metro Code 3.09.045

D. To approve a boundary change through an expedited process, the city shall:

1. Find that the change is consistent with expressly applicable provisions in:

a. Any applicable urban service agreement adopted pursuant to ORS 195.065;

Response: This criterion requires that annexations be consistent with applicable provision of annexation plans and/or agreements that have been adopted pursuant to ORS 195. Urban services are defined as: sanitary sewers, water, fire protection, parks, open space, recreation and streets, roads and mass transit, and have been previously addressed in this narrative in the Statements of Availability of Facilities and Services findings as required by under Oregon City Municipal Code (OCMC) 14.04.040 and Metro Code 3.09. This criterion is met.

b. Any applicable annexation plan adopted pursuant to ORS 195.205;

Response: An annexation plan applicable to the subject property does not currently exist. Therefore, this criterion does not apply.

c. Any applicable cooperative planning agreement adopted pursuant to ORS 195.020(2) between the affected entity and a necessary party;

Response: The City and the County have an Urban Growth Management Agreement (UGMA) for portions of the property, which is a part of their Comprehensive Plans. This application is consistent with applicable portions of the agreement, including providing notice to the County of the public hearing, annexation of ROW of adjacent roads, and provision of public services to the subject property in accordance with relevant City standards and specifications. This standard is met.

d. Any applicable public facility plan adopted pursuant to a statewide planning goal on public facilities and services;

Response: As previously described in this narrative, this application is consistent with the City's Capital Improvement Program, which includes utility master plans that have been updated in anticipation of serving additional properties annexed in the area. Please refer to the Statements of Availability of Facilities and Services findings under OCMC 14.04.040 for additional information. This criterion is met.

e. Any applicable comprehensive plan;

Response: The Oregon City Comprehensive Plan serves as the principal guiding land use document for annexation and urbanization of the area, as well as four recent major utility master plan updates completed in anticipation of annexation of properties in the area. This application involves the creation of lots for future single-family detached residential homes at R-6 densities as envisioned and consistent with the comprehensive plan designation of Low Density Residential (LR). The availability, capacity, and status of existing and planned services and facilities (water, sanitary sewer, storm drainage, access/transportation) in the area have been discussed previously in this narrative under the findings at OCMC 14.04.040. Therefore, this criterion is met.

f. Any applicable concept plan; and

Response: A concept plan applicable to the subject property does not currently exist. Therefore, this criterion does not apply.

2. Consider whether the boundary change would:

a. Promote the timely, orderly and economic provision of public facilities and services;

Response: As previously discussed, the subject property is located inside the UGB, is planned to be contiguous with the City limits upon completion of the annexation of the adjoining Lindsay Anne Estates Too Subdivision, and is directly adjacent to developed areas that currently receive public facilities and services. The availability, capacity, and status of existing and planned services and facilities (water, sanitary sewer, storm drainage, access/transportation) in the area have been discussed previously in this narrative under the findings at OCMC 14.04.040, and are planned to be provided in accordance with the requirements of this section. Therefore, this standard is met.

b. Affect the quality and quantity of urban services; and

Response: As noted above, the City has updated its utility master plans in anticipation of serving additional properties annexed in the area. The annexation of this property will have no immediate impact upon the quality or quantity of urban services. The application for zone change to R-6 and the creation of lots for future single-family detached residential

dwellings is planned in accordance with the Low Density Residential (LR) designation of the property. The City has planned for the provision of necessary public facilities and services in this area in its Public Facilities Plan and Transportation Systems Plan. Since the project is planned to conform to the level of development anticipated by the City, it will not have a negative impact upon the quality or quantity of urban services. This criterion is met.

c. Eliminate or avoid unnecessary duplication of facilities or services.

Response: As part of the annexation process, the City will notify applicable service providers as to the annexation or withdrawal of the property to or from their district to avoid duplication of facilities and/or services. Please refer to the Statements of Availability of Facilities and Services findings under OCMC 14.04.040 for additional information. This criterion is met.

5. Natural hazards identified by the city, such as wetlands, floodplains and steep slopes;

Response: The subject property is not on or near any natural hazards identified by the City (such as wetlands, floodplains, and steep slopes). This criterion is not relevant.

6. Any significant adverse effects on specially designated open space, scenic, historic or natural resource areas by urbanization of the subject property at time of annexation;

Response: This application is not planned to adversely affect designated open space, scenic, historic, or natural resource areas. This criterion is not relevant.

7. Lack of any significant adverse effects on the economic, social and physical environment of the community by the overall impact of the annexation.

Response: As detailed in this narrative, this application is not planned to adversely affect the economic, social, and physical environment. The creation of lots for future single-family detached residential dwellings is planned in accordance with applicable portions of the Oregon City Comprehensive Plan and Municipal Code, in a similar fashion as adjacent residential projects to the southeast (Lindsay Anne Estates, Lindsay Anne Estates Too, Ellis Estates, and Marlo Farms). As described in the preceding sections of this narrative, adequate public facilities and services are available to support future single-family detached residential homes on lots created with this application. Therefore, this criterion is met.

Title 16 - LAND DIVISIONS

Chapter 16.08 - SUBDIVISIONS—PROCESS AND STANDARDS

16.08.015 Preapplication conference required.

Before the city will accept a subdivision application, the applicant must schedule and attend a preapplication conference in accordance with Section 17.50.050. At a minimum, an applicant should bring to the preapplication conference a tax map of the subject tax lot(s) and surrounding tax lots, scale drawings of the proposed subdivision lotting pattern, streets, utilities and important site features and improvements, and a topographic map of the property.

Response: A pre-application conference was held for this project on September 5, 2017. A copy of the Pre-Application Conference Summary is included in the application materials. This standard is met.

16.08.020 Preliminary subdivision plat application.

Within six months of the preapplication conference, an applicant may apply for preliminary subdivision plat approval. The applicant's submittal must provide a complete description of existing conditions, the proposed subdivision and an explanation of how the application meets all applicable approval standards. The following sections describe the specific submittal requirements for a preliminary subdivision plat, which include plan drawings, a narrative statement and certain tabular information. Once the application is deemed to be complete, the community development director shall provide notice of the application and an invitation to comment for a minimum of fourteen days to surrounding property owners in accordance with Section 17.50.090(A). At the conclusion of the comment period, the community development director will evaluate the application, taking into consideration all relevant, timely filed comments, and render a written decision in accordance with Chapter 17.50. The community development director's decision may be appealed to the city commission with notification to the planning commission.

Response: A pre-application conference was held for this project on September 5, 2017. This application contains the necessary submittal requirements identified in the pre-application summaries included in the application materials. This standard is met.

16.08.025 Preliminary subdivision plat—Required plans.

The preliminary subdivision plat shall specifically and clearly show the following features and information on the maps, drawings, application form or attachments. All maps and site drawings shall be at a minimum scale of one inch to fifty feet.

A. Site Plan. A detailed site development plan showing the location and dimensions of lots, streets, pedestrian ways, transit stops, common areas, building envelopes and setbacks, all existing and proposed utilities and improvements including sanitary sewer, stormwater and water facilities, total impervious surface created (including streets, sidewalks, etc.) and an indication of existing and proposed land uses for the site. If required by staff at the pre-application conference, a subdivision connectivity analysis shall be prepared by a transportation engineer licensed by the state of Oregon that describes the existing and future vehicular, bicycle and pedestrian connections between the proposed subdivision and existing or planned land uses on adjacent properties. The subdivision connectivity analysis shall include shadow plats of adjacent properties demonstrating how lot and street patterns within the proposed subdivision will extend to and/or from such adjacent properties and can be developed meeting the existing Oregon City Municipal Code design standards and adopted Transportation System Plan, street design standards, and adopted concept plans, corridor and access management studies, engineering standards and infrastructure analyses.

Response: The preliminary plans include the above listed information, as applicable. This submittal requirement is met.

> **B.** **Traffic/Transportation Plan. The applicant's traffic/transportation information shall include two elements: (1) A detailed site circulation plan showing proposed vehicular, bicycle, transit and pedestrian access points and connections to the existing system, circulation patterns and connectivity to existing rights-of-way or adjacent tracts, parking and loading areas and any other transportation facilities in relation to the features illustrated on the site plan; and (2) a traffic impact study prepared by a qualified professional transportation engineer, licensed in the state of Oregon, that assesses the traffic impacts of the proposed development on the existing transportation system and analyzes the adequacy of the proposed internal transportation network to handle the anticipated traffic and the adequacy of the existing system to accommodate the traffic from the proposed development. In the preparation of the Traffic/Transportation Plan, the applicant shall reference the adopted Transportation System Plan. The city engineer may waive any of the foregoing requirements if determined that the requirement is unnecessary in the particular case.**

Response: The preliminary plans included in the application materials include a Preliminary Conceptual Connectivity Analysis which shows the planned connections between the project and adjacent residential projects. A TAL prepared in accordance with City requirements, is also included in the submittal materials. This requirement is met.

> **C.** **Natural Features Plan and Topography, Preliminary Grading and Drainage Plan. The applicant shall submit a map illustrating all of the natural features and hazards on the subject property and, where practicable, within two hundred fifty feet of the property's boundary. The map shall also illustrate the approximate grade of the site before and after development. Illustrated features must include all proposed streets and cul-de-sacs, the location and estimated volume of all cuts and fills, and all stormwater management features. This plan shall identify the location of drainage patterns and courses on the site and within two hundred fifty feet of the property boundaries where practicable. Features that must be illustrated shall include the following:**
>
> 1. **Proposed and existing street rights-of-way and all other transportation facilities;**
> 2. **All proposed lots and tracts;**
> 3. **All trees proposed to be removed prior to final plat with a diameter six inches or greater diameter at breast height (d.b.h);**
> 4. **All natural resource areas pursuant to Chapter 17.49, including all jurisdictional wetlands shown in a delineation according to the Corps of Engineers Wetlands Delineation Manual, January 1987 edition, and approved by the Division of State Lands and wetlands identified in the city of Oregon [City] Local Wetlands Inventory, adopted by reference in the city of Oregon City comprehensive plan;**

5. All known geologic and flood hazards, landslides or faults, areas with a water table within one foot of the surface and all flood management areas pursuant to Chapter 17.42;

6. The location of any known state or federal threatened or endangered species;

7. All historic areas or cultural features acknowledged as such on any federal, state or city inventory;

8. All wildlife habitat or other natural features listed on any of the city's official inventories.

Response: The preliminary plans illustrate the aforementioned natural features on the project site or within 250 feet of the project's boundary, as applicable. Please refer to the preliminary plans for further information. Therefore, these criteria are met.

D. Archeological Monitoring Recommendation. For all projects that will involve ground disturbance, the applicant shall provide,

1. A letter or email from the Oregon State Historic Preservation Office Archaeological Division indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the Oregon State Historic Preservation Office and that the Oregon State Historic Preservation Office had not commented within forty-five days of notification by the applicant; and

2. A letter or email from the applicable tribal cultural resource representative of the Confederated Tribes of the Grand Ronde, Confederated Tribes of the Siletz, Confederated Tribes of the Umatilla, Confederated Tribes of the Warm Springs and the Confederated Tribes of the Yakama Nation indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the applicable tribal cultural resource representative and that the applicable tribal cultural resource representative had not commented within forty-five days of notification by the applicant.

If, after forty-five days notice from the applicant, the Oregon State Historic Preservation Office or the applicable tribal cultural resource representative fails to provide comment, the city will not require the letter or email as part of the completeness review. For the purpose of this section, ground disturbance is defined as the movement of native soils.

The community development director may waive any of the foregoing requirements if the community development director determines that the requirement is unnecessary in the particular case and that the intent of this chapter has been met.

Response: City staff provided notice of the project to the Oregon State Historic Preservation Office (SHPO) and the Confederated Tribes of the Grand Ronde (CTGR) prior to the September 5, 2017 pre-application conference. A letter dated September 7, 2017 from Oregon SHPO was sent to City staff indicating that no additional information will be provided unless archaeological and/or cultural resources are discovered during the project. In a letter dated August 31, 2017 sent to City staff, the CTGR recommended an archaeological

investigation be conducted prior to construction, and requested an inadvertent discovery plan be in place. Copies of the Oregon SHPO and CTGR letters to City staff are included in the pre-application section of the application materials. This standard is met.

16.08.030 Preliminary subdivision plat—Narrative statement.

In addition to the plans required in the previous section, the applicant shall also prepare and submit a narrative statement that addresses the following issues:

A. Subdivision Description. A detailed description of the proposed development, including a description of proposed uses, number and type of residential units, allocation and ownership of all lots, tracts, streets, and public improvements, the structure of any homeowner's association, and each instance where the proposed subdivision will vary from some dimensional or other requirement of the underlying zoning district. For each such variance, a separate application will be required pursuant to Chapter 17.60, Variances;

Response: A detailed description of the project, including the above listed information, as applicable, is included in Sections I and II of this narrative. Variances are not required. This submittal requirement is met.

B. Timely Provision of Public Services and Facilities. The applicant shall explain in detail how and when each of the following public services or facilities is, or will be, adequate to serve the proposed development by the time construction begins:

1. Water,

Response: The subject property is currently located within the Clackamas River Water (CRW) District but is not served by the CRW's existing 6-inch water main located in the S Leland Road right-of-way. A separate 12-inch City water main is also located within the S Leland Road right-of-way southeast of the subject property. As part of the concurrent subdivision application, the applicant would be required to extend the City's 12-inch water main in S Leland Road for a distance equal to the subject property's S Leland Road frontage. Water mains are planned to be extended through the property from both the 12-inch City water main located within S Leland Road, and a water main stubbed within abutting Cherrywood Way, to create a looped system. Individual water connections for each of the new lots within the project are planned to connect to the extended water mains. Water service extension to adjacent property owners along the S Leland Road property frontage may be required via a Developer Agreement with the City for the following addresses off S Leland Road: 19600, 19622, 19681, 19691, and 19695. The appropriate connection fees, System Development Charges (SDCs), and on-going user fees are planned to be paid for each lot created with the subdivision application. Please refer to the public facilities memorandum included in the application materials from a professional engineer discussing the adequacy of public facilities for further information.

2. Sanitary sewer,

Response: At this time, the subject property is not connected to a sanitary sewer system, nor is it within the service area of a sewer district. Tri-City Service District provides wastewater treatment for Oregon City. The applicant plans to file the appropriate documents for annexation into the Tri-City Service District following successful annexation to the City.

The City of Oregon City currently operates the sanitary sewer collection system in this area, which connects to the Tri-City Service District interceptor. As part of the concurrent subdivision application, the applicant would be required to extend the City's 8-inch sanitary sewer main in S Leland Road for a distance equal to the subject property's S Leland Road frontage. Sanitary sewer service is planned to be provided to the future lots from both the 8-inch City sanitary sewer main located within S Leland Road, and a sewer main extended from a stubbed main within abutting Cherrywood Way. Lots within the project are planned to be provided individual service laterals from the extended sanitary sewer mains. The appropriate connection fees, SDCs, and on-going user fees are planned to be paid for each lot created with the subdivision application. Please refer to the public facilities memorandum included in the application materials from a professional engineer discussing the adequacy of public facilities for further information.

3. Storm sewer and stormwater drainage,

Response: Stormwater is planned to be retained and treated in a new onsite public stormwater management facility created with the subdivision application in Tract A. A new 12-inch storm main is planned to be installed within the S Leland Road right-of-way along the northwest portion of the subject property's S Leland Road frontage, and extended through the interior streets to connect with the stormwater management facility. Once retained and treated in Tract A, stormwater would discharge into an existing storm sewer conveyance system is located directly to the southeast along Cherrywood Way, one of the stub streets located within the abutting Lindsay Anne Estates Too Subdivision. The appropriate connection fees, SDCs, and ongoing user fees are planned to be paid for each lot created with the subdivision application. Please refer to the public facilities memorandum included in the application materials from a professional engineer discussing the adequacy of public facilities for further information.

4. Parks and recreation,

Response: Park System Development Charges for future park development in the area are planned to be assessed and paid at the time building permits are issued. This ensures the required funding for parks.

5. Traffic and transportation,

Response: As mentioned previously in this narrative, the existing asphalt driveway from S Leland Road which provides access to Tax Lots 101, 109, and 1402 is planned to be abandoned, with access rerouted through the project site via the extension of Cherrywood Way. Primary access to the subject property is planned via Dotson Way, a new east/west local street created with this application which connects to the property's frontage along S Leland Road. S Leland Road is classified as a minor arterial street owned by Clackamas County. Cedarwood Way and Cherrywood Way (local streets) are stubbed to the subject property from the adjacent Lindsay Anne Estates Too Subdivision to the southeast. The extension of Cherrywood Way associated with a concurrent subdivision application would provide future access to Miller Road, which has direct access to S Leland Road.

Specific improvements planned with this application include ±9 feet of right-of-way dedication along the project's frontage on S Leland Road. Planned improvements to S

Leland Road include a ±39-foot half-width right-of-way, ±26 feet of half-width asphalt pavement (plus ±10 feet on the other side), curb and gutter, 5-foot-wide planter strip, and 7-foot wide sidewalk. Extension of the project's new east/west local street (Dotson Way) from S Leland Road and Cherrywood Way through the project site include a ±54-foot right-of-way, ±32 feet of asphalt pavement, curb and gutter, 5-foot wide planter strips, and 5-foot wide sidewalks on both sides of the streets.

The application materials include a Transportation Analysis Letter (TAL) prepared by Lancaster Engineering. Appropriate street improvements connecting to existing transportation facilities are shown on the preliminary plans. The TAL found that existing streets, and streets planned to be created or extended with this application, adequately accommodate the amount of additional traffic expected to be generated by this project. Transportation Systems Development Charges are planned to be paid for each new home prior to issuing a building permit. These fees fund future City and County public works street improvement projects. Please refer to the TAL for additional information.

6. Schools,

Response: The Oregon City School District provides educational services for the children of future residents. School funding comes from a variety of sources including construction excise taxes assessed with the issuance of future building permits, and future property taxes.

7. Fire and police services;

Response: Clackamas Fire District No. 1 provides fire services. Property taxes are planned to be paid by future property owners to fund fire protection services, thereby ensuring funding for fire protection services.

The City of Oregon City Police Department provides police services. Property taxes are planned to be paid by future property owners to fund police protection services, thereby ensuring funding for police protection services.

Where adequate capacity for any of these public facilities and services is not demonstrated to be currently available, the applicant shall describe how adequate capacity in these services and facilities will be financed and constructed before recording of the plat;

Response: Public facilities and services are, or are planned to be, available to accommodate this project. No additional description of financing and construction of adequate capacity is required.

C. Approval Criteria and Justification for Variances. The applicant shall explain how the proposed subdivision is consistent with the standards set forth in Chapter 16.12, 12.04 and any other applicable approval standards identified in the municipal code. For each instance where the applicant proposes a variance from some applicable dimensional or other numeric requirement, the applicant shall address the approval criteria from Chapter 17.60.

Response: This application does not include requests for variances. This standard does not apply.

D. Drafts of the proposed covenants, conditions and restrictions (CC&Rs), maintenance agreements, homeowner association

agreements, dedications, deeds easements, or reservations of public open spaces not dedicated to the city, and related documents for the subdivision;

Response: A draft copy of CC&Rs is included in the application materials. This standard is met.

E. A description of any proposed phasing, including for each phase the time, acreage, number of residential units, amount of area for nonresidential use, open space, development of utilities and public facilities;

Response: Project phasing is not planned. This standard does not apply.

F. Overall density of the subdivision and the density by dwelling type for each.

Response: The subject property totals approximately ±2.98 acres of land. As stated previously, this project includes a zone change application that, upon approval, designates the site with the City's R-6 zoning district. The Dotson Farms Subdivision is planned to include 12 lots for the future construction of single-family detached residential homes spread over the majority of the subject site (±2.98 acres).

On a gross acreage basis, the 12-lot subdivision (on ±2.98 acres) equates to ±4.0 dwelling units per acre. Based on the site's net developable area (±1.86 acres or ±80,806 SF – after deduction of public facilities/right-of-way), the density is ±6.5 units per acre.

Lot sizes in new subdivisions are permitted to be within 80% of the minimum size required in the underlying zone provided the average lot size (for the entire subdivision) is as large or larger than the minimum required lot size in the underlying zone. In the R-6 zone, the minimum average lot size is greater than 6,000 square feet. Based on the site's net developable area (±1.86 acres or ±80,806 SF), the maximum number of lots that can be included in the subdivision is 13, and the minimum number of lots required is 10.

Based upon the above, the 12-lot subdivision does not exceed the maximum number of lots permitted and provides more than the minimum number of required lots. Therefore, density requirements for the project are satisfied.

16.08.035 Notice and invitation to comment.

Upon the city's determination that an application for a preliminary subdivision plat is complete, pursuant to Chapter 17.50, the city shall provide notice of the application in accordance with requirements of Chapter 17.50 applicable to Type II decisions.

Response: Upon the City's review and completeness determination for this application, the City can provide notice in accordance with Section 17.50 of the OCMC. This standard is met.

16.08.040 Preliminary subdivision plat—Approval standards and decision.

The minimum approval standards that must be met by all preliminary subdivision plats are set forth in Chapter 16.12, and in the dimensional and use requirements set forth in the chapter of this code that corresponds to the underlying zone. The community development director shall evaluate the application to determine that the proposal does, or can through the imposition of conditions of

approval, meet these approval standards. The community development director's decision shall be issued in accordance with the requirements of Section 17.50.

Response: This narrative includes responses demonstrating how the application complies with the applicable approval criteria. This narrative is supported by substantial evidence, including preliminary plans, a TAL, and other written documentation. This information, which is included in the application package, provides the basis for the City to approve the application. This standard is met.

16.08.045 Building site—Frontage width requirement.

Each lot in a subdivision shall abut upon a cul-de-sac or street other than an alley for a width of at least twenty feet.

Response: As shown on the preliminary plans, each planned lot has more than 20 feet of frontage on a public street. This standard is met.

16.08.050 Flag lots in subdivisions.

Flag lots shall not be permitted within subdivisions except as approved by the community development director and in compliance with the following standards.

Response: Flag lots are not part of this application. These standards have been omitted from this written response.

16.08.055 Final subdivision plat—Application requirements and approval standards.

The applicant shall apply for final subdivision plat approval within twenty-four months following approval of a preliminary subdivision plat. The applicant shall apply for final plat approval to the city and shall pay the applicable fees as set forth on the city's adopted fee schedule. The final subdivision plat is processed as an administrative decision by the city so long as the final subdivision plat is consistent with the approved preliminary subdivision plat as conditioned by the decision-maker.

A. If the community development director determines that the final subdivision plat submitted by the applicant is not consistent with the approved preliminary subdivision plat, the modified subdivision shall be subject to the same Type II process and review standards as were applicable to the preliminary subdivision plat. However, if such a review is necessary, the review shall be limited only to those aspects of the final subdivision plat that deviate from the approved preliminary subdivision plat. The decision-maker's original approval of all other aspects of the subdivision may be relied upon as a conclusive determination of compliance with the applicable standards.

B. The community development director shall approve a final subdivision plat that is consistent with the approved preliminary subdivision plat, including any conditions attached thereto and required permits for access to facilities owned by another jurisdiction.

Response: A final subdivision plat, consistent with the approved preliminary plat, is planned to be submitted to the City prior to recordation. This standard is met.

Chapter 16.12 - MINIMUM IMPROVEMENTS AND DESIGN STANDARDS FOR LAND DIVISIONS

16.12.015 Street design—Generally.

Development shall demonstrate compliance with Chapter 12.04—Streets, Sidewalks and Public Places.

Response: Please refer to the written response provided to Chapter 12.04 for appropriate findings demonstrating compliance with the street design standards. This standard is met.

16.12.020 Blocks—Generally.

The length, width and shape of blocks shall take into account the need for adequate building site size, convenient motor vehicle, pedestrian, bicycle and transit access, control of traffic circulation, and limitations imposed by topography and other natural features.

Response: The planned lengths, widths, and shapes of blocks are largely determined by the continuation of existing streets, the development pattern abutting the subject property, and the zoning and configuration of the subject property itself. Public streets with sidewalks are planned to extend through the project to provide access to lots and future homes, and enhance neighborhood connectivity and circulation. Blocks created by this project do not exceed the maximum block length spacing standard of 530 feet, as addressed under Subsection 12.04.195 Spacing Standards. This standard is met.

16.12.030 Blocks—Width.

The width of blocks shall ordinarily be sufficient to allow for two tiers of lots with depths consistent with the type of land use proposed.

Response: The widths of the planned blocks within the project are planned to generally allow for two tiers of lots. New lots within the subdivision are planned to average, at a minimum, 6,000 square feet in area pursuant to the requirements of the R-6 zone, and they are planned to be suitable for single-family detached homes. This standard is met.

16.12.040 Building sites.

The size, width, shape and orientation of building sites shall be appropriate for the primary use of the land division, and shall be consistent with the residential lot size provisions of the zoning ordinance with the following exceptions:

Response: The size, width, depth, shape, and orientation of the planned lots comply with the requirements for the R-6 zoning district, as illustrated on the preliminary plans. This standard is met.

16.12.045 Building sites – Minimum density.

All subdivision layouts shall achieve at least eighty percent of the maximum density of the base zone for the net developable area as defined in Chapter 17.04.

Response: Density has been addressed in response to Section 16.08.030.F. This standard has been met.

16.12.050 Calculations of lot area.

A subdivision in the R-10, R-8, R-6, R-5, or R-3.5 dwelling district may include lots that are up to twenty percent less than the required minimum lot area of the applicable zoning designation provided the entire subdivision on average meets the minimum site area requirement of the underlying zone. The average lot area is determined by calculating the total site area devoted to dwelling units and dividing that figure by the proposed number of dwelling lots.

Accessory dwelling units are not included in this determination nor are tracts created for non-dwelling unit purposes such as open space, stormwater tracts, or access ways.

A lot that was created pursuant to this section may not be further divided unless the average lot size requirements are still met for the entire subdivision.

When a lot abuts a public alley, an area equal to the length of the alley frontage along the lot times the width of the alley right-of-way measured from the alley centerline may be added to the area of the abutting lot in order to satisfy the lot area requirement for the abutting lot. It may also be used in calculating the average lot area.

Response: The project includes 12 lots intended for the future construction of single-family detached homes in the R-6 zoning district. The smallest of the future lots is approximately ±6,000 square feet, which is equal to the minimum lot area allowed by this standard. Several of the lots are planned to be larger than 6,000 square feet, with the largest lot being ±9,558 square feet. The average lot area of Dotson Farms is ±6,682 square feet, which exceeds the minimum average lot size of 6,000 square feet required in the R-6 zoning district. This standard is met.

16.12.055 Building site—Through lots.

Through lots and parcels shall be avoided except where they are essential to provide separation of residential development from major arterials or to overcome specific disadvantages of topography of existing development patterns. A reserve strip may be required. A planting screen restrictive covenant may be required to separate residential development from major arterial streets, adjacent nonresidential development, or other incompatible use, where practicable. Where practicable, alleys or shared driveways shall be used for access for lots that have frontage on a collector or minor arterial street, eliminating through lots.

Response: Through lots are not planned within the project. This standard does not apply.

16.12.060 Building site—Lot and parcel side lines.

The lines of lots and parcels, as far as is practicable, shall run at right angles to the street upon which they face, except that on curved streets they shall be radial to the curve.

Response: Lot lines, to the extent practicable, run at right angles to the street they face. Please refer to the preliminary plans for additional information. This standard is met.

16.12.065 Building site—Grading.

Grading of building sites shall conform to the State of Oregon Structural Specialty Code, Chapter 18, any approved grading plan and any approved residential lot grading plan in accordance with the requirements of Chapter 15.48, 16.12 and the Public Works Stormwater and Grading Design Standards, and the erosion control requirements of Chapter 17.47.

Response: The preliminary plans show project grading, including building site grading (where appropriate). The preliminary plans demonstrate that Chapter 15.48, Chapter 16.12, the Public Works Stormwater and Grading Design Standards, and the erosion control requirements of Chapter 17.47 are met. Please refer to the preliminary plans for additional information. This standard is satisfied.

16.12.070 Building site—Setbacks and building location.

This standard ensures that lots are configured in a way that development can be oriented toward streets to provide a safe, convenient and aesthetically pleasing environment for pedestrians and bicyclists. The objective is for lots located on a neighborhood collector, collector or minor arterial street locate the front yard setback on and design the most architecturally significant elevation of the primary structure to face the neighborhood collector, collector or minor arterial street.

A. The front setback of all lots located on a neighborhood collector, collector or minor arterial shall be orientated toward the neighborhood collector, collector or minor arterial street.

Response: As shown on the preliminary plans, four (4) of the planned lots (Lots 1, 2, 11, and 12) have frontage on S Leland Road, a minor arterial. The future building orientation of Lots 1, 2, 11, and 12 is planned toward S Leland Road. This standard is met.

B. The most architecturally significant elevation of the house shall face the neighborhood collector, collector or minor arterial street.

Response: Lots 1, 2, 11, and 12 have frontage on S Leland Road, a minor arterial. Since this application does not involve the construction of homes, architectural elements are planned to be reviewed at time of building permit submittal. Please refer to the previous response to subsection (B). This standard is met.

C. On corner lots located on the corner of two local streets, the main façade of the dwelling may be oriented towards either street.

Response: Other than Lots 1, 2, 11, and 12, which are planned to have the main façades facing S Leland Road, future homes located on the project's internal corner lots are planned to have the main façades oriented toward one of the project's abutting internal streets. This standard is met.

D. All lots proposed with a driveway and lot orientation on a collector or minor arterial shall combine driveways into one joint access per two or more lots unless the city engineer determines that:

1. No driveway access may be allowed since the driveway(s) would cause a significant traffic safety hazard; or

2. Allowing a single driveway access per lot will not cause a significant traffic safety hazard.

Response: As shown on the preliminary plans, the four (4) lots required to be oriented toward S Leland Road (Lots 1, 2, 11, and 12) are planned to be accessed by way of joint driveways extending from Dotson Way. Therefore, to the extent these criteria apply, they are met.

E. The community development director may approve an alternative design, consistent with the intent of this section, where the applicant can show that existing development patterns preclude the ability to practically meet this standard.

Response: As described above, building site setbacks and orientation for the planned lots are consistent with the standards of this section, and are not anticipated to require an alternative design. This standard does not apply.

16.12.075 Building site—Division of lots.

Where a tract of land is to be divided into lots or parcels capable of redivision in accordance with this chapter, the community development director shall require an arrangement of lots, parcels and streets which facilitates future redivision. In such a case, building setback lines may be required in order to preserve future right-of-way or building sites.

Response: Lots are not planned to be capable of redivision. This criterion does not apply.

16.12.080 Protection of trees.

Protection of trees shall comply with the provisions of Chapter 17.41—Tree Protection.

Response: Please refer to responses to individual criteria of Chapter 17.41 later in this narrative.

16.12.085 Easements.

The following shall govern the location, improvement and layout of easements:

A. Utilities. Utility easements shall be required where necessary as determined by the city engineer. Insofar as practicable, easements shall be continuous and aligned from block-to-block within the land division and with adjoining subdivisions or partitions. Specific utility easements for water, sanitary or storm drainage shall be provided based on approved final engineering plans.

B. Unusual Facilities. Easements for unusual facilities such as high voltage electric transmission lines, drainage channels and stormwater detention facilities shall be adequately sized for their intended purpose, including any necessary maintenance roads. These easements shall be shown to scale on the preliminary and final plats or maps. If the easement is for drainage channels, stormwater detention facilities or related purposes, the easement shall comply with the requirements of the Public Works Stormwater and Grading Design Standards.

C. Watercourses. Where a land division is traversed or bounded by a watercourse, drainageway, channel or stream, a stormwater easement or drainage right-of-way shall be provided which conforms

substantially to the line of such watercourse, drainageway, channel or stream and is of a sufficient width to allow construction, maintenance and control for the purpose as required by the responsible agency. For those subdivisions or partitions which are bounded by a stream of established recreational value, setbacks or easements may be required to prevent impacts to the water resource or to accommodate pedestrian or bicycle paths.

D. Access. When easements are used to provide vehicular access to lots within a land division, the construction standards, but not necessarily width standards, for the easement shall meet city specifications. The minimum width of the easement shall be twenty feet. The easements shall be improved and recorded by the applicant and inspected by the city engineer. Access easements may also provide for utility placement.

E. Resource Protection. Easements or other protective measures may also be required as the community development director deems necessary to ensure compliance with applicable review criteria protecting any unusual significant natural feature or features of historic significance.

Response: Existing and new utility easements are planned to be provided on the final subdivision plat. Therefore, these criteria are satisfied.

16.12.090 Minimum improvements—Procedures.

In addition to other requirements, improvements installed by the applicant either as a requirement of these or other regulations, or at the applicant's option, shall conform to the requirements of this title and be designed to city specifications and standards as set out in the city's facility master plan and Public Works Stormwater and Grading Design Standards. The improvements shall be installed in accordance with the following procedure:

A. Improvement work shall not commence until construction plans have been reviewed and approved by the city engineer and to the extent that improvements are in county or state right-of-way, they shall be approved by the responsible authority. To the extent necessary for evaluation of the proposal, the plans may be required before approval of the preliminary plat of a subdivision or partition. Expenses incurred thereby shall be borne by the applicant and paid for prior to final plan review.

B. Improvements shall be constructed under the inspection and approval of the city engineer. Expenses incurred thereby shall be borne by the applicant and paid prior to final approval. Where required by the city engineer or other city decision-maker, the applicant's project engineer also shall inspect construction.

C. Erosion control or resource protection facilities or measures are required to be installed in accordance with the requirements of Chapter 17.49 and the Public Works Erosion and Sediment Control Standards. Underground utilities, waterlines, sanitary sewers and storm drains installed in streets shall be constructed prior to the surfacing of the streets. Stubs for service connections for underground utilities and sanitary sewers shall be placed beyond the public utility easement behind to the lot lines.

D. As-built construction plans and digital copies of as-built drawings shall be filed with the city engineer upon completion of the improvements.

E. The city engineer may regulate the hours of construction and access routes for construction equipment to minimize impacts on adjoining residences or neighborhoods.

Response: The preliminary plans show the public improvements for this project. Work is planned to commence when construction plans have been reviewed and approved by the City Engineer. Inspections of the planned improvements, including erosion control measures, are required. Upon completion of the improvements, as-built drawings are planned to be filed with the City Engineer. This standard is met.

16.12.095 Minimum improvements—Public facilities and services.

The following minimum improvements shall be required of all applicants for a land division under Title 16, unless the decision-maker determines that any such improvement is not proportional to the impact imposed on the city's public systems and facilities:

A. Transportation System. Applicants and all subsequent lot owners shall be responsible for improving the city's planned level of service on all public streets, including alleys within the land division and those portions of public streets adjacent to but only partially within the land division. All applicants shall execute a binding agreement to not remonstrate against the formation of a local improvement district for street improvements that benefit the applicant's property. Applicants are responsible for designing and providing adequate vehicular, bicycle and pedestrian access to their developments and for accommodating future access to neighboring undeveloped properties that are suitably zoned for future development. Storm drainage facilities shall be installed and connected to off-site natural or man-made drainageways. Upon completion of the street improvement survey, the applicant shall reestablish and protect monuments of the type required by ORS 92.060 in monument boxes with covers at every public street intersection and all points or curvature and points of tangency of their center line, and at such other points as directed by the city engineer.

Response: Public streets with sidewalks are planned to provide access to lots created with this application for future single-family detached residential homes and provide neighborhood connectivity/circulation. As shown on the preliminary plans, this project is planned to result in fully-improved streets extending from adjoining residential projects and S Leland Road to accommodate different modes of travel. Stormwater is planned to be retained and treated on-site in a new stormwater management facility created with this application. Please refer to the Preliminary Stormwater Report for further information. Monument boxes at street centerline intersections and other required locations are planned to be installed and/or protected in accordance with the requirements of this section. This standard is met.

B. Stormwater Drainage System. Applicants shall design and install drainage facilities within land divisions and shall connect the development's drainage system to the appropriate downstream storm drainage system as a minimum requirement for providing services to the applicant's development. The applicant shall obtain county or

state approval when appropriate. All applicants shall execute a binding agreement to not remonstrate against the formation of a local improvement district for stormwater drainage improvements that benefit the applicant's property. Applicants are responsible for extending the appropriate storm drainage system to the development site and for providing for the connection of upgradient properties to that system. The applicant shall design the drainage facilities in accordance with city drainage master plan requirements, Chapter 13.12 and the Public Works Stormwater and Grading Design Standards.

Response: Stormwater is planned to be retained and treated in a new onsite public stormwater management facility created with the subdivision application in Tract A. A new 12-inch storm main is planned to be installed within the S Leland Road right-of-way along the northwest portion of the subject property's S Leland Road frontage, and extended through the interior streets to connect with the stormwater management facility. Once retained and treated in Tract A, stormwater would discharge into an existing storm sewer conveyance system is located directly to the southeast along Cherrywood Way, one of the stub streets located within the abutting Lindsay Anne Estates Too Subdivision. For additional information, please refer to the preliminary plans, Preliminary Stormwater Report, and Public Facilities Memorandum included in the application materials. Therefore, these criteria are met.

C. Sanitary Sewer System. The applicant shall design and install a sanitary sewer system to serve all lots or parcels within a land division in accordance with the city's sanitary sewer design standards, and shall connect those lots or parcels to the city's sanitary sewer system, except where connection is required to the county sanitary sewer system as approved by the county. All applicants shall execute a binding agreement to not remonstrate against the formation of a local improvement district for sanitary sewer improvements that benefit the applicant's property. Applicants are responsible for extending the city's sanitary sewer system to the development site and through the applicant's property to allow for the future connection of neighboring undeveloped properties that are suitably zoned for future development. The applicant shall obtain all required permits and approvals from all affected jurisdictions prior to final approval and prior to commencement of construction. Design shall be approved by the city engineer before construction begins.

Response: At this time, the subject property is not connected to a sanitary sewer system, nor is it within the service area of a sewer district. Tri-City Service District provides wastewater treatment for Oregon City. The applicant plans to file the appropriate documents for annexation into the Tri-City Service District following successful annexation to the City.

The City of Oregon City currently operates the sanitary sewer collection system in this area, which connects to the Tri-City Service District interceptor. As part of the concurrent subdivision application, the applicant would be required to extend the City's 8-inch sanitary sewer main in S Leland Road for a distance equal to the subject property's S Leland Road frontage. Sanitary sewer service is planned to be provided to the future lots from both the 8-inch City sanitary sewer main located within S Leland Road, and a sewer

main extended from a stubbed main within abutting Cherrywood Way. Lots within the project are planned to be provided individual service laterals from the extended sanitary sewer mains. Please refer to the preliminary plans and the Public Facilities Memorandum included in the application materials for further information. Therefore, this standard is met.

> **D.** **Water System. The applicant shall design and install a water system to serve all lots or parcels within a land division in accordance with the city public works water system design standards, and shall connect those lots or parcels to the city's water system. All applicants shall execute a binding agreement to not remonstrate against the formation of a local improvement district for water improvements that benefit the applicant's property. Applicants are responsible for extending the city's water system to the development site and through the applicant's property to allow for the future connection of neighboring undeveloped properties that are suitably zoned for future development.**

Response: The subject property is currently located within the Clackamas River Water (CRW) District but is not served by the CRW's existing 6-inch water main located in the S Leland Road right-of-way. A separate 12-inch City water main is also located within the S Leland Road right-of-way southeast of the subject property. As part of the concurrent subdivision application, the applicant would be required to extend the City's 12-inch water main in S Leland Road for a distance equal to the subject property's S Leland Road frontage. Water mains are planned to be extended through the property from both the 12-inch City water main located within S Leland Road, and a water main stubbed within abutting Cherrywood Way, to create a looped system. Individual water connections for each of the new lots within the project are planned to connect to the extended water mains. Water service extension to adjacent property owners along the S Leland Road property frontage may be required via a Developer Agreement with the City for the following addresses off S Leland Road: 19600, 19622, 19681, 19691, and 19695. Please refer to the preliminary plans and Public Facilities Memorandum included in the application materials for further information. Therefore, these criteria are met.

> **E.** **Sidewalks. The applicant shall provide for sidewalks on both sides of all public streets, on any private street if so required by the decision-maker, and in any special pedestrian way within the land division. Exceptions to this requirement may be allowed in order to accommodate topography, trees or some similar site constraint. In the case of major or minor arterials, the decision-maker may approve a land division without sidewalks where sidewalks are found to be dangerous or otherwise impractical to construct or are not reasonably related to the applicant's development. The decision-maker may require the applicant to provide sidewalks concurrent with the issuance of the initial building permit within the area that is the subject of the land division application. Applicants for partitions may be allowed to meet this requirement by executing a binding agreement to not remonstrate against the formation of a local improvement district for sidewalk improvements that benefit the applicant's property.**

Response: As shown on the preliminary plans, public sidewalks are planned on both sides of the new interior streets created with this application. This provides convenient pedestrian and

bicycle access, as well as connectivity between neighborhoods and other pedestrian destinations for existing and future residents. This standard is met.

> **F. Bicycle Routes. If appropriate to the extension of a system of bicycle routes, existing or planned, the decision-maker may require the installation of separate bicycle lanes within streets and separate bicycle paths.**

Response: The new internal streets created with this application are planned to include public sidewalks on both sides of the streets, which provides convenient pedestrian and bicycle access and connectivity. Additional pedestrian/bicycle specific connections are not warranted or required with this application. Therefore, this standard is met.

> **G. Street Name Signs and Traffic Control Devices. The applicant shall install street signs and traffic control devices as directed by the city engineer. Street name signs and traffic control devices shall be in conformance with all applicable city regulations and standards.**

Response: Street name signs and stop signs are planned to be installed for new and extended streets, as required by City Engineering staff in compliance with applicable regulations and standards. This standard is met.

> **H. Street Lights. The applicant shall install street lights which shall be served from an underground source of supply. Street lights shall be in conformance with all city regulations.**

Response: Street lights are planned to be installed along new and continued streets to conform with applicable regulations, as required. This standard is met.

> **I. Street Trees. Refer to Chapter 12.08, Street Trees.**

Response: Street trees are addressed in the responses to Section 12.08. This standard is met.

> **J. Bench Marks. At least one bench mark shall be located within the subdivision boundaries using datum plane specified by the city engineer.**

Response: The final subdivision plat is planned to reference a benchmark using the datum plane specified by the City Engineer, if required. This standard is met.

> **K. Other. The applicant shall make all necessary arrangements with utility companies or other affected parties for the installation of underground lines and facilities. Electrical lines and other wires, including but not limited to communication, street lighting and cable television, shall be placed underground.**

Response: As shown on the preliminary plans, Public Utility Easements (PUEs) are planned to be provided throughout the project site to accommodate the installation of necessary utilities in accordance with the requirements of this section. Therefore, these criteria are met.

> **L. Oversizing of Facilities. All facilities and improvements shall be designed to city standards as set out in the city's facility master plan, public works design standards, or other city ordinances or regulations. Compliance with facility design standards shall be addressed during final engineering. The city may require oversizing**

of facilities to meet standards in the city's facility master plan or to allow for orderly and efficient development. Where oversizing is required, the applicant may request reimbursement from the city for oversizing based on the city's reimbursement policy and funds available, or provide for recovery of costs from intervening properties as they develop.

Response: Properly sized public facilities are planned to be provided throughout the project to serve the lots created with this application for future single-family detached residential homes. Public improvements have been designed by a registered professional engineer and are planned to be reviewed and approved by City engineering staff. This standard is met.

M. Erosion Control Plan—Mitigation. The applicant shall be responsible for complying with all applicable provisions of Chapter 17.47 with regard to erosion control.

Response: Please refer to the narrative responses to the criteria listed under Chapter 17.47 below. Therefore, this criterion is met.

Title 17 – ZONING

Chapter 17.12 - R-6 SINGLE-FAMILY DWELLING DISTRICT

17.12.020 Permitted uses.

Permitted uses in the R-6 district are:

A. Single-family detached residential units;

Response: This application involves the creation of 12 lots in the City's R-6 zoning district for the future construction of single-family detached residential homes, which is recognized as a permitted use in the zone. This standard is met.

17.12.040 Dimensional standards.

Dimensional standards in the R-6 district are:

A. Minimum lot areas, six thousand square feet;

Response: The preliminary plans show that the average lot area for Dotson Farms is ±6,682 square feet, which exceeds the required minimum average lot area of 6,000 square feet. In the responses to Section 16.12.050, several of the planned lots are shown to be less than 6,000 square feet, but the average lot area across the project exceeds 6,000 square feet. Therefore, this standard is met.

B. Minimum lot width, fifty feet;

Response: As shown on the preliminary plans, lots are planned to be at least 50 feet in width. Therefore, this criterion is met.

C. Minimum lot depth, seventy feet;

Response: As shown on the preliminary plans, lots are planned to be at least 70 feet in depth. Therefore, this criterion is met.

D. Maximum building height, two and one-half stories, not to exceed thirty-five feet;

Response: This application does not involve the construction of single-family homes. Future dwellings are planned to be reviewed for compliance with this standard at the time of building permit issuance. Therefore, this criterion is met.

> **E.** Minimum required setbacks:
>
> 1. Front yard, ten feet minimum setback,
> 2. Front porch, five feet minimum setback,
> 3. Attached and detached garage, twenty feet minimum setback from the public right-of-way where access is taken, except for alleys. Detached garages on an alley shall be setback a minimum of five feet in residential areas.
> 4. Interior side yard, nine feet minimum setback for at least one side yard; five feet minimum setback for the other side yard,
> 5. Corner side yard, fifteen feet minimum setback,
> 6. Rear yard, twenty feet minimum setback,
> 7. Rear porch, fifteen feet minimum setback.
>
> **F.** Garage standards: See Chapter 17.20—Residential Design and Landscaping Standards.
>
> **G.** Maximum lot coverage: The footprint of all structures two hundred square feet or greater shall cover a maximum of forty percent of the lot area.

Response: This application does not involve the construction of single-family homes. The preliminary plans show required setbacks and lot coverage requirements for future dwellings, which are planned to be reviewed for compliance at the time of building permit issuance. Therefore, these criteria are met.

Chapter 17.20 - RESIDENTIAL DESIGN AND LANDSCAPING STANDARDS

> **17.20.015** Street trees.
>
> All new single or two-family dwellings or additions of twenty-five percent or more of the existing square footage of the home (including the living space and garage(s)) shall install a street tree along the frontage of the site, within the abutting developed right-of-way. Existing trees may be used to meet this requirement. A picture of the planted tree shall be submitted to the planning division prior to issuance of occupancy. Upon approval by the community development director, when a planter strip is not present, a tree may be placed within an easement on the abutting private property within ten feet of the public right-of-way if a covenant is recorded for the property with the Clackamas County Recorders Office identifying the tree as a city street tree, subject to the standards in Chapter 12.08 of the Oregon City Municipal Code. The street tree shall be a minimum of two-inches in caliper and either selected from the Oregon City Street Tree List or approved by a certified arborist for the planting location.

Response: Street trees are planned to be installed in accordance with the requirements of this section at such time as a building permit is issued and a single-family home is approved for final inspection and occupancy. Therefore, these criteria are met.

17.20.020 Applicability.

The standards in Sections 17.20.030 through 17.20.050 apply to the street-facing facades of all single and two-family dwellings. New dwellings, new garages or expansions of an existing garage require compliance with one of the residential design options in [Section] 17.20.030 or Chapter 17.21.

For the purpose of this chapter, garages are defined as structures, or portions thereof used or designed to be used for the parking of vehicles, including carports. The garage width shall be measured based on the foremost interior garage walls or carport cover. The community development director may approve an alternative measurement location if the exterior facade screens a section of the garage or better accomplishes the goals of this chapter.

Response: This project involves the creation of 12 lots for future single-family detached residential homes. Therefore, the standards of Sections 17.20.030 through 17.20.050 are addressed below. This standard is met.

17.20.030 Residential design options.

A. A dwelling with no garage or a detached garage shall comply with five of the residential design elements in [Section] 17.20.040.A on the front facade of the structure.

Response: Attached garages are planned for each of the future homes constructed on the lots within the project. Therefore, this criterion does not apply.

B. A dwelling without a garage on the primary street-facing facade may be permitted if shall include five of the residential design elements in [Section] 17.20.040A. on the front facade of the structure.

Response: Garages for future homes are planned to be provided on the primary street-facing façade of each future home. Lots 1, 2, 11, and 12 are planned to provide garages at the rear of the future homes in order to utilize planned joint access drives as described in the previous narrative responses to Section 16.12.070. That said, this application does not involve the construction of single-family homes. Specific design standards are planned to be reviewed for compliance prior to issuance of building permits. Therefore, these criteria are met.

C. A dwelling with a front garage where the building is less than twenty-four feet wide may be permitted if:

1. The garage is no more than twelve feet wide and;

2. The garage does not extend closer to the street than the furthest forward living space on the street-facing facade; and

3. Six of the residential design elements in [Section] 17.20.040A. are included on the front facade of the structure; and

4. One of the following is provided:

a. Interior living area above the garage is provided. The living area must be set back no more than four feet from the street-facing garage wall; or

b. A covered balcony above the garage is provided. The covered balcony must be at least the same length as the street-facing garage wall, at least six feet deep and accessible from the interior living area of the dwelling unit; or

c. The garage is rear loaded.

Response: This application does not involve the construction of single-family homes. Specific design standards are planned to be reviewed for compliance prior to issuance of building permits. Therefore, these criteria are met.

D. A dwelling with a garage that extends up to fifty percent of the length of the street-facing facade and is not closer to the street than the furthest forward living space on the street-facing facade may be permitted if:

Six of the residential design elements in [Section] 17.20.040A. are included on the front facade of the structure.

Response: Specific home designs have not been identified for individual lots. These standards are planned to be reviewed for compliance prior to issuance of building permits. This standard is met.

17.20.035 Corner lots and through lots.

A. Homes on corner lots and through lots shall comply with one of the options in [Section] 17.20.030 for the front of the home.

B. The other street-facing side of the home shall include the following:

1. Windows and doors for a minimum of fifteen percent of the lineal length of the ground floor facade; and

2. Minimum four-inch window trim; and

3. Three additional residential design elements selected from [Section] 17.20.040A.

Response: Specific home designs have not been identified for individual lots. These standards are planned to be reviewed for compliance prior to issuance of building permits. This standard is met.

17.20.040 Residential design elements.

Response: Specific home designs have not been identified for individual lots. These design elements are planned to be reviewed for compliance prior to issuance of building permits. This standard is met.

17.20.050 Main entrances.

The main entrance for each structure shall:

A. Face the street; or

B. Be at an angle up to forty-five degrees from the street;

C. Open onto a covered porch that is at least sixty square feet with a minimum depth of five feet on the front or, in the case of a corner lot, the side of the home.

Response: Specific home designs have not been identified for individual lots. Specific design standards are planned to be reviewed for compliance prior to issuance of building permits. This standard is met.

17.20.060 Residential yard landscaping.

The intent of this section is to ensure that residential lots are landscaped and to encourage the retention of trees, minimize the impact of tree loss during development and ensure a sustainable tree canopy in Oregon City. Though not required, the use of native species and low water use vegetation is recommended, but in no case may materials identified on the Oregon City Nuisance Plant list be used.

A. Tree Requirement. This requirement may be met using one or any combination of the three options below (Tree Preservation, Tree Planting, or Tree Fund). Table 17.20.060(A) identifies the minimum number of inches of tree diameter per lot that shall be preserved, planted or paid into the Tree Fund. Adjustments from this section are prohibited. The applicant shall submit a residential yard landscaping plan for Options (1) and (2) demonstrating compliance with the requirements of this section.

TABLE 17.20.060(A) - Tree Requirements	
Lot Size (square feet)	Tree Diameter Inches Required to be Protected, Planted or Paid into Tree Fund
0—4,999	4"
5,000—7,999	6"
8,000—9,999	8"
10,000—14,999	10"
15,000 +	12"

1. Tree preservation. The size of existing trees to be preserved shall be measured as Diameter at Breast Height (DBH).

a. This standard shall be met using trees that are located on the lot and trees that are located within public and private right-of-way shall not be used to meet this standard. When this option is used, a tree preservation plan is required.

b. Trees to be preserved may be located anywhere on the lot, and shall be a minimum of two inches caliper DBH.

c. Large Native or Heritage Tree Incentive. If a tree is preserved that is selected from the list in Table 17.20.060(A)(2)(c), the diameter of the tree may be doubled when demonstrating compliance with the minimum tree requirements indicated in Table 17.20.060(A) above. For example, an Oregon White Oak with a two-inch caliper at DBH may count as a tree diameter of four inches.

2. Tree planting. All planted trees shall measure a minimum two-inch caliper at six inches above the root crown. When this option is used, a tree planting plan is required.

a. Trees planted pursuant to this section on R-6, R-8 and R-10 zoned lots shall include at least one tree in the front yard setback, unless it is demonstrated that it is not feasible due to site constraints.

b. Trees planted pursuant to this section on R-5 and R-3.5 zoned lots may be planted anywhere on the lot as space permits.

c. Large Native or Heritage Tree Incentive. If a tree is planted that is selected from the list in Table 17.20.060(A)(2)(c), the diameter of the tree may be doubled when demonstrating compliance with the minimum tree requirements indicated in Table 17.20.060(A) above. For example, an Oregon White Oak with a two-inch caliper at six inches above the root crown may count as a tree diameter of four inches.

TABLE 17.20.060(A)(2)(c) - Large Native and Heritage Tree List	
Common Name	**Scientific Name**
Oregon White Oak	*Quercus garryana*
Pacific willow	*Salix lucida spp. lasiandra*
Western red cedar	*Thuja plicata*
Western hemlock	*Tsuga heterophylla*
Northern Red Oak	*Quercus rubra*
Bur Oak	*Quercus macrocarpa*
Bigleaf Maple	*Acer macrophyllum*
Grand Fir	*Abies grandis*
Douglas Fir	*Pseudotsuga menziesii*
American Elm hybrids (disease resistant)	*Ulmus spp.*
Western yew	*Taxus brevifolia*

3. Tree Fund. This option may be used where site characteristics or construction preferences do not support the preservation or planting options identified above. The community development director may approve this option in-lieu-of or in addition to requirements 1. and/or 2. above. In this case, the community development director may approve the payment of cash-in-lieu into a dedicated fund for the remainder of trees that cannot be replanted in the manner described above. The large native or heritage tree incentive does not apply when using this option to calculate the number of required inches.

a. The cash-in-lieu payment per tree shall utilize the adopted fee schedule when calculating the total tree fund payment.

b. The amount to be paid to the tree fund shall be calculated by subtracting the total inches of trees preserved and planted per subsection 2. and 3. above from the minimum tree diameter inches required in Table 17.20.060(A), dividing the sum by two inches and multiplying the remainder by the adopted fee from the Oregon City fee schedule. For example:

Lot Size	a. Tree Requirement per Table 17.20.060(A) (inches)	b. Trees Preserved (inches)	c. Trees Planted (inches)	d. To be mitigated (inches) a.—b.—c.	Number of trees owed to tree fund. d./2" minimum caliper tree
10,000—14,999	10"	2"	4"	4"	2

Response: The applicant plans to use a combination of the "Tree Planting" option and/or the "Tree Fund" option to meet the residential yard landscaping requirements. Individual home designs for the planned lots have not yet been identified. A residential yard landscaping plan is planned to be developed in conjunction with future home design and placement, and submitted prior to building permit issuance. Therefore, these criteria are met.

B. Residential front yard landscaping requirements. The following minimum landscaping standards shall apply to residential uses in residential zones:

1. At a minimum, a three-gallon shrub or three-gallon accent plant shall be planted between the front property line and the front building line for every four linear feet of foundation.

2. On lots zoned R-5, R-6, R-8 and R-10, fifty percent of the area between the front lot line and the front building line shall be landscaped.

3. On lots zoned R-3.5, at least forty percent of the area between the front lot line and the front building line shall be landscaped.

4. At a minimum, the required landscaped area shall be planted with ground cover. Up to one-third of the required landscaped area may be for recreational use or for use by pedestrians, such as walkways, play areas or patios.

5. A landscaping plan is required.

Response: Specific home designs have not been identified for individual lots. A residential landscaping plan is planned to be developed in conjunction with future home design and placement, and submitted prior to building permit issuance. Therefore, these criteria are met.

Chapter 17.41 - TREE PROTECTION STANDARDS

17.41.050 Same—Compliance options.

Applicants for review shall comply with these requirements through one or a combination of the following procedures:

A. Option 1—Mitigation. Retention and removal of trees, with subsequent mitigation by replanting pursuant to Sections 17.41.060 or 17.41.070. All replanted and saved trees shall be protected by a permanent restrictive covenant or easement approved in form by the city.

D. Option 4—Cash-in-lieu of planting pursuant to Section 17.41.130.

A regulated tree that has been designated for protection pursuant to this section must be retained or permanently protected unless it has been determined by a certified arborist to be diseased or hazardous, pursuant to the following applicable provisions.

The community development director, pursuant to a Type II procedure, may allow a property owner to cut a specific number of trees within a regulated grove if preserving those trees would:

1. Preclude achieving eighty percent of minimum density with reduction of lot size; or

2. Preclude meeting minimum connectivity requirements for subdivisions.

Response: As shown on the preliminary plans, there are a total of 16 trees located on the project site requiring removal. Based on the health of the trees identified in the Detailed Tree Inventory included in the preliminary plans, 15 of the 16 on-site trees planned to be removed are subject to mitigation. Using Table 17.41.060-1 (Tree Replacement Requirements) to calculate the number of trees required for mitigation, a total of 46 mitigation trees are required. This application chooses to use a combination of Option 1 and Option 4 to satisfy this requirement. A final tree mitigation plan is planned to be submitted based on the City's final decision. Therefore, these criteria are met.

17.41.060 Tree removal and replanting—Mitigation (Option 1).

A. Applicants for development who select this option shall ensure that all healthy trees shall be preserved outside the construction area as defined in Chapter 17.04 to the extent practicable. Compliance with these standards shall be demonstrated in a tree mitigation plan report prepared by a certified arborist, horticulturalist or forester or other environmental professional with experience and academic credentials in forestry or arborculture. At the applicant's expense, the city may require the report to be reviewed by a consulting arborist. The number of replacement trees required on a development site shall be calculated separately from, and in addition to, any public or street trees in the public right-of-way required under section 12.08—Community Forest and Street Trees.

B. The applicant shall determine the number of trees to be mitigated on the site by counting all of the trees six inch DBH (minimum four and one-half feet from the ground) or larger on the entire site and either:

1. Trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2; or

2. Diseased or hazardous trees, when the condition is verified by a certified arborist to be consistent with the definition in Section 17.04.1360, may be removed from the tree replacement calculation. Regulated healthy trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Regulated healthy trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2.

Response: As mentioned previously, of the 16 on-site trees requiring removal, a total of 12 trees are located inside the construction area for project improvements. A total of 4 trees are located outside of the project's construction area. Tree mitigation is further discussed below.

Table 17.41.060-1 Tree Replacement Requirements All replacement trees shall be either: Two-inch caliper deciduous, or Six-foot high conifer		
Size of tree removed (DBH)	Column 1 Number of trees to be planted. (If removed Outside of construction area)	Column 2 Number of trees to be planted. (If removed Within the construction area)
6 to 12"	3	1
13 to 18"	6	2
19 to 24"	9	3
25 to 30"	12	4
31 and over"	15	5

Steps for calculating the number of replacement trees:

1. Count all trees measuring six inches DBH (minimum four and one-half feet from the ground) or larger on the entire development site.
2. Designate (in certified arborists report) the condition and size (DBH) of all trees pursuant to accepted industry standards.
3. Document any trees that are currently diseased or hazardous.
4. Subtract the number of diseased or hazardous trees in step 3. from the total number of trees on the development site in step 1. The remaining number is the number of healthy trees on the site. Use this number to determine the number of replacement trees in steps 5. through 8.
5. Define the construction area (as defined in Chapter 17.04).
6. Determine the number and diameter of trees to be removed within the construction area. Based on the size of each tree, use Column 2 to determine the number of replacement trees required.
7. Determine the number and diameter of trees to be removed outside of the construction area. Based on the size of each tree, use Column 1 to determine the number of replacement trees required.
8. Determine the total number of replacement trees from steps 6. and 7.

Response: As shown on the preliminary plans, a total of 16 trees require removal from the project site. Of the 16 trees identified for removal, one (1) tree has been deemed diseased, hazardous, or invasive by the project's arborist. Therefore, 15 trees are subject to the mitigation standards of Table 17.41.060-1 above and discussed below:

Of the 15 trees subject to mitigation, a total of 12 trees are located within the construction area. Of the 12 trees, 4 trees have a DBH between 6 inches and 12 inches, 6 trees have a DBH between 13 inches and 18 inches, and 2 trees have a DBH between 19 inches and 24 inches.

Of the remaining 3 trees located outside the construction area, 1 tree has a DBH between 13 inches and 18 inches, and 2 trees have a DBH between 19 inches and 24 inches.

Therefore, 46 mitigation trees are required. These trees are planned to be planted per Option 1, or in lieu of planting, be paid per Option 4. The preliminary tree removal plan has been prepared and reviewed by a certified arborist. Therefore, this standard is met.

17.41.070 Planting area priority for mitigation (Option 1).

Development applications which opt for removal of trees with subsequent replanting pursuant to section 17.41.050A. shall be required to mitigate for tree cutting by complying with the following priority for replanting standards below:

A. First Priority. Replanting on the development site.

B. Second Priority. Off-site replacement tree planting locations. If the community development director determines that it is not practicable to plant the total number of replacement trees on-site, a suitable off-site planting location for the remainder of the trees may be approved that will reasonably satisfy the objectives of this section. Such locations may include either publicly owned or private land and must be approved by the community development director.

Response: Mitigation trees are planned to be planted on or off-site and/or cash-in-lieu of planting is to be paid in accordance with this chapter. This standard is met.

17.41.125 Cash-in-lieu of planting (tree bank/fund) (Option 4).

The applicant may choose this option in-lieu-of or in addition to Compliance Options 1 through 3. In this case, the community development director may approve the payment of cash-in-lieu into a dedicated fund for the remainder of trees that cannot be replanted in the manner described above.

A. The cash-in-lieu payment per tree shall be as listed on the adopted fee schedule and shall be adjusted annually based on the Consumer Price Index (Index). The price shall include the cost of materials, transportation and planting.

B. The amount of the cash-in-lieu payment into the tree bank shall be calculated as the difference between the value of the total number of trees an applicant is required to plant, including cost of installation and adjusted for Consumer Price Index, minus the value of the trees actually planted. The value of the trees shall be based on the adopted fee schedule.

Response: Mitigation trees are planned to be planted on or off-site and/or cash-in-lieu of planting is to be paid in accordance with this chapter. This standard is met.

17.41.130 Regulated tree protection procedures during construction.

A. No permit for any grading or construction of public or private improvements may be released prior to verification by the community development director that regulated trees designated for protection or conservation have been protected according to the following standards. No trees designated for removal shall be

removed without prior written approval from the community development director.

Response: Trees are not planned to be removed without prior written approval from the City of Oregon City. Therefore, this standard is met.

B. Tree protection shall be as recommended by a qualified arborist or, as a minimum, to include the following protective measures: …

Response: In addition to the project's perimeter fencing, two (2) tree protection zones are planned to be installed along the northwest property line in accordance with the applicable requirements of this section. Please refer to the Preliminary Tree Preservation and Removal Plan included in the preliminary plans for additional information. Therefore, these criteria are met.

C. Changes in soil hydrology due to soil compaction and site drainage within tree protection areas shall be avoided. Drainage and grading plans shall include provision to ensure that drainage of the site does not conflict with the standards of this section. Excessive site run-off shall be directed to appropriate storm drainage facilities and away from trees designated for conservation or protection.

Response: As shown on the preliminary plans and discussed in the Preliminary Stormwater Report, site run-off is planned to be conveyed, retained, and treated in a new stormwater management facility created with this application in accordance with City's Stormwater and Grading Design Standards. Tree protection zones are planned to prevent changes in soil hydrology due to soil compaction and site drainage to the greatest extent practicable, in accordance with the applicable requirements of this section. Please refer Preliminary Tree Preservation and Removal Plan included in the preliminary plans for additional information. Therefore, these criteria are met.

Chapter 17.44 - US—GEOLOGIC HAZARDS

17.44.025 When required; regulated activities; permit and approval requirements.

No person shall engage in any of the following regulated activities within the adopted Oregon City Geologic Hazards Overlay Zone as defined in section 17.04.515 of the Oregon City Municipal Code without first obtaining permits or approvals as required by this chapter:

Response: As shown in the Preliminary Geotechnical Engineering Report, the subject property is not located within the Oregon City Geologic Hazards Overlay Zone. Therefore, the requirements listed under Chapter 17.44 are not relevant to the application. These standards have been omitted from this narrative.

Chapter 17.47 - EROSION AND SEDIMENT CONTROL

17.47.070 Erosion and sediment control plans.

A. An application for an erosion and sediment control permit shall include an erosion and sediment control plan, which contains methods and interim measures to be used during and following construction to prevent or control erosion prepared in compliance with City of Oregon City public works standards for erosion and

sediment control. These standards are incorporated herein and made a part of this title and are on file in the office of the city recorder.

B. Approval Standards. An erosion and sediment control plan shall be approved only upon making the following findings:

1. The erosion and sediment control plan meets the requirements of the City of Oregon City public works standards for erosion and sediment control incorporated by reference as part of this chapter;

2. The erosion and sediment control plan indicates that erosion and sediment control measures will be managed and maintained during and following development. The erosion and sediment control plan indicates that erosion and sediment control measures will remain in place until disturbed soil areas are permanently stabilized by landscaping, grass, approved mulch or other permanent soil stabilizing measures.

Response: The preliminary plans include a Preliminary Grading and Erosion and Sediment Control Plan prepared in compliance with applicable City of Oregon City public works standards for erosion and sediment control. Erosion and sediment controls are planned to be managed and maintained during construction, and remain in place until approved soil stabilizing measures have been established. Please refer to the Preliminary Grading and Erosion and Sediment Control Plan for additional information. Therefore, these criteria are met.

C. The erosion and sediment control plan shall be reviewed in conjunction with the requested development approval. If the development does not require additional review, the manager may approve or deny the permit with notice of the decision to the applicant.

Response: The applicant understands the Preliminary Grading and Erosion and Sediment Control Plan is planned to be reviewed concurrently with this annexation, zone change, and subdivision application. This criterion is understood.

D. The city may inspect the development site to determine compliance with the erosion and sediment control plan and permit.

Response: This criterion is understood.

E. Erosion that occurs on a development site that does not have an erosion and sediment control permit, or that results from a failure to comply with the terms of such a permit, constitutes a violation of this chapter.

Response: A Final Grading and Erosion and Sediment Control Plan is planned to be submitted and approved before any construction activities commence. Please refer to the preliminary plans for further information. This criterion is met.

F. If the manager finds that the facilities and techniques approved in an erosion and sediment control plan and permit are not sufficient to prevent erosion, the manager shall notify the owner or his/her designated representative.

Upon receiving notice, the owner or his/her designated representative shall immediately install interim erosion and sediment control measures as specified in the City of Oregon City public works standards for erosion and sediment control. Within three days from the date of notice, the owner or his/her designated representative shall submit a revised erosion and sediment control plan to the city. Upon approval of the revised plan and issuance of an amended permit, the owner or his/her designated representative shall immediately implement the revised plan.

Response: As previously described, a Final Grading and Erosion and Sediment Control Plan is planned to be submitted and approved before any construction activities commence. Erosion and sediment controls are planned to be managed and maintained during construction, and remain in place until approved soil stabilizing measures have been permanently established. The applicant understands the City may independently inspect the facilities and techniques approved in the Final Grading and Erosion and Sediment Control Plan for effectiveness, and coordinate with the City to develop and install remedial measures, as applicable. These criteria are met.

G. Approval of an erosion and sediment control plan does not constitute an approval of permanent road or drainage design (e.g., size and location of roads, pipes, restrictors, channels, retention facilities, utilities, etc.).

Response: As described above, the Preliminary Grading and Erosion and Sediment Control Plan is prepared in compliance with the City's public works standards for erosion and sediment control. A Final Grading and Erosion and Sediment Control Plan is planned to be submitted and approved before any construction activities commence. Please refer to the preliminary plans for further information. This standard is met.

Chapter 17.50 - ADMINISTRATION

17.50.050 Preapplication conference.

A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use

requirements shall not constitute a waiver by the City of any standard or requirement.

B. A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the city will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

Response: On August 07, 2017, the applicant's consultant submitted a request for a pre-application conference on the required form, and included a short explanatory narrative, preliminary site plan, and the appropriate fee. The pre-application conference was held on September 05, 2017. The Pre-Application Conference Summary, provided by Oregon City Planning and Development Services, is included in the application materials. This application is filed with the City within six months of the pre-application conference. This standard is met.

17.50.055 Neighborhood association meeting.

A. Neighborhood Association Meeting. The purpose of the meeting with the recognized neighborhood association is to inform the affected neighborhood association about the proposed development and to receive the preliminary responses and suggestions from the neighborhood association and the member residents.

1. Applicants applying for annexations, zone change, comprehensive plan amendments, conditional use, planning commission variances, subdivision, or site plan and design review (excluding minor site plan and design review), general development master plans or detailed development plans applications shall schedule and attend a meeting with the city-recognized neighborhood association in whose territory the application is proposed. Although not required for other projects than those identified above, a meeting with the neighborhood association is highly recommended.

2. The applicant shall send, by certified mail, return receipt requested letter to the chairperson of the neighborhood association and the citizen involvement committee describing the proposed project. Other communication methods may be used if approved by the neighborhood association.

3. A meeting shall be scheduled within thirty days of the notice. A meeting may be scheduled later than thirty days if by mutual agreement of the applicant and the neighborhood association. If the neighborhood association does not want to, or cannot meet within thirty days, the applicant shall hold their own meeting after six p.m. or on the weekend, with notice to the neighborhood association, citizen involvement committee, and all property owners within three hundred feet. If the applicant holds their own meeting, a copy of the certified letter requesting a neighborhood association meeting shall be required for a complete application. The meeting held by the applicant shall be held within the boundaries of the neighborhood association or in a city facility.

4. If the neighborhood association is not currently recognized by the city, is inactive, or does not exist, the applicant shall request a meeting with the citizen involvement committee.

5. To show compliance with this section, the applicant shall submit a sign-in sheet of meeting attendees, a summary of issues discussed, and letter from the neighborhood association or citizen involvement committee indicating that a neighborhood meeting was held. If the applicant held a separately noticed meeting, the applicant shall submit a copy of the meeting flyer, a sign in sheet of attendees and a summary of issues discussed.

Response: Upon receiving approval to communicate with the Hillendale Neighborhood Associations via email, the applicant's consultant sent an email to the Hillendale Chair Roy Harris on November 9, 2017, describing the planned project. Mr. Harris responded on November 27, 2017 indicating that the applicant would be included on the December 5, 2017 meeting agenda. The applicant's consultant attended the Hillendale neighborhood meeting, presented the project, and answered questions from the neighbors in attendance.

To demonstrate compliance with the applicable criteria, as required by 17.50.055.A.5, the required neighborhood meeting submittal items have been included in the application materials. Therefore, these criteria are met.

Chapter 17.68 - ZONING CHANGES AND AMENDMENTS

17.68.020 Criteria.

The criteria for a zone change are set forth as follows:

A. The proposal shall be consistent with the goals and policies of the comprehensive plan.

Response: The planned zone change from Clackamas County's FU-10 zoning designation to the City of Oregon City's R-6 zoning designation meets the following applicable goals and policies of the City of Oregon City Comprehensive Plan, as described in the following responses.

Goal 1: Citizen Involvement

Goal 1.2: Ensure that citizens, neighborhood groups and affected property owners are involved in all phases of the comprehensive planning program.

Response: The Oregon City Comprehensive Plan and Municipal Code include provisions to ensure citizens, neighborhood groups, and affected property owners have an opportunity to participate in the land use process. The City's Comprehensive Plan is acknowledged by the State of Oregon as compliant with the Oregon Statewide Planning Goals, including Goal 1. For this application, citizens were able to attend and participate in the Hillendale/Tower Vista Neighborhood Association meeting held on December 5, 2017, that was open to the public. In addition to the neighborhood association meeting, citizens have the opportunity to attend and participate in public hearings before the Oregon City Planning Commission and the Oregon City Commission. Future applications for the subject property involve additional public processes. The application is consistent with this goal.

Goal 2: Land Use

> **Goal 2.1: Ensure that property planned for residential, commercial, office and industrial uses is used efficiently and that land is developed following principles of sustainable development.**

Response: This application involves a zone change from Clackamas County's FU-10 zone to the City of Oregon City's R-6 zone. This represents an increase in density while still remaining in a single-family zone. Densities corresponding to the R-6 zone represent sustainable development in a compact form that can capitalize on public infrastructure investment within the existing City limits, which eases external pressures to expand and sprawl beyond the current UGB. The application is consistent with this goal.

> **Goal 2.7: Maintain the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for land-use development of the city by type, density and location.**

Response: The subject property is designated Low Density Residential (LR) by the City's Comprehensive Plan. The LR designation includes R-10, R-8, and R-6 zoning districts. This application involves a zone change from Clackamas County's FU-10 zoning designation to the City's R-6 zoning designation. A change to the Comprehensive Plan designation of the property is not necessary. The subject property is adjacent to other properties within the City's R-6 zoning district. Therefore, the R-6 zone is consistent with, and maintains, the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for land-use development. The application is consistent with this goal.

Goal 5: Natural Resources

> **Policy 5.4.4: Consider natural resources and their contribution to quality of life as a key community value when planning, evaluating and assessing costs of City actions.**

Response: According to City maps, the subject property is not located within the Natural Resource Overlay District (NROD). Therefore, the application is consistent with this goal.

Goal 6: Quality of Air, Water and Land Resources

> **Policy 6.1.1: Promote land-use patterns that reduce the need for distance travel by single-occupancy vehicles and increase opportunities for walking, biking and/or transit to destinations such as places of employment, shopping and education.**

Response: The planned R-6 zoning designation promotes a compact land use pattern that reduces the amount of land dedicated to public streets and other public infrastructure per dwelling unit. Compact land use patterns reduce travel distance by single-occupancy vehicles, and increases opportunities for alternative modes of transportation including walking, biking, and transit.

The subject property is located approximately one (±1) mile from Gaffney Lane Elementary School to the east and John McLoughlin Elementary School to the northwest; less than two (±2) miles from Gardiner Middle School to the northeast; roughly four (±4) miles from Oregon City High School, and two and a half (±2½) miles from Clackamas Community College to the east. In addition, the subject property is located approximately one and a half (±1½) miles from commercially zoned properties on Molalla Avenue. Thus, the R-6 zoning strategically increases opportunities for increased populations to walk and bike to places of education, shopping, and employment. Therefore, the application is consistent with this policy.

> **Policy 6.2.1: Prevent erosion and restrict the discharge of sediments into surface and groundwater by requiring erosion prevention measures and sediment control practices.**

Response: As described previously in this narrative, the preliminary plans include a Preliminary Grading and Erosion and Sediment Control Plan prepared in compliance with applicable City of Oregon City public works standards for erosion and sediment control. Erosion and sediment controls are planned to be managed and maintained during construction, and remain in place until approved soil stabilizing measures have been established. A Final Grading and Erosion and Sediment Control Plan is planned to be submitted and approved before any construction activities commence. Please refer to the Preliminary Grading and Erosion and Sediment Control Plan for additional information. Therefore, the application is consistent with this policy.

Goal 10: Housing

> **Goal 10.1.3: Designate residential land for a balanced variety of densities and types of housing, such as single-family attached and detached, and a range of multi-family densities and types, including mixed-use development.**

Response: The R-6 zoning district preserves the property's existing Low Density Residential Comprehensive Plan designation while also maintaining the single-family residential nature of the area, albeit in a more compact form. The R-6 density is most conducive to single-family detached development patterns rather than multi-family or single-family attached, and this is indicative as those uses are not permitted in the R-6 zone. Those types of uses would require a Comprehensive Plan Map Amendment, which is not included in this application. It is clear that R-6 densities allow for a greater number of residential units on the property, thereby increasing the number and variety of housing choices in the area. Therefore, the application is consistent with this goal.

Goal 11: Public Facilities

> **Goal 11.1: Serve the health, safety, education, welfare and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.**

Response: At the pre-application conference and in subsequent correspondence with City staff, no deficiencies in terms of the adequacy of public facilities and services were identified. As previously discussed throughout this narrative, the subject property is located inside the UGB, is planned to be contiguous with the City limits upon completion of the annexation of the adjoining Lindsay Anne Estates Too Subdivision, and is directly adjacent to developed areas that currently receive public facilities and services. The availability, capacity, and status of existing and planned services and facilities (water, sanitary sewer, storm drainage, access/transportation) in the area have been discussed previously in this narrative under the findings at OCMC 14.04.040, and are planned to be provided in accordance with the requirements of the City's Comprehensive Plan, Municipal Code, and utility master plans. Therefore, the application is consistent with this goal.

Goal 12: Transportation

Goal 12.6: Develop and maintain a transportation system that has enough capacity of meet users' needs.

Response: A Transportation Analysis Letter (TAL) that includes a Transportation Planning Rule (TPR) analysis has been prepared by a registered professional traffic engineer based upon a scope of work provided by the City's traffic engineering consultant. The TAL includes trip generation estimates for the existing FU-10 zoning designation, the planned R-6 zoning designation, traffic count data, trip distribution and assignments, operational analysis, crash data analysis, and capacity analysis for the 20-year planning horizon consistent with the requirements of the State Transportation Planning Rule (OAR 660-012-060). As documented in the TAL, the additional vehicle trips generated by the future build out of Dotson Farms Subdivision are expected to have a de minimis impact on operation of area intersections and the Level of Service (LOS). Mitigation is not required or warranted with this application, and the Transportation Planning Rule is therefore satisfied. Please refer to the TAL included in the application materials for additional information. Therefore, the application is consistent with this goal.

B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed by the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.

Response: As detailed in the narrative response to Goal 11.1, no deficiencies in terms of the adequacy of public facilities and services were identified during the pre-application conference or in subsequent correspondence with City staff. As previously discussed throughout this narrative, the subject property is located inside the UGB, is planned to be contiguous with the City limits upon completion of the annexation of the adjoining Lindsay Anne Estates Too Subdivision, and is directly adjacent to developed areas that currently receive public facilities and services. The availability, capacity, and status of existing and planned services and facilities (water, sanitary sewer, storm drainage, access/transportation) in the area have been discussed previously in this narrative under the findings at OCMC 14.04.040, and are planned to be provided in accordance with the requirements of the City's Comprehensive Plan, Municipal Code, and utility master plans. Therefore, the application is consistent with this goal.

C. The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.

Response: A Transportation Analysis Letter (TAL) that includes a Transportation Planning Rule (TPR) analysis has been prepared by a registered professional traffic engineer based upon a scope of work provided by the City's traffic engineering consultant. The TAL includes trip generation estimates for the existing FU-10 zoning designation, the planned R-6 zoning designation, traffic count data, trip distribution and assignments, operational analysis, crash data analysis, and capacity analysis for the 20-year planning horizon consistent with the requirements of the State Transportation Planning Rule (OAR 660-012-060). As documented in the TAL, the additional vehicle trips generated by the future build out of Dotson Farms Subdivision are expected to have a de minimis impact on operation of area intersections and the Level of Service (LOS). Mitigation is not required or warranted with this application, and the Transportation Planning Rule is therefore satisfied. Please refer to the TAL included in the application materials for additional information. Therefore, the application is consistent with this goal.

D. Statewide planning goals shall be addressed if the comprehensive plan does not contain specific policies or provisions which control the amendment.

Response: The Oregon City Comprehensive Plan is acknowledged by the Land Conservation and Development Commission (LCDC) and contains specific policies and provisions that address zone change applications. These criteria are listed above and as described in this written statement are satisfied by the application. Therefore, this criterion is met.

17.68.025 Zoning changes for land annexed into the city.

A. Notwithstanding any other section of this chapter, when property is annexed into the city from the city/county dual interest area with any of the following comprehensive plan designations, the property shall be rezoned upon annexation to the corresponding city zoning designation as follows:

Plan Designation	Zone
Low-Density Residential	R-10

B. Applications for these rezonings shall be reviewed pursuant to the requirements in Chapter 17.50.

17.68.030 Public hearing.

A public hearing shall be held pursuant to standards set forth in Chapter 17.50.

A. Quasi-judicial reviews shall be subject to the requirements in Chapter 17.50.

B. Legislative reviews shall be subject to the requirements in Chapter 17.50.

V. Conclusion

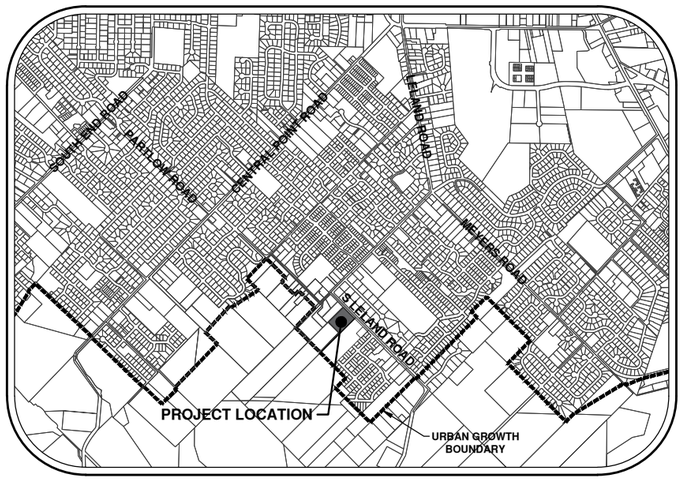
This application involves a subdivision that provides for the construction of single-family detached homes, which is considered "Needed Housing". "Needed Housing" is defined in ORS 197.303(1)(a) as including single-family and attached housing. Section 10 of the Oregon City Comprehensive Plan acknowledges that compliance with Goal 10 involves "…ensuring that…vacant and buildable land…is designated for a *variety of housing types* to fit a range of incomes, *needs*, and preferences [emphasis added]." (Comprehensive Plan, page 75). Policy 10.1.7 further states the City shall "…use a combination of incentives and development standards to promote and encourage…single-family subdivisions…" to meet Goal 10.1, Diverse Housing Opportunities (Comprehensive Plan, page 78). ORS 197.307(4) provides that a local government may apply only clear and objective standards, conditions and proceedings regulating the development of needed housing on buildable land. See also OAR 660-008-0015(1). The project site is identified as buildable land. Although the application addresses all applicable approval criteria (including subjective approval criteria), the applicant reserves the right to assert that any subjective standard, approval criteria, condition, or process may not be applied to this application.

Pursuant to Municipal Code Section 17.50.030, this annexation, zone change, and subdivision application is subject to review by the City through a Type IV procedure. This written narrative and accompanying documentation is consistent with the applicable provisions of Oregon City Municipal Code. Considered together and with respect to the discussion provided above, the evidence in the record is substantial and provides the necessary basis for the City of Oregon City to approve the application.

Exhibit A: Preliminary Plans

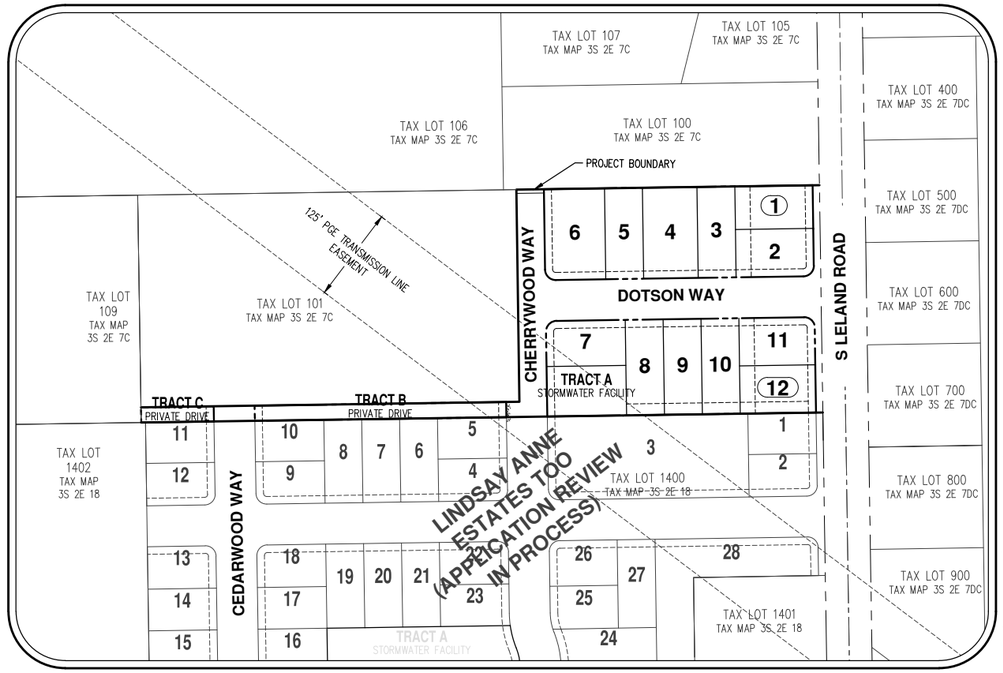
DOTSON FARMS

PRELIMINARY SUBDIVISION PLANS



VICINITY MAP

NOT TO SCALE



SITE MAP

SCALE: 1"=100'

LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED
DECIDUOUS TREE			STORM SEWER CLEAN OUT		
CONIFEROUS TREE			STORM SEWER CATCH BASIN		
			STORM SEWER AREA DRAIN		
FIRE HYDRANT			STORM SEWER MANHOLE		
WATER BLOWOFF			GAS METER		
WATER METER			GAS VALVE		
WATER VALVE			GUY WIRE ANCHOR		
DOUBLE CHECK VALVE			UTILITY POLE		
AIR RELEASE VALVE			POWER VAULT	P	P
SANITARY SEWER CLEAN OUT			POWER JUNCTION BOX		
SANITARY SEWER MANHOLE			POWER PEDESTAL		
SIGN			COMMUNICATIONS VAULT	C	C
STREET LIGHT			COMMUNICATIONS JUNCTION BOX		
MAILBOX	MB	MB	COMMUNICATIONS RISER		

	EXISTING	PROPOSED
RIGHT-OF-WAY LINE		
BOUNDARY LINE		
PROPERTY LINE		
CENTERLINE		
DITCH		
CURB		
EDGE OF PAVEMENT		
EASEMENT		
FENCE LINE		
GRAVEL EDGE		
POWER LINE	PWR	PWR
OVERHEAD WIRE	OHW	OHW
COMMUNICATIONS LINE	COM	COM
FIBER OPTIC LINE	CFO	CFO
GAS LINE	GAS	GAS
STORM SEWER LINE	STM	STM
SANITARY SEWER LINE	SAN	SAN
WATER LINE	WAT	WAT

SHEET INDEX

APPLICANT:

OREGON BUILDERS & RESTORATION
19695 S LELAND ROAD
OREGON CITY, OR 97045

PLANNING/ENGINEERING/ SURVEYING FIRM:

AKS ENGINEERING & FORESTRY, LLC
CONTACT: MONTY HURLEY
12965 SW HERMAN ROAD, SUITE 100
TUALATIN, OR 97062
PH: 503-563-6151
FAX: 503-563-6152

PROJECT LOCATION:

NO SITE ADDRESS

PROPERTY DESCRIPTION:

TAX LOT 199, CLACKAMAS COUNTY ASSESSOR'S MAP NUMBER 3S-2E-7C, CITY OF OREGON CITY, CLACKAMAS COUNTY, OREGON.

EXISTING LAND USE:

EXISTING GRASS FIELD

PROJECT PURPOSE:

RESIDENTIAL SUBDIVISION FOR FUTURE SINGLE-FAMILY DETACHED RESIDENTIAL HOMES

VERTICAL DATUM:

ELEVATIONS ARE BASED ON THE ELEVATION OF THE SW INVERT OF THE SANITARY SEWER MANHOLE ON JESSIE AVENUE PER CITY OF OREGON CITY AS-BUILT CONSTRUCTION PLANS. AS-BUILT PLANS BY SISUL ENGINEERING, SANITARY PLAN AND PROFILE (LINE 'C') SHEET, MAY 2004. RIM ELEVATION 437.01', SW INVERT ELEVATION 419.96'.

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
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FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE

DOTSON FARMS
SUBDIVISION
OREGON
CLACKAMAS COUNTY TAX MAP3S 2E 7C
OREGON CITY
TAX LOT 199

COVER SHEET WITH SITE AND VICINITY MAPS

DESIGNED BY:	VHN
DRAWN BY:	AMF
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE: 12/20/2017	

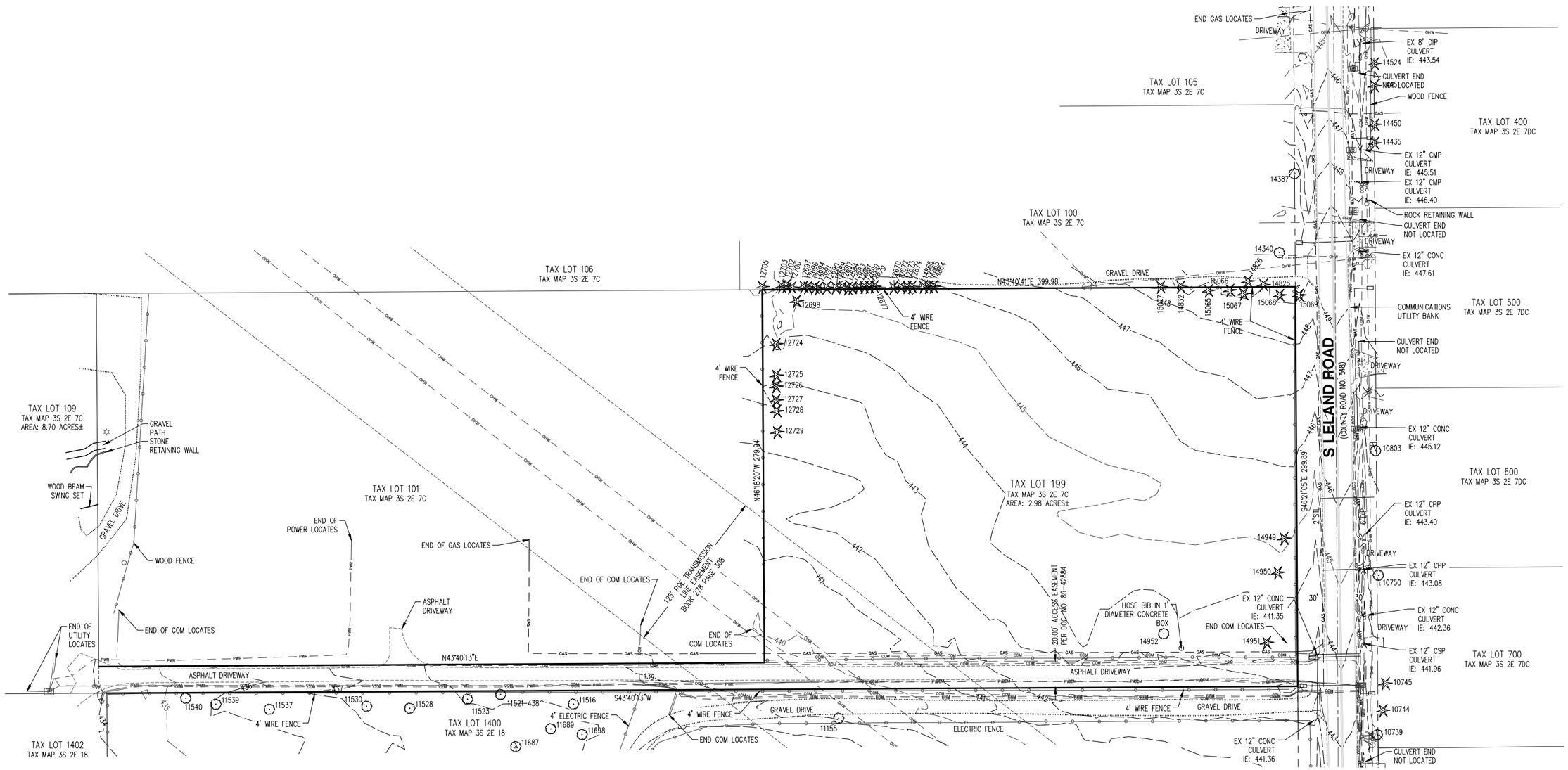
REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 8, 2005
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
6141

SHEET
P-01

AKS DRAWING FILE: 6141 COVER.DWG | LAYOUT: P-01



SCALE: 1"= 40 FEET

40 0 16 24 32 40

NOTES:

1. UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS OR MAPS AS PROVIDED BY OTHERS, PER UTILITY LOCATE TICKET NUMBERS 17254867, 17254889 & 17311971. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
2. FIELD WORK WAS CONDUCTED OCTOBER 5-6 & DECEMBER 12, 2017.
3. VERTICAL DATUM: ELEVATIONS ARE BASED ON THE ELEVATION OF THE SOUTHWEST INVERT OF THE SANITARY SEWER MANHOLE ON JESSIE AVENUE PER CITY OF OREGON CITY AS-BUILT CONSTRUCTION PLANS. AS-BUILT PLANS BY SISUL ENGINEERING, SANITARY PLAN AND PROFILE (LINE 'C') SHEET, MAY 2004. RIM ELEVATION 437.01', SW INVERT ELEVATION 419.96'.
4. THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
5. SURVEY IS ONLY VALID WITH SURVEYOR'S STAMP AND SIGNATURE.
6. CONTOUR INTERVAL IS 1 FOOT.
7. TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREES WERE MEASURED UTILIZING A DIAMETER TAPE AT BREAST HEIGHT. SEE SHEET P-11 FOR ADDITIONAL TREE INFORMATION.

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12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
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F: 503.563.6152
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DOTSON FARMS SUBDIVISION

OREGON CITY OREGON
TAX LOT 199
CLACKAMAS COUNTY TAX MAP 3S 2E 7C

PRELIMINARY EXISTING CONDITIONS PLAN

DESIGNED BY: -
DRAWN BY: BJA
CHECKED BY: BRH/RDR
SCALE: AS NOTED
DATE: 12/20/2017

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JANUARY 11, 2005
ROBERT D. RETTIG
60124LS
RENEWS: 12/31/18

PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS

JOB NUMBER
6141

SHEET
P-02

AKS DRAWING FILE: 6141 COOD EXCOND.DWG | LAYOUT: P-02

TAX LOT 100
TAX MAP 3S 2E 7C

TAX LOT 106
TAX MAP 3S 2E 7C

TAX LOT 101
TAX MAP 3S 2E 7C

REMAINDER OF TL 109/199
PER DOC 2015-007761

TAX LOT 500
TAX MAP 3S 2E 7DC

TAX LOT 600
TAX MAP 3S 2E 7DC

TAX LOT 700
TAX MAP 3S 2E 7DC

TAX LOT 800
TAX MAP 3S 2E 7DC

125' PGE TRANSMISSION LINE EASEMENT BOOK 278 PAGE 308

399.98'

CHERRYWOOD WAY

S LELAND ROAD

DOTSON WAY N43°40'13"E 420.59'

280.00'

N46°21'05"W 300.00'

VARIES 9.3'-9.5'

54.00' ROW

9.00' ROW DEDICATION

10.00' PUE TYP

30.00' ROW

20.00' PRIVATE ACCESS EASEMENT

20.00' PRIVATE ACCESS AND PRIVATE STORM DRAIN EASEMENT

15.00' PUBLIC STORM DRAIN EASEMENT

10.00' PUE (TYP)

80.0'	50.0'	72.0'	50.0'	102.7'	90.6'	50.0'	50.0'	50.0'	86.0'	104.7'	100.0'
6 ±9,558 SF	5 ±6,000 SF	4 ±8,640 SF	3 ±6,000 SF	1 ±5,854 SF	2 ±6,428 SF	7 ±6,240 SF	8 ±6,300 SF	9 ±6,300 SF	10 ±6,300 SF	11 ±6,258 SF	12 ±6,300 SF

TRACT A
STORMWATER FACILITY
±6,910 SF

TRACT C
PRIVATE DRIVE
±1,920 SF

TRACT B
PRIVATE DRIVE
±6,666 SF

499.48'
332.00'
354.70'
20.00'

MILLER ROAD

CEDARWOOD WAY

CHERRYWOOD WAY

LINDSAY ANNE ESTATES TOO

TRACT A
STORMWATER FACILITY

SETBACK LEGEND

- (F) 10' MINIMUM FRONT YARD SETBACK
- (G) 20' MINIMUM GARAGE SETBACK
- (S1) *5' MINIMUM SIDE YARD SETBACK (ONE SIDE)
- (S2) *9' MINIMUM SIDE YARD SETBACK (ONE SIDE)
- (C) 15' CORNER SIDE YARD SETBACK
- (R) 20' REAR YARD SETBACK

*5' AND 9' INTERIOR SIDE YARD SETBACKS CAN BE SWAPPED (TYPICAL). ONE SIDE YARD HAS TO BE A MINIMUM OF 5', THE OTHER SIDE YARD SETBACK HAS TO BE A MINIMUM OF 9'.

PRELIMINARY SUBDIVISION PLAT NOTE:

THE PURPOSE OF THIS PRELIMINARY PLAT IS TO SHOW THE LOT DIMENSIONS FOR PLANNING PURPOSES. THIS IS NOT A FINAL PLAT AND IS NOT TO BE USED FOR SURVEYING PURPOSES.

ZONE R-6

NET DEVELOPABLE AREA: 80,806 SQUARE FEET ±
AVERAGE LOT AREA: 6,682 SQUARE FEET ±

SCALE: 1"= 40 FEET

40 0 16 24 32 40

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12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
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FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

DOTSON FARMS SUBDIVISION

OREGON
CLACKAMAS COUNTY TAX MAP3S 2E 7C
OREGON CITY
TAX LOT 199

PRELIMINARY SUBDIVISION PLAT WITH BUILDING SETBACKS

DESIGNED BY:	VHN
DRAWN BY:	AMF
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE: 12/20/2017	

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 9, 2002
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
6141

SHEET
P-03

AKS DRAWING FILE: 6141 PLAT.DWG | LAYOUT: P-03

LEGEND

EXISTING GROUND CONTOUR (1 FT)	347
EXISTING GROUND CONTOUR (5 FT)	350
FINISHED GRADE CONTOUR (1 FT)	343
FINISHED GRADE CONTOUR (5 FT)	345
SEDIMENT FENCE (TO BE INSTALLED PRIOR TO GRADING)	
INLET PROTECTION	
CONCRETE WASHOUT AREA	
GRAVEL CONSTRUCTION ENTRANCE	

SCALE: 1" = 40 FEET
40 0 16 24 32 40

TAX LOT 106
TAX MAP 3S 2E 7C

TAX LOT 109
TAX MAP 3S 2E 7C
AREA: 8.70 ACRES±

REMAINDER OF TL 109/199
PER DOC 2015-007761

TAX LOT 101
TAX MAP 3S 2E 7C

TAX LOT 500
TAX MAP 3S 2E 7DC

TAX LOT 600
TAX MAP 3S 2E 7DC

TAX LOT 700
TAX MAP 3S 2E 7DC

TAX LOT 800
TAX MAP 3S 2E 7DC

TAX LOT 900
TAX MAP 3S 2E 7DC

TAX LOT 1400
TAX MAP 3S 2E 18

TAX LOT 1401
TAX MAP 3S 2E 18

TAX LOT 1402
TAX MAP 3S 2E 18

CHERRYWOOD WAY

DOTSON WAY

S LELAND ROAD

CEDARWOOD WAY

MILLER ROAD

1 2 3 4 5 6 7 8 9 10 11 12

INLET PROTECTION (TYP)

GRAVEL CONSTRUCTION ENTRANCE

CONCRETE WASHOUT

TRACT A
STORMWATER FACILITY

TRACT B
PRIVATE DRIVE

TRACT C
PRIVATE DRIVE

SEDIMENT FENCE (TYP)

LINDSAY ANNE ESTATES TOO
(APPLICATION
REVIEW IN PROCESS)

AKS DRAWING FILE: 6141 ESC.DWG | LAYOUT: P-04

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
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F: 503.563.6152
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DOTSON FARMS SUBDIVISION

OREGON
CLACKAMAS COUNTY TAX MAP 3S 2E 7C
OREGON CITY
TAX LOT 199

PRELIMINARY GRADING AND EROSION AND SEDIMENT CONTROL PLAN

DESIGNED BY:	VHN
DRAWN BY:	AMF
CHECKED BY:	MBH
SCALE:	AS NOTED

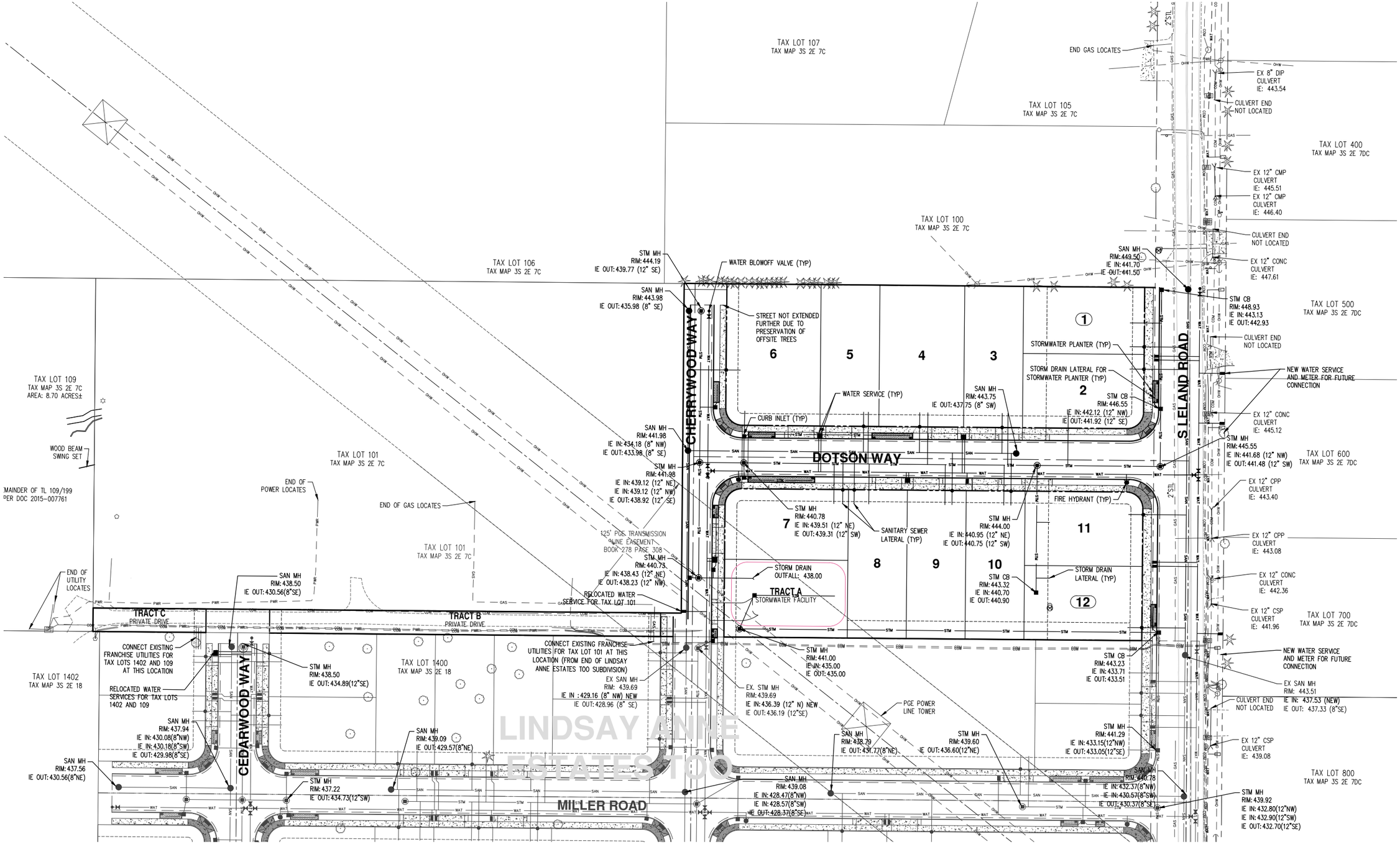
DATE: 12/20/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 9, 2006
MONTGOMERY B. PURLEY
PRELIMINARY - NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
6141

SHEET
P-04



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12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
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AKS
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DOTSON FARMS SUBDIVISION

OREGON CITY
OREGON
CLACKAMAS COUNTY TAX MAP3S 2E 7C
TAX LOT 199

PRELIMINARY COMPOSITE UTILITY PLAN

DESIGNED BY:	VHN
DRAWN BY:	AMF
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE: 12/20/2017	

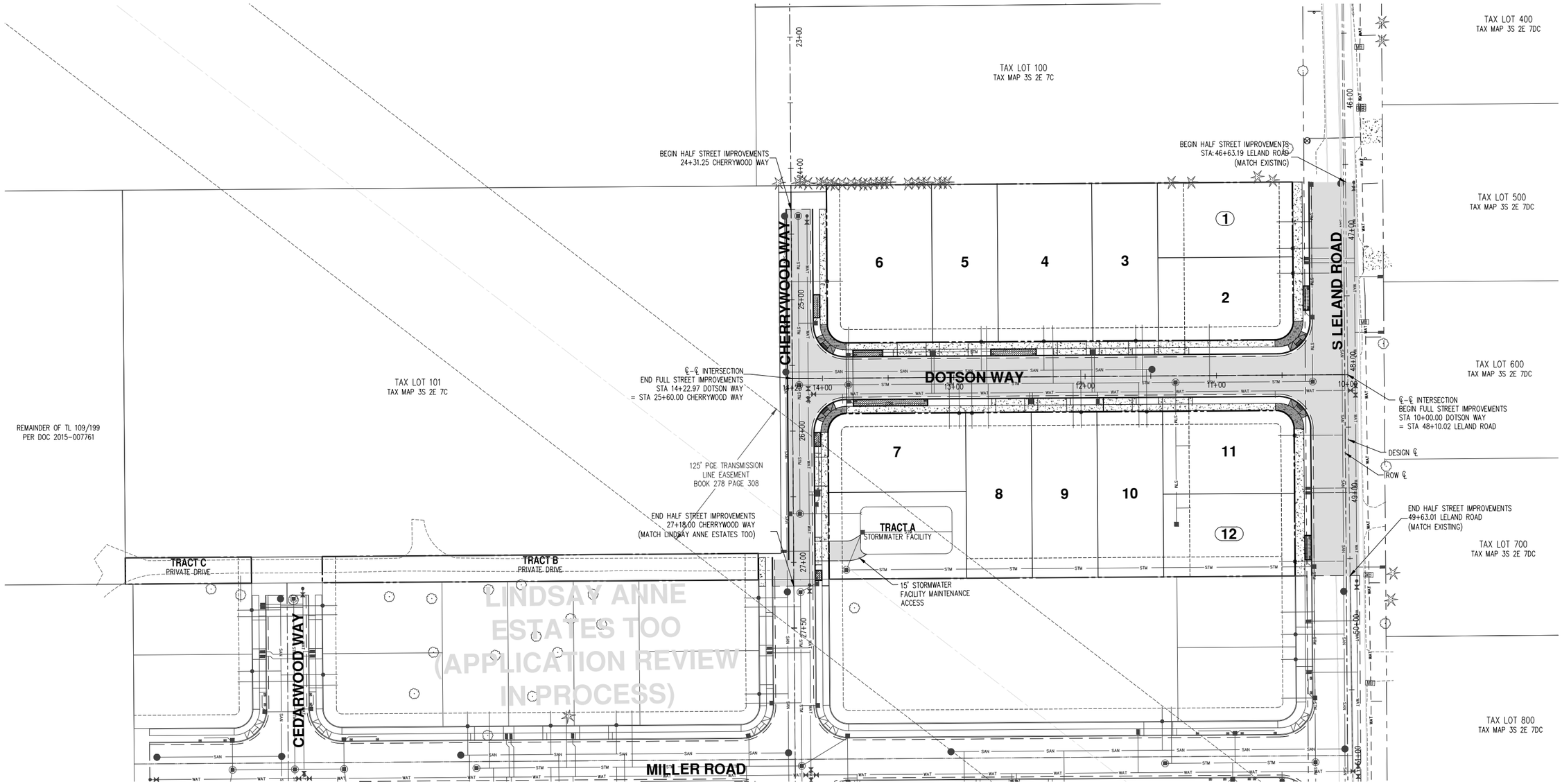
REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 9, 2006
CHROMERY B. PURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
6141

SHEET
P-05

AKS DRAWING FILE: 6141 UTILITIESDWG | LAYOUT: P-05



SCALE: 1"= 40 FEET

40 0 16 24 32 40

SIDEWALK/STREET LEGEND

- SIDEWALK AND DRIVEWAY APPROACHES TO BE CONSTRUCTED BY HOMEBUILDER
- SIDEWALK TO BE CONSTRUCTED BY CONTRACTOR
- RAMPS AND ASSOCIATED SIDEWALK TO BE CONSTRUCTED BY CONTRACTOR
- NEW AC PAVEMENT, PER TYPICAL SECTION
- NEW STORMWATER PLANTER, PER TYPICAL SECTION

NOTE: DRIVEWAYS SHOWN ARE CONCEPTUAL

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DOTSON FARMS SUBDIVISION

OREGON

CLACKAMAS COUNTY TAX MAP 3S 2E 7C

OREGON CITY

TAX LOT 199

PRELIMINARY STREET PLAN

DESIGNED BY: VHN
DRAWN BY: AMF
CHECKED BY: MBH
SCALE: AS NOTED
DATE: 12/20/2017

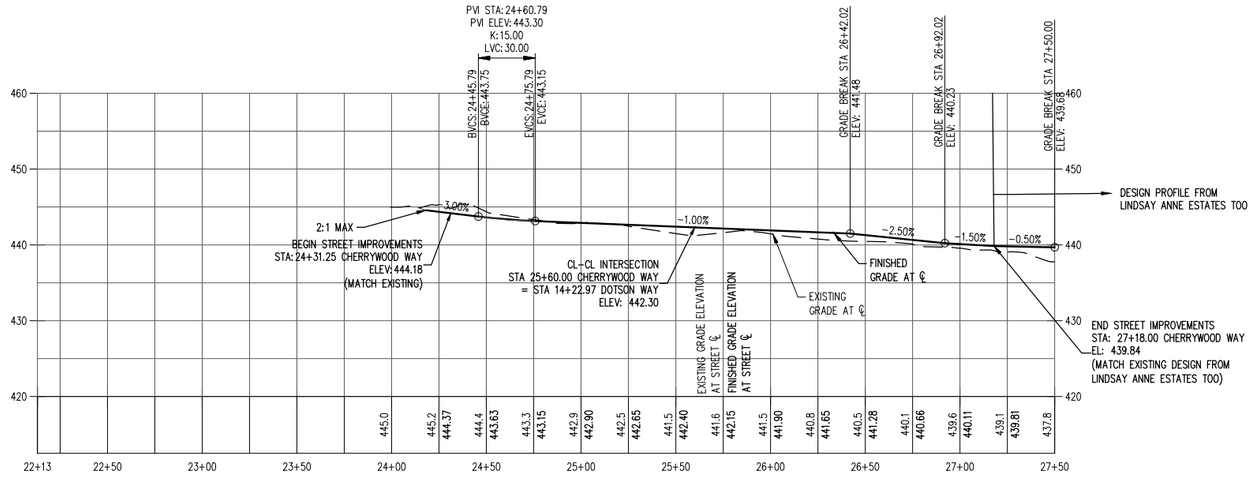
REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 9, 2002
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

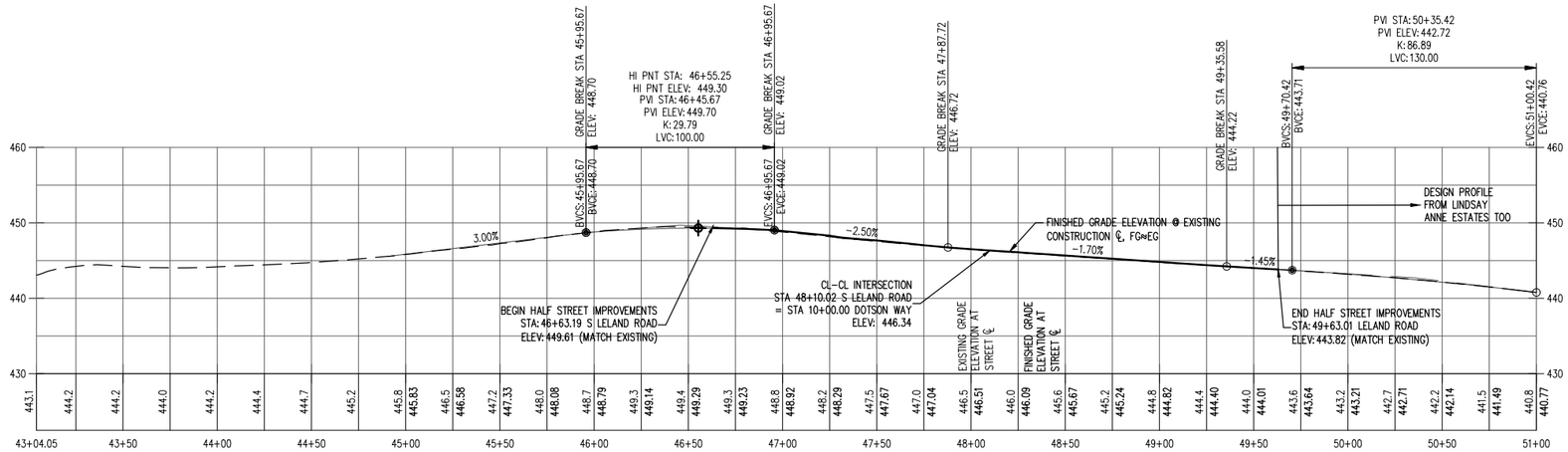
JOB NUMBER
6141

SHEET
P-06

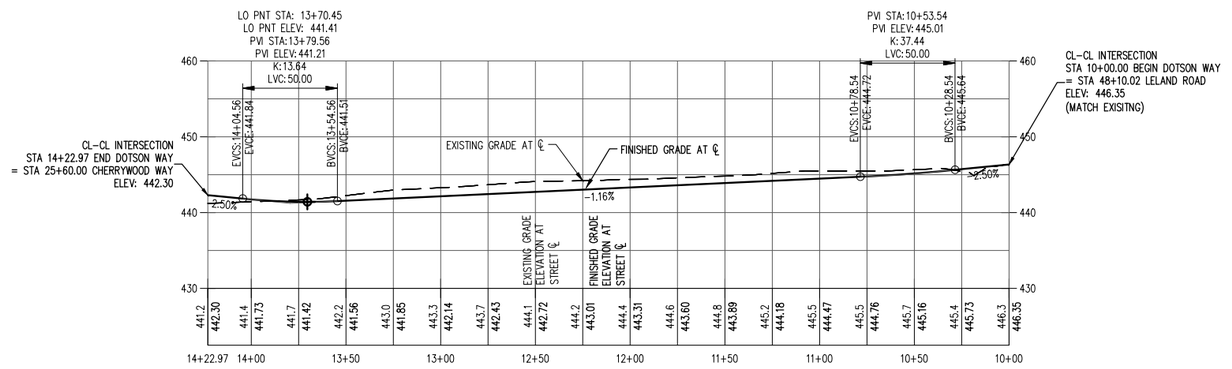
AKS DRAWING FILE: 6141 STREETS.DWG | LAYOUT: P-06



CHERRYWOOD WAY
Hor. Scale: 1"= 40'
Vert. Scale: 1"= 10'



S LELAND ROAD
Hor. Scale: 1"= 40'
Vert. Scale: 1"= 10'



DOTSON WAY
Hor. Scale: 1"= 40'
Vert. Scale: 1"= 10'

AKS DRAWING FILE: 6141 STREETS.DWG | LAYOUT: P-07

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DOTSON FARMS SUBDIVISION

OREGON CITY, OREGON
TAX LOT 1991
CLACKAMAS COUNTY TAX MAP 3S 2E 7C

PRELIMINARY STREET PROFILES

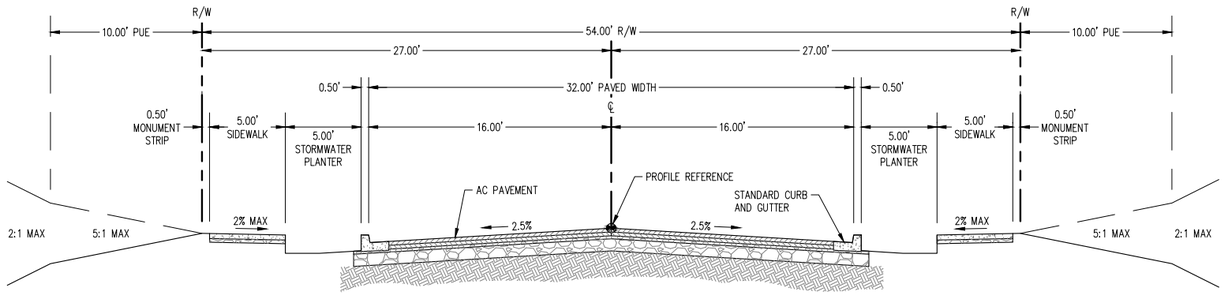
DESIGNED BY:	VHN
DRAWN BY:	AMF
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	12/20/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 2006
PRELIMINARY NOT FOR CONSTRUCTION
CHRISTOPHER B. HURLEY
RENEWAL DATE: 6/30/19

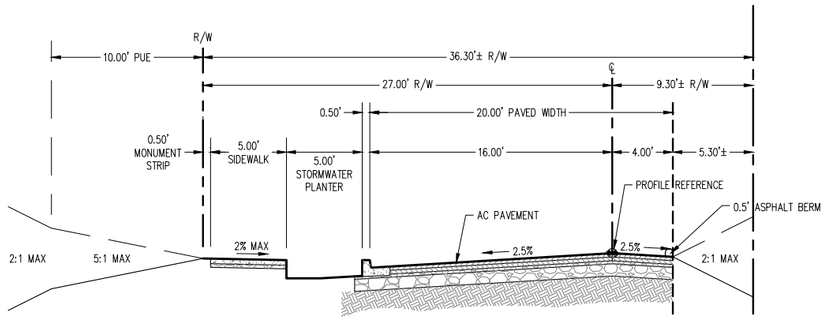
REVISIONS

JOB NUMBER
6141

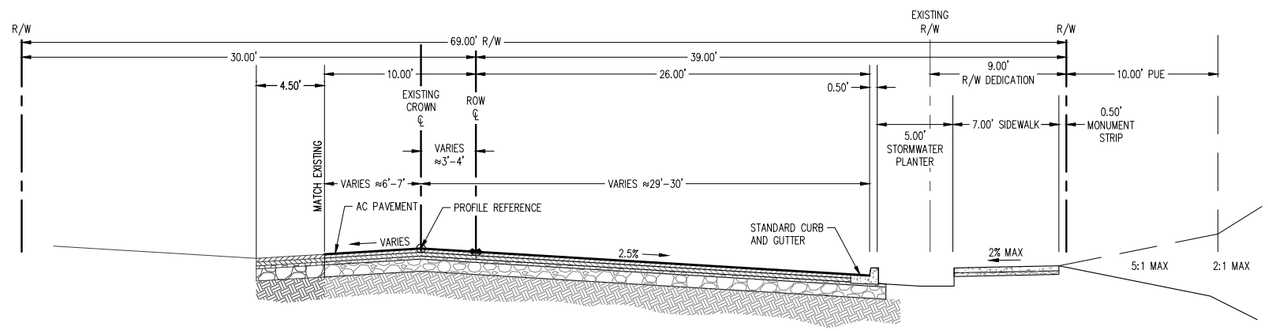
SHEET
P-07



DOTSON WAY (10+00.00 TO 14+22.97)
STREET CROSS-SECTION
NOT TO SCALE



CHERRYWOOD WAY (27+18.00 TO 24+31.25)
STREET CROSS-SECTION
NOT TO SCALE



S LELAND ROAD (46+63.19 TO 49+63.01)
HALF STREET CROSS-SECTION
NOT TO SCALE

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DOTSON FARMS SUBDIVISION

OREGON CITY, OREGON
TAX LOT 199
CLACKAMAS COUNTY TAX MAP 3S 2E 7C

PRELIMINARY STREET CROSS-SECTIONS

DESIGNED BY:	VHN
DRAWN BY:	AMF
CHECKED BY:	MBH
SCALE:	AS NOTED

DATE: 12/20/2017

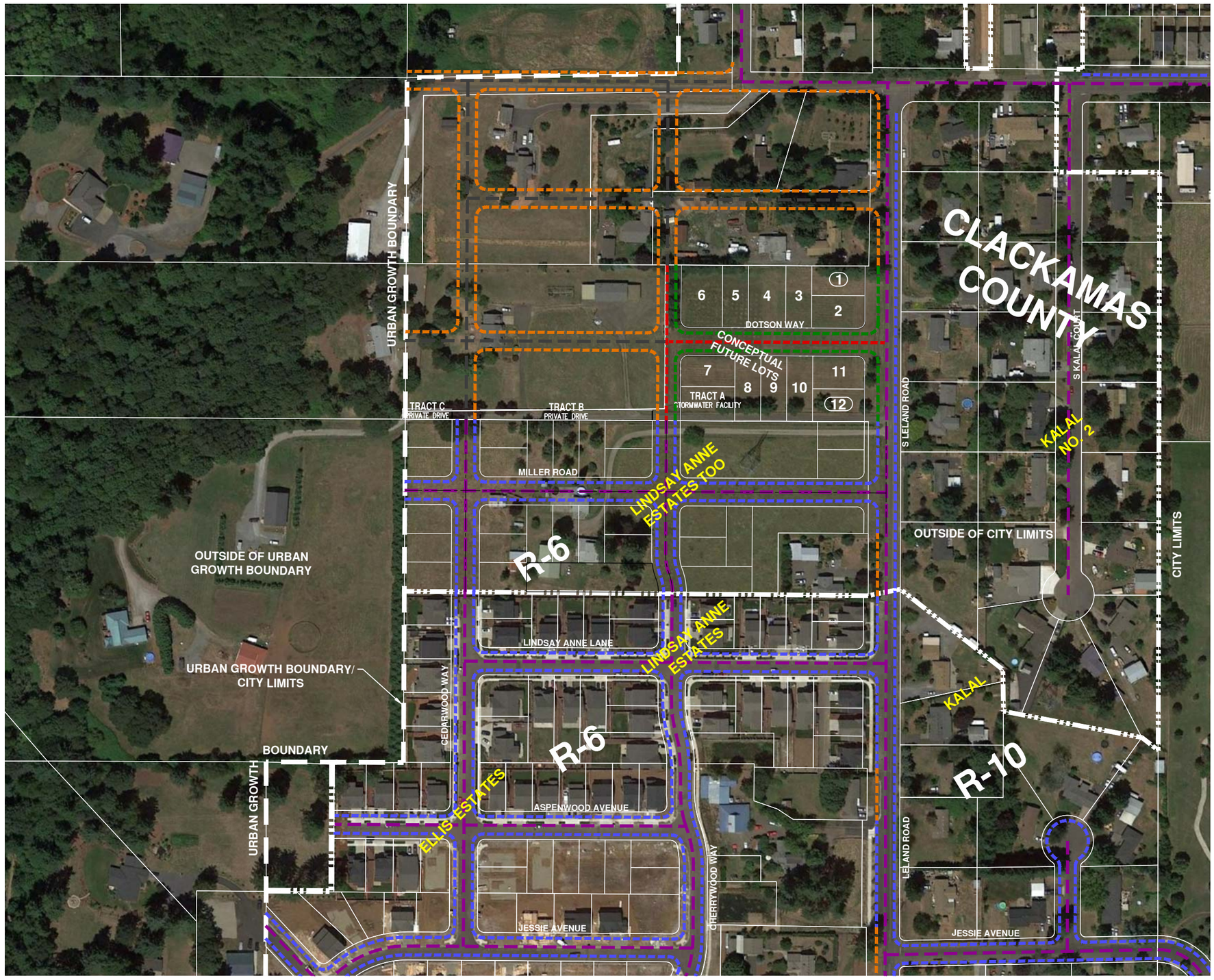
REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 9, 2005
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
6141

SHEET
P-08

AKS DRAWING FILE: 6141 STREETS.DWG | LAYOUT: P-08



NOTES:

1. THIS PLAN IS INCLUDED TO MEET THE SUBMITTAL REQUIREMENTS OF THE CITY OF OREGON CITY FOR DOTSON FARMS SUBDIVISION APPLICATION.
2. THE PRELIMINARY CONCEPTUAL CONNECTIVITY ANALYSIS AND TRANSPORTATION/CIRCULATION PLAN IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY FOR THE LAND USE APPLICATION, IS NOT BINDING ON ANY ADJACENT PROPERTY OWNER, AND IS NOT PROPOSED ON ANY ADJACENT PROPERTY.

LEGEND

- NEW VEHICULAR/BICYCLE ROUTES
- NEW PEDESTRIAN ROUTES
- EXISTING VEHICULAR/BICYCLE ROUTES
- EXISTING PEDESTRIAN ROUTES
- CONCEPTUAL VEHICULAR/BICYCLE ROUTES
- CONCEPTUAL FUTURE PEDESTRIAN ROUTES

SCALE: 1"=100 FEET

100 0 40 60 80 100

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
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ENGINEERING - SURVEYING - NATURAL RESOURCES
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DOTSON FARMS SUBDIVISION

OREGON CITY, OREGON

TAX LOT 199 CLACKAMAS COUNTY TAX MAP 3S 2E 7C

PRELIMINARY CONCEPTUAL CONNECTIVITY ANALYSIS

DESIGNED BY:	VHN
DRAWN BY:	AMF
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	12/20/2017

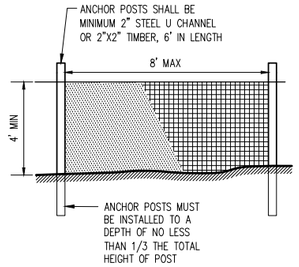
REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 9, 2002
CHRISTOPHER B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER 6141

SHEET P-09

AKS DRAWING FILE: 6141 ORC.DWG | LAYOUT: P-09



NOTES:
1. BLAZE ORANGE PLASTIC MESH FENCE FOR TREE PROTECTION DEVICE OR APPROVED EQUAL.
2. AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
3. DEVICE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION / CONSTRUCTION FENCE

LEGEND

- EXISTING GROUND CONTOUR (1 FT) — 149
- EXISTING GROUND CONTOUR (5 FT) — 150
- FINISHED GRADE CONTOUR (1 FT) — 149
- FINISHED GRADE CONTOUR (5 FT) — 150
- EXISTING CONIFEROUS TREE
- EXISTING DECIDUOUS TREE
- TREE REMOVAL
- TREE PROTECTION/CONSTRUCTION FENCE (TREE PROTECTION AREA)
- OPTIMAL TREE ROOT ZONE (1-FT RADIUS PER 1-IN OF DBH)

SCALE: 1"=40 FEET

40 0 16 24 32 40

TAX LOT 100
TAX MAP 3S 2E 7C

TAX LOT 400
TAX MAP 3S 2E 7DC

ARBORIST OBSERVATION REQUIRED DURING TREE REMOVAL-BEHIND-TREE PROTECTION FENCING

TAX LOT 106
TAX MAP 3S 2E 7C

ARBORIST OBSERVATION REQUIRED DURING TREE REMOVAL BEHIND TREE PROTECTION FENCING

TAX LOT 500
TAX MAP 3S 2E 7DC

29.00' PRIVATE ACCESS EASEMENT

10.00' PUE TYP

10.00' RUE TYP

S LELAND ROAD (COUNTY ROAD NO. 588)

TAX LOT 109
TAX MAP 3S 2E 7C
AREA: 8.70 ACRES±

TAX LOT 101
TAX MAP 3S 2E 7C

DOTSON WAY

TAX LOT 199
TAX MAP 3S 2E 7C
AREA: 2.38 ACRES±

TAX LOT 600
TAX MAP 3S 2E 7DC

CHERRYWOOD WAY

REMAINDER OF TL 109/199
PER DOC 2015-007761

125' PGE TRANSMISSION LINE EASEMENT BOOK 278 PAGE 308

TRACT A
STORMWATER FACILITY

TRACT C
PRIVATE DRIVE

TRACT B
PRIVATE DRIVE

15.00' PUBLIC STORM DRAIN EASEMENT

20.00' PRIVATE ACCESS AND PRIVATE STORM DRAIN EASEMENT

TAX LOT 700
TAX MAP 3S 2E 7DC

TAX LOT 1402
TAX MAP 3S 2E 18

TAX LOT 1400
TAX MAP 3S 2E 18

SEE SHEET P-11 FOR TREE PRESERVATION AND MITIGATION TABLE

PRELIMINARY NOT FOR CONSTRUCTION

BRUCE R. BALDWIN
CERTIFICATE NUMBER: PN-6666A
EXPIRATION DATE: 12/31/17

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
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F: 503.563.6152
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ENGINEERING - SURVEYING - NATURAL RESOURCES
FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

DOTSON FARMS SUBDIVISION

OREGON CITY, OREGON
TAX LOT 199
CLACKAMAS COUNTY TAX MAP 3S 2E 7C

PRELIMINARY TREE PRESERVATION AND REMOVAL PLAN

DESIGNED BY:	VHN
DRAWN BY:	AMF
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE: 12/20/2017	

REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
OREGON
NOVEMBER 5, 2002
CHERYL L. MANN
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
6141

SHEET
P-10

AKS DRAWING FILE: 6141 TREE.DWG | LAYOUT: P-10

Detailed Tree Inventory for Dotson Farms Subdivision

AKS Job No. 6141 - Evaluation Date: 11/28/2017

Tree #	DBH (in.)	Equivalent DBH (in.)[1]	Tree Species Common Name (*Scientific name*)	Comments	Health Rating*	Structure Rating**	Remove / Preserve	Within Construction Area[2]	Mitigation Required	Mitigation Trees Required[3]
10739	10	10	Cherry (*Prunus sp.*)	OFFSITE; Topped for overhead wires	2	3	Preserve	Yes	No	0
10744	11	11	Blue Spruce (*Picea pungens*)	OFFSITE; Topped for overhead wires	2	3	Preserve	No	No	0
10745	6,6,6,8,10	16	Cedar (*Cedrus sp.*)	OFFSITE; Clump	1	1	Preserve	No	No	0
10750	6	6	Cherry (*Prunus sp.*)	OFFSITE; Pruned for overhead wires	2	2	Preserve	No	No	0
10803	24	24	Maple (*Acer sp.*)	OFFSITE; Topped for overhead wires; Large bulges; Crooked; Decay	2	3	Preserve	Yes	No	0
11155	18	18	Pear (*Pyrus sp.*)	OFFSITE; Bulge on bole; Broken branches; Decay; Bore holes	2	3	Preserve	No	No	0
11516	6	6	Cherry (*Prunus sp.*)	OFFSITE; Sparse foliage; Cavity; Decay; Cracks; Crooked	3	3	Preserve	No	No	0
11521	25	25	Oregon Oak (*Quercus garryana*)	OFFSITE; Codominant 7' from ground with included bark; Sparse foliage	2	2	Preserve	No	No	0
11523	18	18	Oregon Oak (*Quercus garryana*)	OFFSITE; Sparse foliage	2	1	Preserve	No	No	0
11528	12, 13, 13	22	Cherry (*Prunus sp.*)	OFFSITE; Scars; Decay; Bore holes; Decay; Broken branches	2	3	Preserve	No	No	0
11530	6, 6	8	Cherry (*Prunus sp.*)	OFFSITE; Cavity; Decay; Bore holes; Sparse foliage	3	3	Preserve	No	No	0
11537	16	16	Oregon Oak (*Quercus garryana*)	OFFSITE; Very sparse foliage; Dead and broken branches; Declining	3	2	Preserve	No	No	0
11539	20, 25	32	Oregon Oak (*Quercus garryana*)	OFFSITE; Codominant; Some dead and broken branches	2	2	Preserve	No	No	0
11540	13	13	Cherry (*Prunus sp.*)	OFFSITE; Broken branches; Cracks; Bulges on bole; Decay	2	3	Preserve	No	No	0
11687	17	17	Mesquite (*Prosopis sp.*)	OFFSITE; Sparse foliage; Dead and broken branches; Declining	3	3	Preserve	No	No	0
11689	8	8	Cherry (*Prunus sp.*)	OFFSITE; Crooked; Dead branches; Sweep; Cracks	2	3	Preserve	No	No	0
11698	15	15	Yellow Poplar (Liriodendron tulipifera)	OFFSITE; Crooked; Bulges on bole	1	2	Preserve	No	No	0
12670	13	13	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12672	10	10	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12673	12	12	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12674	9	9	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12677	11	11	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12679	9	9	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12680	12	12	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12681	12	12	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12683	6	6	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12684	13	13	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12687	10	10	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12689	11	11	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12690	10	10	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12691	9	9	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12694	15	15	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12696	8	8	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12697	10	10	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12698	12	12	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Remove	Yes	Yes	1
12700	6	6	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12702	12	12	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12703	10	10	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12705	18	18	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
12724	14	14	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Remove	Yes	Yes	2
12725	15	15	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Remove	Yes	Yes	2
12726	10	10	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Remove	Yes	Yes	1
12727	11	11	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Remove	Yes	Yes	1
12728	12	12	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Remove	Yes	Yes	1
12729	14	14	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Remove	Yes	Yes	2
14340	16	16	Cherry (*Prunus sp.*)	OFFSITE; Large cavities with decay; Broken branches; Cracks	3	3	Preserve	No	No	0
14387	20	20	Atlas Cedar (*Cedrus atlantica*)	OFFSITE	1	1	Preserve	Yes	No	0
14435	16	16	Pine (*Pinus sp.*)	OFFSITE; Pruned; Crooked	1	2	Preserve	Yes	No	0
14450	11	11	Pine (*Pinus sp.*)	OFFSITE; Very crooked stem; Pruned	1	2	Preserve	Yes	No	0
14451	12	12	Spruce (*Picea sp.*)	OFFSITE	1	1	Preserve	Yes	No	0
14524	18	18	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	Yes	No	0
14825	13	13	Pine (*Pinus sp.*)	OFFSITE; Codominant top; Crooked	1	2	Preserve	No	No	0
14826	11	11	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE; Codominant top; Crooked	1	2	Preserve	No	No	0
14832	31	31	Pine (*Pinus sp.*)	OFFSITE	1	1	Preserve	No	No	0
14864	11	11	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
14865	9	9	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
14866	12	12	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0
14949	13	13	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Remove	Yes	Yes	2
14950	13	13	Douglas-fir (*Pseudotsuga menziesii*)		1	1	Remove	Yes	Yes	2
14951	18	18	Douglas-fir (*Pseudotsuga menziesii*)	Bore holes; Bulges	1	2	Remove	Yes	Yes	2
14952	16	16	Apple (*Malus sp.*)	50% of canopy pruned; Many bore holes; Broken branches	3	3	Remove	Yes	No	0
15065	13	13	Pine (*Pinus sp.*)	Very crooked; Lean (SE)	1	2	Remove	No	Yes	6
15066	23	23	Pine (*Pinus sp.*)	Codominant top	1	2	Remove	No	Yes	9
15067	22	22	Pine (*Pinus sp.*)	Codominant 15' from ground; Some broken branches; Some dead foliage	2	2	Remove	No	Yes	9
15068	24	24	Pine (*Pinus sp.*)	Pruned; Good woundwood closure; Crooked	1	2	Remove	Yes	Yes	3
15069	21	21	Pine (*Pinus sp.*)	OFFSITE; Pruned; Good woundwood closure; Crooked	1	2	Remove	Yes	Yes	3
15077	20	20	Douglas-fir (*Pseudotsuga menziesii*)	OFFSITE	1	1	Preserve	No	No	0

Total # of Existing Trees Inventoried = 67
Total # of Trees to be Removed Requiring Mitigation = 15
Total # of Mitigation Trees Required = 46

Total # of Onsite Trees = 15
Total # of Onsite Trees to be Preserved = 0
Total # of Onsite Trees to be Removed = 15

Total # of Offsite Trees = 52
Total # of Offsite Trees to be Preserved = 51
Total # of Offsite Trees to be Removed = 1

[1]Equivalent DBH (in.):
Equivalent DBH (in.) Based on Basal Area.

[2]Within Construction Area:
Construction area is defined as right-of-way, public utility easements, and within the building footprint of a building site for any mixed-use, commercial or industrial development, or if a residential development, within the allowable building footprint permitted by the setback requirements of the zone district. (Per OCMC 17.04.230)

[3]Mitigation Trees Required:
Per Tree Replacement Requirements Table 17.41.060-1 OCMC

***Health Rating:**
1 = Good Health - A tree that exhibits typical foliage, bark, and root characteristics, for its respective species, shows no signs of infection or infestation, and has a high level of vigor and vitality.
2 = Fair Health - A tree that exhibits some abnormal health characteristics and/or shows some signs of infection or infestation, but may be reversed or abated with supplemental treatment.
3 = Poor Health - A tree that is in significant decline, to the extent that supplemental treatment would not likely result in reversing or abating its decline.

****Structure Rating:**
1 = Good Structure - A tree that exhibits typical physical form characteristics, for its respective species, shows no signs of structural defects of the canopy, trunk, and/or root system.
2 = Fair Structure - A tree that exhibits some abnormal physical form characteristics and/or some signs of structural defects, which reduce the structural integrity of the tree, but are not indicative of imminent physical failure, and may be corrected using arboricultural abatement methods.
3 = Poor Structure - A tree that exhibits extensively abnormal physical form characteristics and/or significant structural defects that substantially reduces the structural viability of the tree, cannot feasibly be abated, and are indicative of imminent physical failure.

Arborist Disclosure Statement:
Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the health of trees, and attempt to reduce the risk of living near trees. The Client and Jurisdiction may choose to accept or disregard the recommendations of the arborist, or seek additional advice. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed. Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees. Neither this author nor AKS Engineering & Forestry, LLC have assumed any responsibility for liability associated with the trees on or adjacent to this site.

At the completion of construction, all trees should once again be reviewed. Land clearing and removal of adjacent trees can expose previously unseen defects and otherwise healthy trees can be damaged during construction.

BRUCE R. BALDWIN
CERTIFICATE NUMBER: PN-6666A
EXPIRATION DATE: 12/31/17

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
aks-eng.com

ENGINEERING - SURVEYING - NATURAL RESOURCES
FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

DOTSON FARMS SUBDIVISION

OREGON
CLACKAMAS COUNTY TAX MAP 3S 2E 7C
TAX LOT 199

OREGON CITY

PRELIMINARY TREE PRESERVATION AND REMOVAL TABLE

DESIGNED BY: VHN
DRAWN BY: AMF
CHECKED BY: MBH
SCALE: AS NOTED
DATE: 12/20/2017

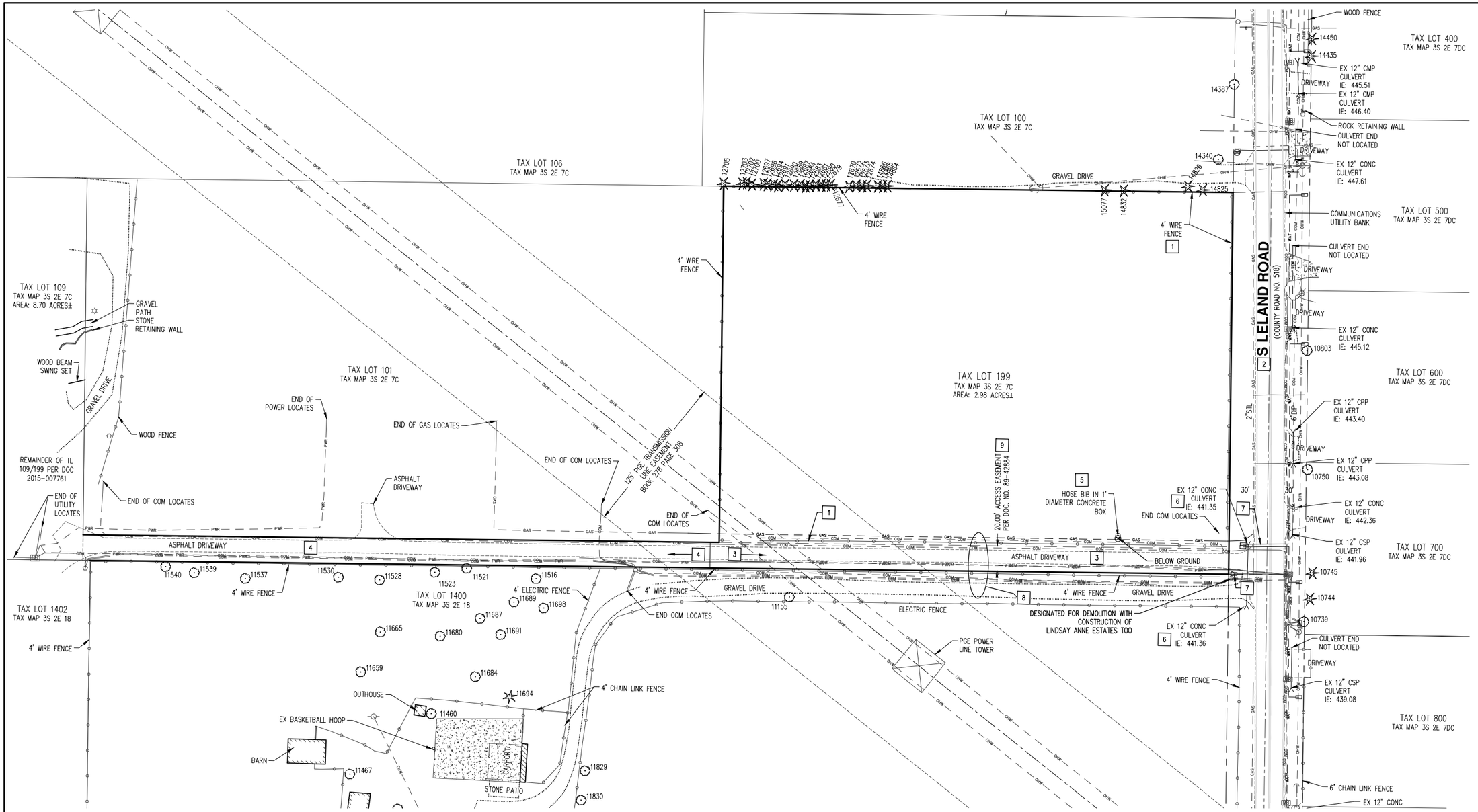
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
OREGON
JANUARY 9, 2002
CHRISTOPHER MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
6141

SHEET
P-11

AKS DRAWING FILE: 6141 TREE.DWG | LAYOUT: P-11



SCALE: 1"= 40 FEET

40 0 16 24 32 40

DEMOLITION KEYED NOTES:

1. REMOVE OR RELOCATE EXISTING FENCE TO PROPERTY LINE.
2. REMOVE EXISTING AC PAVEMENT.
3. REMOVE EXISTING ASPHALT DRIVEWAY AND APPROACH.
4. PRESERVE EXISTING ASPHALT DRIVEWAY. PROTECT FROM DAMAGE.
5. REMOVE EXISTING BELOW GROUND HOSE BIB. COORDINATE TIMING WITH PROPERTY OWNER.
6. REMOVE EXISTING CULVERT.
7. EXISTING WATER SERVICES SHALL BE REROUTED THROUGH LINDSAY ANNE ESTATES TOO, AS SHOWN IN THE PRELIMINARY COMPOSITE UTILITY PLAN (P-05).
8. ALL FRANCHISE UTILITIES IN THIS AREA SHALL BE ABANDONED/ RELOCATED PER APPROPRIATE FRANCHISE UTILITY REQUIREMENTS.
9. ACCESS EASEMENT TO BE EXTINGUISHED.

GENERAL NOTES:

1. SEE SHEETS P-10 THROUGH P-11 FOR TREE PRESERVATION AND REMOVAL INFORMATION.
2. DECOMMISSION EXISTING WELLS, UNDERGROUND FUEL TANKS, AND SEPTIC TANKS AND DRAIN FIELDS PER APPLICABLE JURISDICTIONAL REQUIREMENTS. CONTRACTOR SHALL PROVIDE DOCUMENTATION OF DECOMMISSIONING TO APPLICABLE PARTIES, INCLUDING THE PROJECT ENGINEER, CITY, COUNTY, STATE, ETC.

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FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

DOTSON FARMS SUBDIVISION

OREGON
CLACKAMAS COUNTY TAX MAP3S 2E 7C
OREGON CITY
TAX LOT 199

PRELIMINARY DEMOLITION PLAN

DESIGNED BY:	VHN
DRAWN BY:	AMF
CHECKED BY:	MBH
SCALE:	AS NOTED

DATE: 12/20/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
NOVEMBER 9, 2005
CHRISTOPHER B. FOLEY
PRELIMINARY NOT FOR CONSTRUCTION

RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
6141

SHEET
P-12

AKS DRAWING FILE: 6141 DEMO.DWG | LAYOUT: P-12

TREE MITIGATION AND STREET TREE NOTES:

1. MITIGATION PLANTING WILL BE PROVIDED ON OR OFF SITE (OPTION 1) AND/OR CASH-IN-LIEU OF PLANTING (OPTION 4) PER OCMC 17.41.060.
2. ON AND OFF SITE PLANTINGS WILL BE EITHER 2" CALIPER DECIDUOUS TREES OR 6' TALL CONIFER TREES PER OCMC TABLE 17.41.060-1.
3. SPECIES WILL BE SPECIFIED BY PROJECT LANDSCAPE ARCHITECT OR ARBORIST DURING FINAL DESIGN AND WILL BE FROM THE CITY'S APPROVED TREE LIST.
4. STREET TREES WITHIN THE STORMWATER PLANTERS WILL BE SELECTED FROM TABLE A-1 IN THE OREGON CITY STORMWATER AND GRADING DESIGN STANDARDS MANUAL.
5. ALL PLANTER STRIPS ALONG THE STREET NOT PLANTED AS A STORMWATER PLANTER SHALL HAVE STREET TREES AND DROUGHT TOLERANT VEGETATIVE GROUNDCOVER, SUCH AS KINNIKINNICK, INSTALLED BY THE ADJACENT HOMEOWNER/HOME BUILDER AT THE TIME OF HOME CONSTRUCTION. CONTRACTOR SHALL INSTALL STREET TREES AND PLANTINGS IN STREET FRONTAGE ADJACENT TO TRACT A STORMWATER FACILITY.
6. TREES TO BE PLANTED SHALL MEET THE REQUIREMENTS OF THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS FOR NURSERY STOCK (ANSI Z60.1) FOR GRADE NO. 1 OR BETTER. DOUBLE STAKE ALL TREES. ADJUST STREET TREES ON SITE AS NECESSARY TO AVOID CONFLICTS WITH UTILITIES, LIGHT POLES, ETC. THE FOLLOWING CLEARANCE DISTANCES SHALL BE MAINTAINED WHEN PLANTING TREES: 15' O,C, FROM STREET LIGHTS; 5' O.C. FROM FIRE HYDRANTS, WATER METERS, STORM SANITARY LATERALS; AND 20' O.C. FROM INTERSECTIONS.

TOTAL STREET TREES PROPOSED: 34

REQUIRED STREET TREES (1 FOR EVERY 35' PROP. FRONTAGE) = 35

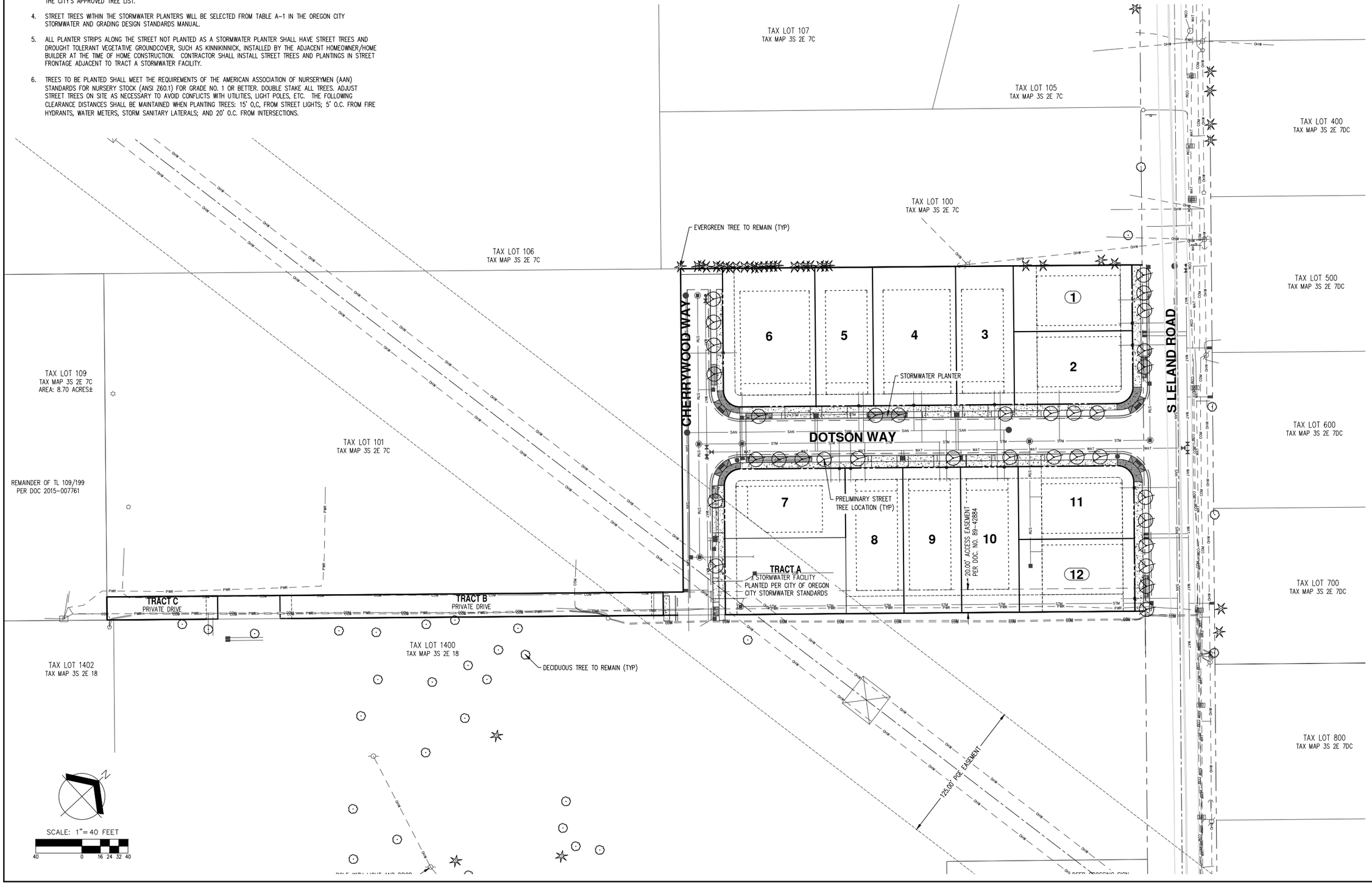
FEE IN-LIEU OF IS NECESSARY FOR 1 STREET TREE, IN ORDER TO MEET THE MINIMUM STREET TREE REQUIREMENT.

LEGEND:

34 - STREET TREE, 2" CAL. (MIN.). FINAL SPECIES SELECTION FROM OREGON CITY'S APPROVED STREET TREE LIST

EXISTING TREE TO REMAIN

SEE SHEET P-11 FOR TREE PRESERVATION AND REMOVAL TABLE



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ENGINEERING - SURVEYING - NATURAL RESOURCES
FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

DOTSON FARMS SUBDIVISION

OREGON CITY OREGON
CLACKAMAS COUNTY TAX MAP 3S 2E 7C
TAX LOT 199

PRELIMINARY STREET TREE PLAN

DESIGNED BY:	NKP
DRAWN BY:	NKP
CHECKED BY:	KAH
SCALE:	AS NOTED

DATE: 12/20/2017

REGISTERED LANDSCAPE ARCHITECT
OREGON
KEVIN A. HANSON
12/20/13
PRELIMINARY - NOT FOR CONSTRUCTION

REVISIONS

JOB NUMBER
6141

SHEET
P-13

AKS DRAWING FILE: 6141 STREET TREE.DWG | LAYOUT: P-13

Exhibit B: Clackamas County Assessor's Map

This map was prepared for assessment purpose only.

SW 1/4 SEC. 7 T.3S. R.2E. W.M.
CLACKAMAS COUNTY
1" = 200'

D.L.C.
JOHN HOWLAND NO. 45
S.S. WHITE NO. 41 & 42

3 2E 7C

SW COR. DLC 40
SE. COR. DLC 41
NW. COR. DLC 41
NE. COR. DLC 42
APPROX. 1/4 COR.
5362.50FT. Most Westerly Corner of S.S WHITE DLC

CENTRAL PT. ROAD
MARKET
HAZEL
HAZELDELL
SUNSET SPRINGS DR.
PARK DR.
CREEK DR.
ORCHARD GROVE DRIVE
GROVE DRIVE
AVENUE
ORCHARD
McCORD ROAD
CC RD No. 57
CC RD No. 516
LELAND RD
PUBLIC

ILBERT ORCHARDS
62-84

SEE MAP

62-88

MAP

62-64

62-33

62-02

62-31

62-03

62-14

62-84
3 2E 7B
F.U.-10

SEE MAP 3 2E 7BD

SEE MAP 3 2E 7D

SEE MAP 3 2E 12D

SEE MAP 3 2E 18

CANCELLED
1000 801
1004 900
1005 110
103 1190
400 1200
191 1011
1290
702
111
1900
890
1280

12000 12300 12500 19500 19800 20000

1003 3.69
1002 1.81 Ac. 19538
1001 4.21Ac.
1100 2.13Ac.
1101 17.85 Ac. 19588
1191 0.14Ac.
1180 2.63Ac.
1201 20.55Ac. 19898
1291 0.26Ac.
1007 19500
1009 19510
1008 19520
1010 19530
1006 19532
790 0.53Ac.
791 1.22Ac.
700 1.67Ac. 19521
701 3.78Ac. 19525
800 13.40Ac.
600 3.05 Ac.
601 0.89 Ac. 19573
500 0.46 Ac. 19585
501 0.46Ac. 19593
390 0.23Ac.
391 0.19Ac.
290 0.75Ac.
300 1.50Ac. 19613
301 0.42Ac. 19629
200 3.02Ac. 19657
105 0.68Ac. 19667
100 1.30Ac. 19673
107 0.85Ac. 19661
199 2.98 Ac.
106 1.00 Ac. 19663
104 2.41 Ac. 19665
192 0.74Ac.
101 3.21 Ac. 19681
102 13.43 Ac. 19659
109 8.83Ac. 19691
108 0.94Ac
182 0.23Ac
198 2.00Ac.

P. P. 1999-140

PARCEL 2

TBR

EASEMENT

PGE McLOUGHLIN to St MARYS SUB.
SEE PGE DWG No. CB 518-23

See BPA DWG No. 125107

B. P. A.

WLY COR. JOHN HOWLAND DLC NO. 45

644.7' Sely Line of S.S. White DLC No. 45
N Wly. Line of John Howland DLC No. 45

BOOK 29
3 2E 7C

RLR 2/12/69

Exhibit C: City Land Use Application Forms and Checklists

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

LAND USE APPLICATION FORM

Type I (OCMC 17.50.030.A)
- ❑ Compatibility Review
- ❑ Lot Line Adjustment
- ❑ Non-Conforming Use Review
- ❑ Natural Resource (NROD) Verification
- ❑ Site Plan and Design Review

Type II (OCMC 17.50.030.B)
- ❑ Extension
- ❑ Detailed Development Review
- ❑ Geotechnical Hazards
- ❑ Minor Partition (<4 lots)
- ❑ Minor Site Plan & Design Review
- ❑ Non-Conforming Use Review
- ❑ Site Plan and Design Review
- ☑ Subdivision (4+ lots)
- ❑ Minor Variance
- ❑ Natural Resource (NROD) Review

Type III / IV (OCMC 17.50.030.C)
- ☑ Annexation
- ❑ Code Interpretation / Similar Use
- ❑ Concept Development Plan
- ❑ Conditional Use
- ❑ Comprehensive Plan Amendment (Text/Map)
- ❑ Detailed Development Plan
- ❑ Historic Review
- ❑ Municipal Code Amendment
- ❑ Variance
- ☑ Zone Change

File Number(s): PA 17-46 (Pre-Application Conference)

Proposed Land Use or Activity: Annexation, zone change, and new subdivision for future construction of detached single-family residential homes

Project Name: Dotson Farms Number of Lots Proposed (If Applicable): 12

Physical Address of Site: N/A No Address

Clackamas County Map and Tax Lot Number(s): Assessor's Map 03S02E07C, Tax Lot: 199

Applicant(s):

Applicant(s) Signature:

Applicant(s) Name Printed: Oregon Builders and Restoration (Rick Dotson) Date: 12/12/17

Mailing Address: 19695 Leland Road, Oregon City, OR 97045

Phone: Contact applicant's consultant Fax: Contact applicant's consultant Email: Contact applicant's consultant

Property Owner(s):

Property Owner(s) Signature: Ross R. Smith Kay D Smith

Property Owner(s) Name Printed: Ross R. and Kay D. Smith Date: 12-9-17

Mailing Address: 19691 Leland Road, Oregon City, OR 97045

Phone: Contact applicant's consultant Fax: Contact applicant's consultant Email: Contact applicant's consultant

Representative(s):

Representative(s) Signature:

Representative (s) Name Printed: AKS Engineering & Forestry, LLC (Chris Goodell) Date: December 2017

Mailing Address: 12965 SW Herman Road, Suite 100

Phone: (503) 563-6151 Fax: (503) 563-6152 Email: chrisg@aks-eng.com

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.

CITY OF OREGON CITY

Community Development Department, 320 Warner-Milne Road
P.O. Box 3040, Oregon City, OR 97045 (503) 657-0891
www.ci.oregon-city.or.us

ANNEXATION APPLICATION SUBMITTAL CHECKLIST

Quoted from OCMC 14.04.050.

Contents of Application. An applicant seeking to annex land to the city shall file with the city the appropriate application form approved by the city manager. The application shall include the following:

1. ✓ Written consent form to the annexation signed by the requisite number of affected property owners, electors or both, provided by ORS 222, if applicable;

2. ✓ A legal description of the territory to be annexed, meeting the relevant requirements of the Metro Code and ORS Ch. 308. If such a description is not submitted, a boundary survey may be required. A lot and block description may be substituted for the metes and bounds description if the area is platted. If the legal description contains any deed or book and page references, legible copies of these shall be submitted with the legal description;

3. ✓ A list of property owners within three hundred feet of the subject property and if applicable, those property owners that will be "islanded" by the annexation proposal, on mailing labels acceptable to the city manager (equal to 30 labels per 8.5-inch by 11-inch sheet);

4. ✓ Two full quarter-section county tax assessor's maps, with the subject property(ies) outlined;

5. ✓ Twenty-five copies of a site plan, drawn to scale (not greater than one inch = fifty feet), indicating:

a. The location of existing structures (if any),

b. The location of streets, sewer, water, electric and other utilities, on or adjacent to the property to be annexed,

c. The location and direction of all water features on and abutting the subject property. Approximate location of areas subject to inundation, stormwater overflow or standing water. Base flood data showing elevations of all property subject to inundation in the event of one hundred year flood shall be shown,

d. Natural features, such as rock outcroppings, marshes or wetlands (as delineated by the Division of State Lands) wooded areas, isolated preservable trees (trees with trunks over six inches in diameter--as measured four feet above ground), and significant areas of vegetation,

e. General land use plan indicating the types and intensities of the proposed, or potential development;

6. ✓ If applicable, a double-majority worksheet, certification of ownership and voters. Certification of legal description and map, and boundary change data sheet on forms provided by the city.

7. ✓ A narrative statement explaining the conditions surrounding the proposal and addressing the factors contained in the ordinance codified in this chapter, as relevant, including:

a. Statement of availability, capacity and status of existing water, sewer, drainage, transportation, park and school facilities,

b. Statement of increased demand for such facilities to be generated by the proposed development, if any, at this time,

c. Statement of additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand,

d. Statement outlining method and source of financing required to provide additional facilities, if any,

e. Statement of overall development concept and methods by which the physical and related social environment of the site, surrounding area and community will be enhanced,

f. Statement of potential physical, aesthetic, and related social effects of the proposed, or potential development on the community as a whole and on the small subcommunity or neighborhood of which it will become a part; and proposed actions to mitigate such negative effects, if any,

g. Statement indicating the type and nature of any comprehensive plan text or map amendments, or zoning text or map amendments that may be required to complete the proposed development;

8. ✓ The application fee for annexations established by resolution of the city commission and any fees required by Metro. In addition to the application fees, the city manager shall require a deposit, which is adequate to cover any and all costs related to the election. (Ord. 99-1030 §5, 1999)

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

Comprehensive Plan Amendment / Zone Change Checklist

The following information is required for a complete Zone Change application. Incomplete applications will be rejected.

1. ✓ **A Completed Application Form with All Property Owner Signatures** *(P)*

2. ✓ **Narrative** *(P/DS)*
   A complete and detailed narrative description of the proposed development and an explanation addressing all applicable approval criteria. A template is provided at the Pre-Application Conference.

3. N/A **Annexation Agreement, if Applicable** *(P)*

4. ✓ **Traffic Study or Analysis Letter** *(P)*

5. ✓ **Neighborhood Association Meeting** *(P)*
   - ☑ A sign-in sheet of meeting attendees
   - ☑ A summary of issues discussed
   - ☑ A letter from the neighborhood association or CIC indicating that a neighborhood meeting was held.
   - N/A ☐ If the applicant held a separately noticed meeting, the applicant shall submit a copy of the meeting flyer, a sign in sheet of attendees and a summary of issues discussed.

6. ✓ **Pre-Application Conference Summary Sheet** *(P/DS)*

7. N/A **Additional Information or Reports** *(P/DS)*
   If Required in Pre-Application Conference.

8. ✓ **A Current Preliminary Title Report or Trio for the Subject Property(ies)** *(P)*

9. ✓ **Mailing Labels for Owners within 300 Feet of the Subject Site or Fee for City-Provided Labels** *(P)*
   The names and addresses of property owners within 300 feet of the site from a title company.

10. ✓ **Copies** *(P)*
    Two (2) copies of all information, reports, and drawings (full-sized and 8.5" by 11") pertaining to this application.

11. ✓ **Electronic Version of All Application Materials** *(P/DS)*

12. ✓ **All Required Application Fees** *(P)*

(P) = Contact the Planning Division at (503) 722.3789 with any questions regarding this item.
(DS) = Contact the Development Services Division at (503) 657.0891 with any questions regarding this item.
Incomplete applications will not be processed.

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

Subdivision Checklist

1. ✓ **Signed Land Use Application Form**

2. ✓ **A List of All Permit Approvals Sought by the Applicant**

3. ✓ **Narrative**
   A complete and detailed narrative description of the proposed development and an explanation addressing all applicable approval criteria. A template is provided by the City at the Pre-Application Conference.

4. ✓ **Site Plan**
   A detailed site development plan showing:
   - ✓ ❑ The location and dimensions of lots, streets, pedestrian ways, transit stops, common areas, building envelopes and setbacks
   - ✓ ❑ All existing and proposed utilities and improvements including sanitary sewer, stormwater and water facilities
   - ✓ ❑ Total impervious surface created (including streets, sidewalks, etc.)
   - ✓ ❑ An indication of existing and proposed land uses for the site

5. ✓ **A Subdivision Connectivity Analysis**
   Prepared by a transportation engineer, licensed by the State of Oregon, that describes the existing and future vehicular; bicycle and pedestrian connections between the proposed subdivision and existing or planned land uses on adjacent properties. The subdivision connectivity analysis shall include shadow plats of adjacent properties demonstrating how lot and street patterns within the proposed subdivision will extend to and/or from such adjacent properties and can be developed meeting the existing Oregon City Municipal Code design standards.

6. ✓ **Traffic/Transportation Plan**
   The applicant's traffic/transportation information shall include two elements:
   - ✓ ❑ A detailed site circulation plan showing proposed vehicular, bicycle, transit and pedestrian access points and connections to the existing system, circulation patterns and connectivity to existing rights-of-way or adjacent tracts, parking and loading areas and any other transportation facilities in relation to the features illustrated on the site plan.
   - ✓ ❑ A traffic impact study prepared by a qualified professional transportation engineer, licensed in the state of Oregon, that assesses the traffic impacts of the proposed development on the existing transportation system and analyzes the adequacy of the proposed internal transportation network to handle the anticipated traffic and the adequacy of the existing system to accommodate the traffic from the proposed development. The city engineer may waive any of the foregoing requirements if the city engineer determines that the requirement is unnecessary in the particular case.

7. ✓ **Natural Features Plan, Topography and Preliminary Grading and Drainage Plan**

The applicant shall submit a map illustrating all of the natural features and hazards on the subject property and, where practicable, within two hundred fifty feet of the property's boundary. The map shall also illustrate the approximate grade of the site before and after development. Illustrated features must include all proposed streets and cul-de-sacs, the location and estimated volume of all cuts and fills, and all stormwater management features. This plan shall identify the location of drainage patterns and courses on the site and within two hundred fifty feet of the property boundaries where practicable. Features that must be illustrated shall include the following:

- ✓ ❑ Proposed and existing street rights-of-way and all other transportation facilities
- ✓ ❑ All proposed lots and tracts
- ✓ ❑ All trees with a diameter six inches or greater measured four feet from the ground
- N/A ❑ All water quality resource areas pursuant to Chapter 17.49, including all jurisdictional wetlands shown in a delineation according to the Corps of Engineers Wetlands Delineation Manual, January, 1987 edition, and approved by the Division of State Lands and wetlands identified in the City of Oregon Local Wetlands inventory, adopted by reference in the City of Oregon City comprehensive plan
- N/A ❑ All known geologic and flood hazards, landslides or faults, areas with a water table within one foot of the surface and all flood management areas pursuant to Chapter 17.42
- N/A ❑ The location of any known state or federal threatened or endangered species
- N/A ❑ All historic areas or cultural features acknowledged as such on any federal, state or city inventory
- N/A ❑ All wildlife habitat or other natural features listed on any of the city's official inventories

8. N/A **Additional Information or Reports** *(If Required in Pre-Application Conference)*

The principal planner may require additional information to ensure that the proposed development does not adversely affect the surrounding community, identified natural resource areas or create hazardous conditions for persons or improvements on the site.

- N/A ❑ Geologic Hazards. For property subject to Chapter 17.44, the applicant shall submit a report prepared by a qualified professional engineer, certified in geology or geotechnical engineering, describing how construction of the proposed subdivision is feasible and meets the applicable requirements of Chapter 17.44.
- N/A ❑ Water Resources. For property subject to Chapter 17.49, the applicant shall submit a report prepared by a qualified professional describing the location and quality of any water quality resource area subject to regulation under Chapter 17.49. This report shall also explain how the proposed subdivision is feasible and meets the applicable requirements of Chapter 17.49.

9. ✓ **Tree Removal and Mitigation Plan** *(In Accordance with OCMC Chapter 17.41)*

10. ✓ **Pre-Application Conference Summary Sheet**

11. ✓ **Summary of the Meeting with the Applicable Neighborhood Association**

12. ✓ **Preliminary Storm Calculations** *(If Water Quality Detention is Required)*

13. N/A **Erosion and Sediment Control Permit**

The applicant shall submit an application for an erosion and sediment control permit pursuant to Chapter 17.47 concurrently with the preliminary subdivision plat application, including the measures that will be implemented throughout construction of the subdivision to control erosion and sedimentation, unless waived by the city engineer. This plan must be consistent with all applicable erosion control requirements in Chapter 17.47.

14.  **CC & R's**
Drafts of the proposed covenants, conditions and restrictions (CC&Rs), maintenance agreements, homeowner association agreements, dedications, deeds easements, or reservations of public open spaces not dedicated to the city, and related documents for the subdivision.

15.  **A Current Preliminary Title Report or Trio for the Subject Property(ies)**

16.  **Mailing Labels for Owners Within 300 Feet of the Subject Site or $15 for City-provided labels**
The names and addresses of property owners within 300 feet of the site indicated on the most recent property tax rolls.

17.  **Copies**
Two (2) copies of all information, reports, and drawings (full-sized and 8.5" by 11") pertaining to this application.

18.  **Electronic Version of All Application Materials**

19.  **All Required Application Fees**

Incomplete Applications will not be processed

Exhibit D: Property Ownership Information

Land Development and Builder Services

Subdivision Guarantee

Subject Property: 19691 Leland Rd
32E07C 199
Clackamas County

Compliments of: Land Development & Builder Services
5800 SW Meadows Rd #150
Lake Oswego, OR 97035
Phone: 503-219-1111
Email: Portland.Developer.Services@TicorTitle.com

TICOR TITLE COMPANY

Portland.Developer.Services@TicorTitle.com

TICOR TITLE

TITLE REPORT & EXCEPTIONS

TICOR TITLE™
Company of Oregon

1433 SW 6th Ave.
(503)646-4444

OWNERSHIP AND ENCUMBRANCES REPORT WITH GENERAL INDEX LIENS
Informational Report of Ownership and Monetary and Non-Monetary Encumbrances

To ("Customer"): Rick Dotson
19695 Leland Road, PO Box 1446
Oregon City, OR 97045

Customer Ref.: 19691 Leland Road
Order No.: 36261705991
Effective Date: October 13, 2017 at 08:00 AM
Charge: $250.00

The information contained in this report is furnished by Ticor Title Company of Oregon (the "Company") as a real property information service based on the records and indices maintained by the Company for the county identified below. THIS IS NOT TITLE INSURANCE OR A PRELIMINARY TITLE REPORT FOR, OR COMMITMENT FOR, TITLE INSURANCE. No examination has been made of the title to the herein described property, other than as specifically set forth herein. Liability for any loss arising from errors and/or omissions is limited to the lesser of the charge or the actual loss, and the Company will have no greater liability by reason of this report. THIS REPORT IS SUBJECT TO THE LIMITATIONS OF LIABILITY STATED BELOW, WHICH LIMITATIONS OF LIABILITY ARE A PART OF THIS REPORT.

THIS REPORT INCLUDES MONETARY AND NON-MONETARY ENCUMBRANCES.

Part One - Ownership and Property Description

Owner. The apparent vested owner of property ("the Property") as of the Effective Date is:

Ross R. Smith and Kay D. Smith, as tenants by the entirety

Premises. The Property is:

(a) Street Address:

19691 Leland Road, Oregon City, OR 97045

(b) Legal Description:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

Part Two - Encumbrances

Encumbrances. As of the Effective Date, the Property appears subject to the following monetary and non-monetary encumbrances of record, not necessarily listed in order of priority, including liens specific to the subject property and general index liens (liens that are not property specific but affect any real property of the named person in the same county):

EXCEPTIONS

1. Unpaid Property Taxes are as follows:

Fiscal Year:	2017-2018
Amount:	$1,569.33, plus interest, if any
Levy Code:	062-033
Account No.:	01352985
Map No.:	32E07C 00109 (Affects a portion of subject property)

   Prior to close of escrow, please contact the Tax Collector's Office to confirm all amounts owing, including current fiscal year taxes, supplemental taxes, escaped assessments and any delinquencies.

2. Unpaid Property Taxes are as follows:

Fiscal Year:	2017-2018
Amount:	$788.79, plus interest, if any
Levy Code:	062-084
Account No.:	01655621
Map No.:	32E07C 00199 (Affects remainder of subject property - split code)

   Prior to close of escrow, please contact the Tax Collector's Office to confirm all amounts owing, including current fiscal year taxes, supplemental taxes, escaped assessments and any delinquencies.

3. The Land has been classified as Forestland, as disclosed by the tax roll. If the Land becomes disqualified, said Land may be subject to additional taxes and/or penalties.

4. Rights of the public to any portion of the Land lying within the area commonly known as streets, roads and highways.

5. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Portland General Electric Company
Purpose:	Utilities
Recording Date:	March 21, 1963
Recording No:	Book 619, Page 42

6. License Agreement

Recording Date:	April 26, 1988
Recording No.:	88-016755

7. Easement(s) for the purpose(s) shown below and rights incidental thereto, including provisions for cost-sharing, as granted in a document:

Granted to:	Adjacent Property Owners
Purpose:	Roadway and Utilities
Recording Date:	September 27, 1989
Recording No:	89-042884

8. A deed of trust to secure an indebtedness in the amount shown below,
Amount: $278,450.00
Dated: February 21, 2017
Trustor/Grantor: Ross R. Smith and Kay D. Smith, as tenants by the entirety
Trustee: Fidelity National Title Ins Co.
Beneficiary: Wells Fargo Bank, N.A.
Loan No.: Not disclosed
Recording Date: February 27, 2017
Recording No: 2017-013183

End of Reported Information

There will be additional charges for additional information or copies. For questions or additional requests, contact:

Kevin Kimball
503-469-4168
Kevin.Kimball@TitleGroup.FNTG.com

Ticor Title Company of Oregon
1433 SW 6th Ave.
Portland, OR 97201

EXHIBIT "A"
Legal Description

A tract of land, being that certain tract of land conveyed to Dale D. and Paula J. Morris by deed recorded as Fee No. 88-16753 and Parcel III of that certain tract or land conveyed to Dennis C. and Cynthia R. Elam by deed recorded as Fee No. 97-031624, Deed Records of Clackamas County, a part of the John Howland Donation Land Claim No. 45 and being situated in the Southwest one quarter of Section 7, Township 3 South, Range 2 East, Willamette Meridian and being described as follows:

Beginning at an iron rod at the most Northerly corner of Parcel 1, Clackamas County Partition plat No. 1992-78, which is on the Southwesterly right of way line of Leland Road, County Road No. 518 and which is the most Easterly corner of the said Morris Tract; thence North 47°02'27" West along said Southwesterly right of way line of Leland Road, 300.00 feet to the most Northerly corner of said Parcel III of Fee 97-031624; thence South 42°52'00" West, along the Northwesterly line of said Elam Tract, 400.21 feet to an iron rod at the most Westerly corner of said Parcel III; thence South 47°02'27" East, parallel with the Southwesterly right of way line of Leland Road, 280.00 feet to the most Southerly corner of said Parcel III of said Elam Tract; thence South 42°58'00" West along said Southeasterly line of said Elam Tract, 499.47 feet to the most Southerly corner thereof; thence North 47°06'48" West, along the Southwesterly line of said Elam Tract, 280.00 feet to an iron rod found at the most Westerly corner thereof; thence South 42° 58' 00" West along the Northwesterly of said Morris Tract, 1398 feet, more or less, to the Northwesterly corner of that certain tract of land conveyed to John Martinson Jr., by deed recorded as Fee No. 2001-006924, Deed Records of Clackamas County; thence Easterly, along the North line of said Martinson Tract, 400 feet, more or less, to the Southeasterly line of the aforementioned Morris Tract; thence North 42°58'00" East along the Southeasterly line of said Morris tract, 2010 feet, more or less, to the point of beginning.

LIMITATIONS OF LIABILITY

"CUSTOMER" REFERS TO THE RECIPIENT OF THIS REPORT.

CUSTOMER EXPRESSLY AGREES AND ACKNOWLEDGES THAT IT IS EXTREMELY DIFFICULT, IF NOT IMPOSSIBLE, TO DETERMINE THE EXTENT OF LOSS WHICH COULD ARISE FROM ERRORS OR OMISSIONS IN, OR THE COMPANY'S NEGLIGENCE IN PRODUCING, THE REQUESTED REPORT, HEREIN "THE REPORT." CUSTOMER RECOGNIZES THAT THE FEE CHARGED IS NOMINAL IN RELATION TO THE POTENTIAL LIABILITY WHICH COULD ARISE FROM SUCH ERRORS OR OMISSIONS OR NEGLIGENCE. THEREFORE, CUSTOMER UNDERSTANDS THAT THE COMPANY IS NOT WILLING TO PROCEED IN THE PREPARATION AND ISSUANCE OF THE REPORT UNLESS THE COMPANY'S LIABILITY IS STRICTLY LIMITED. CUSTOMER AGREES WITH THE PROPRIETY OF SUCH LIMITATION AND AGREES TO BE BOUND BY ITS TERMS

THE LIMITATIONS ARE AS FOLLOWS AND THE LIMITATIONS WILL SURVIVE THE CONTRACT:

ONLY MATTERS IDENTIFIED IN THIS REPORT AS THE SUBJECT OF THE REPORT ARE WITHIN ITS SCOPE. ALL OTHER MATTERS ARE OUTSIDE THE SCOPE OF THE REPORT.

CUSTOMER AGREES, AS PART OF THE CONSIDERATION FOR THE ISSUANCE OF THE REPORT AND TO THE FULLEST EXTENT PERMITTED BY LAW, TO LIMIT THE LIABILITY OF THE COMPANY, ITS LICENSORS, AGENTS, SUPPLIERS, RESELLERS, SERVICE PROVIDERS, CONTENT PROVIDERS AND ALL OTHER SUBSCRIBERS OR SUPPLIERS, SUBSIDIARIES, AFFILIATES, EMPLOYEES, AND SUBCONTRACTORS FOR ANY AND ALL CLAIMS, LIABILITIES, CAUSES OF ACTION, LOSSES, COSTS, DAMAGES AND EXPENSES OF ANY NATURE WHATSOEVER, INCLUDING ATTORNEY'S FEES, HOWEVER ALLEGED OR ARISING, INCLUDING BUT NOT LIMITED TO THOSE ARISING FROM BREACH OF CONTRACT, NEGLIGENCE, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF WARRANTY, EQUITY, THE COMMON LAW, STATUTE OR ANY OTHER THEORY OF RECOVERY, OR FROM ANY PERSON'S USE, MISUSE, OR INABILITY TO USE THE REPORT OR ANY OF THE MATERIALS CONTAINED THEREIN OR PRODUCED, **SO THAT THE TOTAL AGGREGATE LIABILITY OF THE COMPANY AND ITS AGENTS, SUBSIDIARIES, AFFILIATES, EMPLOYEES, AND SUBCONTRACTORS SHALL NOT IN ANY EVENT EXCEED THE COMPANY'S TOTAL FEE FOR THE REPORT.**

CUSTOMER AGREES THAT THE FOREGOING LIMITATION ON LIABILITY IS A TERM MATERIAL TO THE PRICE THE CUSTOMER IS PAYING, WHICH PRICE IS LOWER THAN WOULD OTHERWISE BE OFFERED TO THE CUSTOMER WITHOUT SAID TERM. CUSTOMER RECOGNIZES THAT THE COMPANY WOULD NOT ISSUE THE REPORT BUT FOR THIS CUSTOMER AGREEMENT, AS PART OF THE CONSIDERATION GIVEN FOR THE REPORT, TO THE FOREGOING LIMITATION OF LIABILITY AND THAT ANY SUCH LIABILITY IS CONDITIONED AND PREDICATED UPON THE FULL AND TIMELY PAYMENT OF THE COMPANY'S INVOICE FOR THE REPORT.

THE REPORT IS LIMITED IN SCOPE AND IS NOT AN ABSTRACT OF TITLE, TITLE OPINION, PRELIMINARY TITLE REPORT, TITLE REPORT, COMMITMENT TO ISSUE TITLE INSURANCE, OR A TITLE POLICY, AND SHOULD NOT BE RELIED UPON AS SUCH. THE REPORT DOES NOT PROVIDE OR OFFER ANY TITLE INSURANCE, LIABILITY COVERAGE OR ERRORS AND OMISSIONS COVERAGE. THE REPORT IS NOT TO BE RELIED UPON AS A REPRESENTATION OF THE STATUS OF TITLE TO THE PROPERTY. THE COMPANY MAKES NO REPRESENTATIONS AS TO THE REPORT'S ACCURACY, DISCLAIMS ANY WARRANTY AS TO THE REPORT, ASSUMES NO DUTIES TO CUSTOMER, DOES NOT INTEND FOR CUSTOMER TO RELY ON THE REPORT, AND ASSUMES NO LIABILITY FOR ANY LOSS OCCURRING BY REASON OF RELIANCE ON THE REPORT OR OTHERWISE.

IF CUSTOMER (A) HAS OR WILL HAVE AN INSURABLE INTEREST IN THE SUBJECT REAL PROPERTY, (B) DOES NOT WISH TO LIMIT LIABILITY AS STATED HEREIN AND (C) DESIRES THAT ADDITIONAL LIABILITY BE ASSUMED BY THE COMPANY, THEN CUSTOMER MAY REQUEST AND PURCHASE A POLICY OF TITLE INSURANCE, A BINDER, OR A COMMITMENT TO ISSUE A POLICY OF TITLE INSURANCE. NO ASSURANCE IS GIVEN AS TO THE INSURABILITY OF THE TITLE OR STATUS OF TITLE. CUSTOMER EXPRESSLY AGREES AND ACKNOWLEDGES IT HAS AN INDEPENDENT DUTY TO ENSURE AND/OR RESEARCH THE ACCURACY OF ANY INFORMATION OBTAINED FROM THE COMPANY OR ANY PRODUCT OR SERVICE PURCHASED.

NO THIRD PARTY IS PERMITTED TO USE OR RELY UPON THE INFORMATION SET FORTH IN THE REPORT, AND NO LIABILITY TO ANY THIRD PARTY IS UNDERTAKEN BY THE COMPANY.

CUSTOMER AGREES THAT, TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT WILL THE COMPANY, ITS LICENSORS, AGENTS, SUPPLIERS, RESELLERS, SERVICE PROVIDERS, CONTENT PROVIDERS, AND ALL OTHER SUBSCRIBERS OR SUPPLIERS, SUBSIDIARIES, AFFILIATES, EMPLOYEES AND SUBCONTRACTORS BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, INDIRECT, PUNITIVE, EXEMPLARY, OR SPECIAL DAMAGES, OR LOSS OF PROFITS, REVENUE, INCOME, SAVINGS, DATA, BUSINESS, OPPORTUNITY, OR GOODWILL, PAIN AND SUFFERING, EMOTIONAL DISTRESS, NON-OPERATION OR INCREASED EXPENSE OF OPERATION, BUSINESS INTERRUPTION OR DELAY, COST OF CAPITAL, OR COST OF REPLACEMENT PRODUCTS OR SERVICES, REGARDLESS OF WHETHER SUCH LIABILITY IS BASED ON BREACH OF CONTRACT, TORT, NEGLIGENCE, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTIES, FAILURE OF ESSENTIAL PURPOSE, OR OTHERWISE AND WHETHER CAUSED BY NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF CONTRACT, BREACH OF WARRANTY, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE OR ANY OTHER CAUSE WHATSOEVER, AND EVEN IF THE COMPANY HAS BEEN ADVISED OF THE LIKELIHOOD OF SUCH DAMAGES OR KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY FOR SUCH DAMAGES.

END OF THE LIMITATIONS OF LIABILITY

Cuft 13000.4
5-21-96

11-62—500

ELECTRIC TRANSMISSION LINE EASEMENT

KNOW ALL MEN BY THESE PRESENTS, That DAVINA HEIDEN, a widow, and WAYNE R. STREIGHT and PATSY R. STREIGHT, husband and wife,

(hereinafter called "the Grantors," whether one or more than one), for and in consideration of the payment of the sum of Ten and No/100ths - Dollars ($10.00), the receipt of which is hereby acknowledged, hereby grant, sell and convey to Portland General Electric Company, an Oregon Corporation, (hereinafter called "the Grantee"), its successors and assigns, a perpetual easement and right of way over, under and across the following described parcel of land situated in Clackamas County, Oregon, being a strip of land 125 feet in width, extending 62.5 feet on each side of a center line more particularly described as follows: Beginning at a point in the northwest boundary of the John S. Howland D.L.C. No. 45, in Township 3 South, Range 2 East of the W.M., said point being South 43° West 1207.43 feet from the most northerly corner of that certain tract of land described in Book 583, Page 836, Clackamas County Deed Records; running thence N 76°51'30" East 1073.21 feet to the southeasterly line of said tract of land. All as shown on Drawing No. EB 4967 attached hereto which by reference thereto is made a part hereof.

5884

TO HAVE AND TO HOLD the above described easement and right of way unto the Grantee, its successors and assigns, together with the present right to top, limb or fell all growing and dead trees and snags (said trees and snags hereinafter collectively called "danger trees") located on land owned by the Grantors, adjacent to the above described right of way, which danger trees will be determined by the Grantee. The consideration paid for this easement includes the value of all trees on the right of way and all danger trees adjacent to said right of way. In addition the Grantee shall have the future right to top, limb or fell all growing and dead trees and snags which shall in Grantee's estimation become danger trees in the future. In the event that Grantee exercises such future danger tree rights Grantee shall pay the owner of said future danger trees, their market value on the day they are cut, such payment to be made within a reasonable time after they have been so cut.

Said easement and right of way shall be for the following purposes, namely: the perpetual right to enter upon and to erect, maintain, repair, rebuild, operate and patrol electric power transmission lines, structures and appurtenant signal lines, including the right to erect such poles, towers, transmission structures, wires, cables, guys, supports and appurtenances as are necessary thereto, together with the present and further right to clear said right of way and keep the same clear of brush, timber, structures and fire hazards, including the right to restrict the growth of trees and brush on said right of way by the use of chemical sprays, provided however that pasture or cultivated lands shall not be sprayed and that fire hazards shall not be interpreted to include any growing crops other than trees and brush.

Grantors shall have the right to use the lands subject to the above described easement for all purposes not inconsistent with the uses and purposes herein set forth, except Grantors shall not build or erect any structure upon the right of way without the prior written consent of the Grantee.

It is hereby agreed by the Grantors that, (1) title to all brush, timber, or structures existing upon the right of way and to all present danger trees shall vest immediately in the Grantee; (2) all future danger trees cut pursuant to the terms hereof shall remain the property of the owner thereof on the date of their cutting.

The Grantors hereby acknowledge that the purchase price named herein is accepted by the Grantors as full compensation for all damages incidental to the exercise of any of said easements, except damage to growing crops on right of way during construction, for guys and anchors extending beyond the right of way and danger tree rights, except payment for any future danger tree rights as defined hereinabove which may be exercised by the Grantee as provided hereinabove.

If the Grantee, its successors and assigns, shall fail to use said right of way for the purposes above mentioned for a continuous period of five years after construction of said power lines, then and in that event this right of way and easement shall terminate and all rights and privileges granted hereunder shall revert to the Grantors, their heirs and assigns.

The Grantors hereby warrant that they are possessed of a marketable title to the property covered by this easement, and have the right to grant the same.

The Grantors, for themselves and their heirs and assigns, covenant to and with the Grantee, its successors and assigns, that the Grantee, its successors and assigns, shall peaceably enjoy the rights and privileges herein granted.

IN WITNESS WHEREOF, the Grantors have caused this easement to be executed this 15th day of MARCH, 19 63.

Davina Heiden (SEAL)
Davina Heiden

Wayne R. Streight (SEAL)
Wayne R. Streight

(SEAL)
Patsy R. Streight

Patsy R. Streight (SEAL)

BOOK 619 PAGE 42

STATE OF OREGON, County of Washington } ss.

On this 13th day of March, 1963, before me, the undersigned, a Notary Public in and for said County and State, personally appeared Davina Heiden

to me known to be the individuals described in and who executed the foregoing instrument, and acknowledged that they executed the same freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal this, the day and year in this instrument first written.

Notary Public for Oregon

My commission expires: July 6 1964

STATE OF OREGON, County of Clackamas } ss.

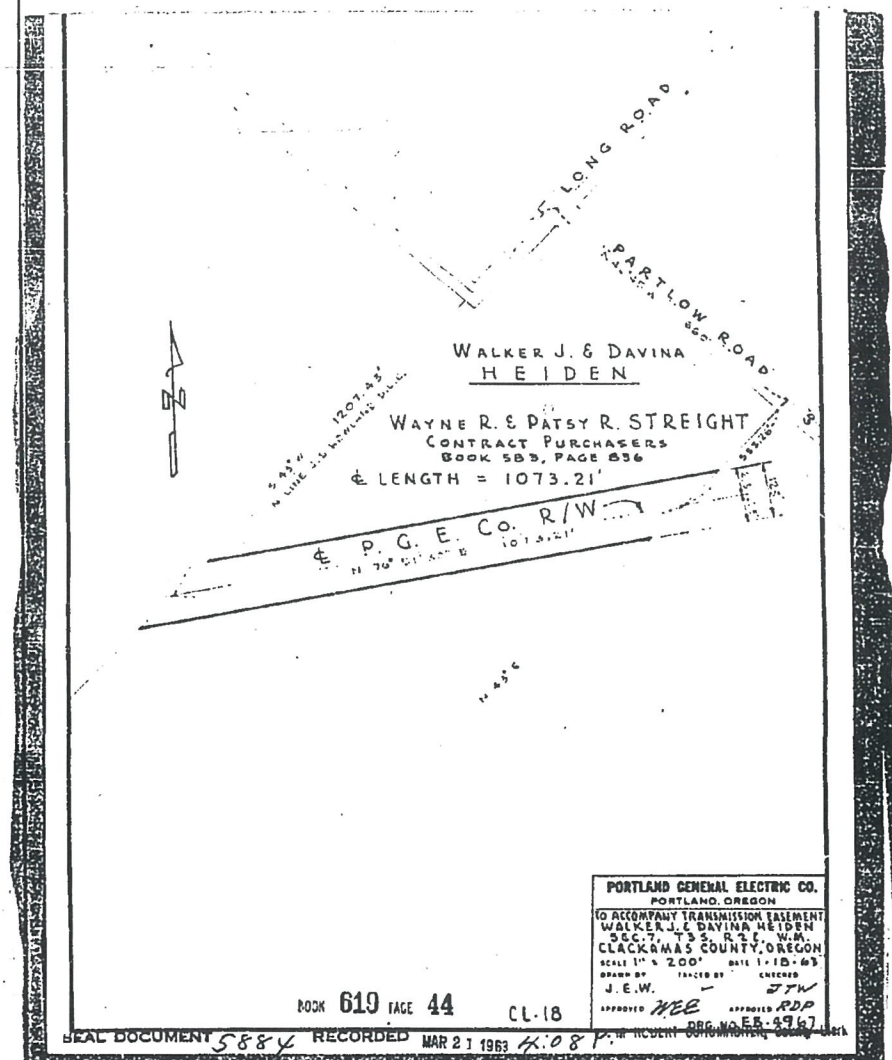
On this 13th day of March, 1963, before me, the undersigned, a Notary Public in and for said County and State, personally appeared Wayne R. Streight and Patsy R. Streight

to me known to be the individuals described in the foregoing instrument and who executed the foregoing instrument, and acknowledged that they executed the same freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal this, the day and year in this instrument first written.

Notary Public for Oregon

My commission expires: July 6 1964



BOOK 619 PAGE 44 CL-18

SEAL DOCUMENT 5884 RECORDED MAR 21 1963 4:08 P.M. RECORD CERTIFICATE, County Clerk

186-536

15

LICENSE AGREEMENT

Dale D. Morris and Paula J. Morris, hereinafter "purchasers" and Sam Solomon, hereinafter "seller", agree with regard to the following real property, which seller conveys to purchasers simultaneously with the execution of this document as is more fully set forth below.

The real property, the subject of this license agreement, is as follows:

IN THE COUNTY OF CLACKAMAS AND STATE OF OREGON

Part of the John S. Howland and wife D.L.C. No. 45, in Section 7 and 18, Township 3 South, Range 2 East, of the W.M., described as follows:

Beginning at the most westerly corner of that tract conveyed to Samuel B. Solomon and recorded as Fee No. 81 9972, Deed Records; said point being South 46° 27' 45" East, 358.24 feet from a stone at the most westerly corner of the John S. Howland D.L.C.; thence continuing South 46° 27' 45" East 300.00 feet to a stone at the most southerly corner of said Solomon tract; thence North 42° 58' East along the southwesterly line of said Solomon tract, 2571.12 feet to a point on the southwesterly line of Long Road; thence North 47° 05' West along said road, 20.0 feet; thence South 42° 48' West 900.00 feet; thence North 47° 05' West 280.00 feet to a point on the northwesterly line of said Solomon tract; thence South 42° 58' West along said line, 1667.34 feet to the point of beginning.

EXCEPTING THEREFROM a 2.0 acre tract as described in Fee No. 81 10284, Deed Records.

88 16755

In consideration of seller agreeing to convey the above described real property to purchasers this date, the parties agree as follows:

1. Seller and seller's heirs shall have the license to use, for purposes of ingress and egress to seller's remaining property, the 20 ft. wide right of way conveyed to purchasers along the east side of the front parcel of seller's remaining property.

2. Purchasers agree that they intend to improve the property conveyed to them by seller, by construing a road across the aforesaid right of way. Additionally, purchasers contemplate the installation of a septic system and such utilities as are needed to make the property suitable for the use of a trailer home and/or single family residences. Purchasers intend and estimate the cost of said improvements as described will total approximately $16,000.00 and will pay for the same in cash. Purchasers agree to make such arrangements for the payment of said improvements in case by escrow or other arrangement as will prevent the attachment of any liens to said property or to seller's remaining parcels. Purchasers agree to advise seller in advance of the commencement of any said improvements and as to such arrangements as had been proposed to prevent the attachment of any said liens for said improvements. Seller shall not unreasonably withhold his consent to any agreements for improvements as aforesaid.

3. Purchasers agree that no marketable timber shall be removed from the property, nor shall any commercial firewood operation be conducted therefrom until such time as 75% of the principal balance of the purchaser price has been paid in full.

THIS INSTRUMENT WILL NOT ALLOW THE USE OF THE PROPERTY DESCRIBED HEREIN IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PARTIES SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

4. Any and all agreements between purchasers and seller as set forth in the February 1, 1988 Earnest Money and Addendum thereto, shall not be superceded by or merged into a deed from seller to purchasers.

DATED this 26 day of April, 1988.

Samuel B Solomon
SAM B. SOLOMON, Seller

SUBSCRIBED AND SWORN BEFORE ME this 26 day of April, 1988.

Stephanie A Dowd
NOTARY PUBLIC for Oregon
My commission expires: 11/6/91

DATED this 27 day of April, 1988.

Dale D Morris
DALE D. MORRIS, Purchaser

SUBSCRIBED AND SWORN BEFORE ME this 27 day of April, 1988.

Stephanie A Dowd
NOTARY PUBLIC for Oregon
My commission expires: 11/6/91

DATED this 27 day of April, 1988.

Paula J Morris
PAULA J. MORRIS, Purchaser

SUBSCRIBED AND SWORN BEFORE ME this 27 day of April, 1988.

Stephanie A Dowd
NOTARY PUBLIC for Oregon
My commission expires: 11/6/91

3

3 LICENSE AGREEMENT

STATE OF OREGON
County of Clackamas) ss

I John F. Kauffman, County Clerk for the County of Clackamas, do hereby certify that the foregoing writing was received for recording in the records of said county at

1988 APR 28 PM 4:13

Witness my hand and seal affixed.
JOHN F. KAUFFMAN
County Clerk

Recording Certificate
CCR-94 (rev 12-86)

88 16755

FORM No. 961—BARGAIN AND SALE DEED—STATUTORY FORM (Individual Grantor).

OR.

STEVENS-NESS LAW PUB CO., PORTLAND, OR. 97204

BARGAIN AND SALE DEED—STATUTORY FORM

INDIVIDUAL GRANTOR

DALE D. MORRIS AND PAULA J. MORRIS *Grantor,*

conveys to

RICK C. B. DOTSON AND KELI M. DOTSON

Grantee, the following real property situated in CLACKAMAS

County, Oregon, to-wit: A NON-EXCLUSIVE EASEMENT FOR ROAD AND UTILITY PURPOSES OVER THAT PORTION [redacted] OF SECTION 7, TOWNSHIP 3 SOUTH, RANGE 2 EAST, OF THE WILLAMETTE MERIDIAN IN CLACKAMAS COUNTY OREGON, DESCRIBED AS FOLLOWS:

BEGINNING at a point on the southwesterly line of County Road Number 518 (Leland Road) that is the most easterly corner of a tract of land described in deed to Dale D. Morris and Paula F. Morris, husband and wife, recorded March 30, 1989 as Fee Number 89-13177, said beginning point being South 46°27'45" East 658.24 feet and North 42°58' East 2571.12 feet and North 47°05' West 20.00 feet from a stone at the most westerly corner of the John S. Howland Donation Land Claim Number 45; thence South 42°58' West, along the southeasterly line of said Fee Number, 900.00 feet to the most southernly corner of said Fee Number; thence South 47°05' East, 20.00 feet to a point on the most southeasterly line of a parcel described in Fee Number 88-16753; thence North 42°58' East, along last said southeasterly line, 900.00 feet to a point on the southwesterly line of County Road Number 518 (Leland Road); thence North 47°05' West, along last said southwesterly line, 20.00 feet to the point of beginning.

The true consideration for this conveyance is $ 1.00 *(Here comply with the requirements of ORS 93.030)*

Dated this 26th *day of* September, *1989.*

Dale D Morris

Paula Morris

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

STATE OF OREGON, County of CLACKAMAS) ss. September 26, 19 89

Personally appeared the above named DALE D. MORRIS AND PAULA J. MORRIS

and acknowledged the foregoing instrument to be their *voluntary act and deed.*

Before me: [signature]

(OFFICIAL SEAL) *Notary Public for Oregon—My commission expires:* 11/18/91

CHICAGO TITLE INSURANCE CO. C-58026

BARGAIN AND SALE DEED

Dale D. Morris, et. ux. GRANTOR

Rick C. B. Dotson, et. ux. GRANTEE

GRANTEE'S ADDRESS, ZIP

After recording return to:

Rick C. B. Dotson
20890 S. Leland Rd.
Oregon City, OR 97045

NAME, ADDRESS, ZIP

Until a change is requested, all tax statements shall be sent to the following address:

Grantee above

NAME, ADDRESS, ZIP

SPACE RESERVED FOR RECORDER'S USE

STATE OF OREGON, }
County of ..... } ss.

I certify that the within instrument was received for record on the ..... *day of* ....., *19*....., *at* ..... *o'clock* ..... *M., and recorded in book/reel/volume No.* ..... *on page* ..... *or as fee/file/instrument/microfilm/reception No.* ....., *Record of Deeds of said county.*

Witness my hand and seal of County affixed.

NAME TITLE

By ..... *Deputy*

89 42884

ROAD MAINTENANCE AGREEMENT

This statement is made this day before the following parties:

Dale Morris	(1	Rick Dotson	(3
Paula Morris	(2	Keli Dotson	(4

Whereas the parties hereto have an interest in by ownership and/or use upon a certain private roadway located in Clackamas County, Oregon and whereas, the parties desire to share the cost and expenses of maintenance of said road.

Now therefore it is hereby agreed as follows:

1. The parties shall share equally in the cost and expenses of maintaining the above described road in good repair and equal to it's present condition.

2. This Road Maintenance Agreement shall run with the land of the parties described hereto and shall be binding on and inure to the benefit of the parties, their heirs, assessors or assigns.

BY: Dale Morris BY: R. Dotson

BY: Paula Morris BY: Keli Dotson

Dated this 26 day of September, 1989.

In WITNESS WHEREOF, the respective parties personally appeared before me, and have executed the within and foregoing instrument, and acknowledged that they signed the same as their free and voluntary act and deed, for the uses and purposes therein mentioned.

2

My Comm.ex. 11/18/91

On this day personally before me appeared the above named Dale Morris & Paula Morris and Rick Dotson & Keli Dotson acknowledged witnessing the signing by the respective parties on this instrument as a voluntary act and deed.

Notary Public for Oregon County of Clackamas

STATE OF OREGON
County of Clackamas

I, John F. Kauffman, County Clerk for the County of Clackamas do hereby certify that the instrument of writing was received for recording in the records of said county at

1989 SEP 27 11:13:23

CLACKAMAS COUNTY, OREGON

Witness my hand and seal affixed.

JOHN F. KAUFFMAN
County Clerk

Deputy

Fee $ 10.00

89 42884

Until a change is requested all tax statements shall be sent to the following address:
Wells Fargo Real Estate Tax Service
1 Home Campus
Des Moines, IA 50328

When Recorded Mail To: Wells Fargo Bank, N.A.
FINAL DOCS N0012-01B
6200 PARK AVE
DES MOINES, IA 50321

Tax Account Number: 01655621

True and Actual Consideration is: $278,450.00

Clackamas County Official Records
Sherry Hall, County Clerk
2017-013183
02/27/2017 12:05:00 PM
M-TD Cnt=1 Stn=0 BARBARA
$16.00 $95.00 $10.00 $22.00
$143.00

CHICAGO TITLE 47251700158 - 45

Deed of Trust

Date of Document: February 21, 2017

Borrower/Grantor(s): Ross R Smith and Kay D Smith

Borrower Address: 19691 LELAND RD, OREGON CITY, OR 97045-9130

Lender/Grantee: Wells Fargo Bank, N.A.

Lender Address: 2701 Wells Fargo Way, Minneapolis, MN 55467-8000

Trustee: Fidelity National Title Ins Co

Trustee Address: 10540 S.E. Stark, Portland, OR 97216

Deed of Trust

Definitions. Words used in multiple sections of this document are defined below and other words are defined in Sections 3, 11, 13, 18, 20 and 21. Certain rules regarding the usage of words used in this document are also provided in Section 16.

(A) *"Security Instrument"* means this document, which is dated February 21, 2017, together with all Riders to this document.

(B) *"Borrower"* is Ross R. Smith and Kay D. Smith, as tenants by the entirety. Borrower is the trustor under this Security Instrument.

(C) *"Lender"* is Wells Fargo Bank, N.A.. Lender is a corporation organized and existing under the laws of United States of America. Lender's address is 101 North Phillips Avenue, Sioux Falls, SD 57104. Lender is the beneficiary under this Security Instrument.

(D) *"Trustee"* is Fidelity National Title Ins Co.

(E) *"Note"* means the promissory note signed by Borrower and dated February 21, 2017. The Note states that Borrower owes Lender two hundred seventy eight thousand four hundred fifty and 00/100 Dollars (U.S. $278,450.00) plus interest. Borrower has promised to pay this debt in regular Periodic Payments and to pay the debt in full not later than March 1, 2037.

(F) *"Property"* means the property that is described below under the heading "Transfer of Rights in the Property."

(G) *"Loan"* means the debt evidenced by the Note, plus interest, any prepayment charges and late charges due under the Note, and all sums due under this Security Instrument, plus interest.

(H) *"Riders"* means all Riders to this Security Instrument that are executed by Borrower. The following Riders are to be executed by Borrower [check box as applicable]:

☐ Adjustable Rate Rider	☐ Condominium Rider	☐ Second Home Rider
☐ Balloon Rider	☐ Planned Unit Development Rider	☐ 1-4 Family Rider
☐ VA Rider	☐ Biweekly Payment Rider	☒ Other(s) [specify] Manufactured Home Rider

(I) *"Applicable Law"* means all controlling applicable federal, state and local statutes, regulations, ordinances and administrative rules and orders (that have the effect of law) as well as all applicable final, non-appealable judicial opinions.

(J) *"Community Association Dues, Fees, and Assessments"* means all dues, fees, assessments and other charges that are imposed on Borrower or the Property by a condominium association, homeowners association or similar organization.

(K) *"Electronic Funds Transfer"* means any transfer of funds, other than a transaction originated by check, draft, or similar paper instrument, which is initiated through an electronic terminal, telephonic instrument, computer, or magnetic tape so as to order, instruct, or authorize a financial institution to debit or credit an account. Such term includes, but is not limited to, point-of-sale transfers, automated teller machine transactions, transfers initiated by telephone, wire transfers, and automated clearinghouse transfers.

(L) *"Escrow Items"* means those items that are described in Section 3.

(M) *"Miscellaneous Proceeds"* means any compensation, settlement, award of damages, or proceeds paid by any third party (other than insurance proceeds paid under the coverages described in Section 5) for: (i) damage to, or destruction of, the Property; (ii) condemnation or other taking of all or any part of the Property; (iii) conveyance in lieu of condemnation; or (iv) misrepresentations of, or omissions as to, the value and/or condition of the Property.

(N) *"Mortgage Insurance"* means insurance protecting Lender against the nonpayment of, or default on, the Loan.

(O) *"Periodic Payment"* means the regularly scheduled amount due for (i) principal and interest under the Note, plus (ii) any amounts under Section 3 of this Security Instrument.

(P) *"RESPA"* means the Real Estate Settlement Procedures Act (12 U.S.C. Section 2601 et seq.) and its implementing regulation, Regulation X (12 C.F.R. Part 1024), as they might be amended from time to time, or any additional or successor legislation or regulation that governs the same subject matter. As used in this Security Instrument, RESPA refers to all requirements and restrictions that are imposed in regard to a "federally related mortgage loan" even if the Loan does not qualify as a "federally related mortgage loan" under RESPA.

(Q) *"Successor in Interest of Borrower"* means any party that has taken title to the Property, whether or not that party has assumed Borrower's obligations under the Note and/or this Security Instrument.

Transfer of Rights in the Property. This Security Instrument secures to Lender: (i) the repayment of the Loan, and all renewals, extensions and modifications of the Note; and (ii) the performance of Borrower's covenants and agreements under this Security Instrument and the Note. For this purpose, Borrower irrevocably grants and conveys to Trustee, in trust, with power of sale, the following described property located in the County [Type of Recording Jurisdiction] of Clackamas [Name of Recording Jurisdiction]: LEGAL DESCRIPTION ATTACHED HERETO AND MADE A PART THEREOF which currently has the address of 19691 S LELAND RD [Street] OREGON CITY [City], Oregon 97045-9130 [Zip Code] ("Property Address"):

TOGETHER WITH all the improvements now or hereafter erected on the property, and all easements, appurtenances, and fixtures now or hereafter a part of the property. All replacements and additions shall also be covered by this Security Instrument. All of the foregoing is referred to in this Security Instrument as the "Property."

BORROWER COVENANTS that Borrower is lawfully seised of the estate hereby conveyed and has the right to grant and convey the Property and that the Property is unencumbered, except for encumbrances of record. Borrower warrants and will defend generally the title to the Property against all claims and demands, subject to any encumbrances of record.

THIS SECURITY INSTRUMENT combines uniform covenants for national use and non-uniform covenants with limited variations by jurisdiction to constitute a uniform security instrument covering real property.

Uniform Covenants. Borrower and Lender covenant and agree as follows:

1. Payment of Principal, Interest, Escrow Items, Prepayment Charges, and Late Charges. Borrower shall pay when due the principal of, and interest on, the debt evidenced by the Note and any prepayment charges and late charges due under the Note. Borrower shall also pay funds for Escrow Items pursuant to Section 3. Payments due under the Note and this Security Instrument shall be made in U.S. currency. However, if any check or other instrument received by Lender as payment under the Note or this Security Instrument is returned to Lender unpaid, Lender may require that any or all subsequent payments due under the Note and this Security Instrument be made in one or more of the following forms, as selected by Lender: (a) cash; (b) money order; (c) certified check, bank check, treasurer's check or cashier's check, provided any such check is drawn upon an institution whose deposits are insured by a federal agency, instrumentality, or entity; or (d) Electronic Funds Transfer.

Payments are deemed received by Lender when received at the location designated in the Note or at such other location as may be designated by Lender in accordance with the notice provisions in Section 15. Lender may return any payment or partial payment if the payment or partial payments are insufficient to bring the Loan current. Lender may

accept any payment or partial payment insufficient to bring the Loan current, without waiver of any rights hereunder or prejudice to its rights to refuse such payment or partial payments in the future, but Lender is not obligated to apply such payments at the time such payments are accepted. If each Periodic Payment is applied as of its scheduled due date, then Lender need not pay interest on unapplied funds. Lender may hold such unapplied funds until Borrower makes payment to bring the Loan current. If Borrower does not do so within a reasonable period of time, Lender shall either apply such funds or return them to Borrower. If not applied earlier, such funds will be applied to the outstanding principal balance under the Note immediately prior to foreclosure. No offset or claim which Borrower might have now or in the future against Lender shall relieve Borrower from making payments due under the Note and this Security Instrument or performing the covenants and agreements secured by this Security Instrument.

2. Application of Payments or Proceeds. Except as otherwise described in this Section 2, all payments accepted and applied by Lender shall be applied in the following order of priority: (a) interest due under the Note; (b) principal due under the Note; (c) amounts due under Section 3. Such payments shall be applied to each Periodic Payment in the order in which it became due. Any remaining amounts shall be applied first to late charges, second to any other amounts due under this Security Instrument, and then to reduce the principal balance of the Note.

If Lender receives a payment from Borrower for a delinquent Periodic Payment which includes a sufficient amount to pay any late charge due, the payment may be applied to the delinquent payment and the late charge. If more than one Periodic Payment is outstanding, Lender may apply any payment received from Borrower to the repayment of the Periodic Payments if, and to the extent that, each payment can be paid in full. To the extent that any excess exists after the payment is applied to the full payment of one or more Periodic Payments, such excess may be applied to any late charges due. Voluntary prepayments shall be applied first to any prepayment charges and then as described in the Note.

Any application of payments, insurance proceeds, or Miscellaneous Proceeds to principal due under the Note shall not extend or postpone the due date, or change the amount, of the Periodic Payments.

3. Funds for Escrow Items. Borrower shall pay to Lender on the day Periodic Payments are due under the Note, until the Note is paid in full, a sum (the "Funds") to provide for payment of amounts due for: (a) taxes and assessments and other items which can attain priority over this Security Instrument as a lien or encumbrance on the Property; (b) leasehold payments or ground rents on the Property, if any; (c) premiums for any and all insurance required by Lender under Section 5; and (d) Mortgage Insurance premiums, if any, or any sums payable by Borrower to Lender in lieu of the payment of Mortgage Insurance premiums in accordance with the provisions of Section 10. These items are called "Escrow Items." At origination or at any time during the term of the Loan, Lender may require that Community Association Dues, Fees, and Assessments, if any, be escrowed by Borrower, and such dues, fees and assessments shall be an Escrow Item. Borrower shall promptly furnish to Lender all notices of amounts to be paid under this Section. Borrower shall pay Lender the Funds for Escrow Items unless Lender waives Borrower's obligation to pay the Funds for any or all Escrow Items. Lender may waive Borrower's obligation to pay to Lender Funds for any or all Escrow Items at any time. Any such waiver may only be in writing. In the event of such waiver, Borrower shall pay directly, when and where payable, the amounts due for any Escrow Items for which payment of Funds has been waived by Lender and, if Lender requires, shall furnish to Lender receipts evidencing such payment within such time period as Lender may require. Borrower's obligation to make such payments and to provide receipts shall for all purposes be deemed to be a covenant and agreement contained in this Security Instrument, as the phrase "covenant and agreement" is used in Section 9. If Borrower is obligated to pay Escrow Items directly, pursuant to a waiver, and Borrower fails to pay the amount due for an Escrow Item, Lender may exercise its rights under Section 9 and pay such amount and Borrower shall then be obligated under Section 9 to repay to Lender any such amount. Lender may revoke the waiver as to any or all Escrow Items at any time by a notice given in accordance with Section 15 and, upon such revocation, Borrower shall pay to Lender all Funds, and in such amounts, that are then required under this Section 3.

Lender may, at any time, collect and hold Funds in an amount (a) sufficient to permit Lender to apply the Funds at the time specified under RESPA, and (b) not to exceed the maximum amount a lender can require under RESPA. Lender shall estimate the amount of Funds due on the basis of current data and reasonable estimates of expenditures of future Escrow Items or otherwise in accordance with Applicable Law.

The Funds shall be held in an institution whose deposits are insured by a federal agency, instrumentality, or entity (including Lender, if Lender is an institution whose deposits are so insured) or in any Federal Home Loan Bank. Lender shall apply the Funds to pay the Escrow Items no later than the time specified under RESPA. Lender shall not charge Borrower for holding and applying the Funds, annually analyzing the escrow account, or verifying the Escrow Items, unless Lender pays Borrower interest on the Funds and Applicable Law permits Lender to make such a charge. Unless an agreement is made in writing or Applicable Law requires interest to be paid on the Funds, Lender shall not be required to pay Borrower any interest or earnings on the Funds. Borrower and Lender can agree in writing, however, that interest shall be paid on the Funds. Lender shall give to Borrower, without charge, an annual accounting of the Funds as required by RESPA.

If there is a surplus of Funds held in escrow, as defined under RESPA, Lender shall account to Borrower for the excess funds in accordance with RESPA. If there is a shortage of Funds held in escrow, as defined under RESPA, Lender shall notify Borrower as required by RESPA, and Borrower shall pay to Lender the amount necessary to make up the shortage in accordance with RESPA, but in no more than 12 monthly payments. If there is a deficiency of Funds held in escrow, as defined under RESPA, Lender shall notify Borrower as required by RESPA, and Borrower shall pay to Lender the amount necessary to make up the deficiency in accordance with RESPA, but in no more than 12 monthly payments.

Upon payment in full of all sums secured by this Security Instrument, Lender shall promptly refund to Borrower any Funds held by Lender.

4. Charges; Liens. Borrower shall pay all taxes, assessments, charges, fines, and impositions attributable to the Property which can attain priority over this Security Instrument, leasehold payments or ground rents on the Property, if any, and Community Association Dues, Fees, and Assessments, if any. To the extent that these items are Escrow Items, Borrower shall pay them in the manner provided in Section 3.

Borrower shall promptly discharge any lien which has priority over this Security Instrument unless Borrower: (a) agrees in writing to the payment of the obligation secured by the lien in a manner acceptable to Lender, but only so long as Borrower is performing such agreement; (b) contests the lien in good faith by, or defends against enforcement of the lien in, legal proceedings which in Lender's opinion operate to prevent the enforcement of the lien while those proceedings are pending, but only until such proceedings are concluded; or (c) secures from the holder of the lien an agreement satisfactory to Lender subordinating the lien to this Security Instrument. If Lender determines that any part of the Property is subject to a lien which can attain priority over this Security Instrument, Lender may give Borrower a notice identifying the lien. Within 10 days of the date on which that notice is given, Borrower shall satisfy the lien or take one or more of the actions set forth above in this Section 4.

Lender may require Borrower to pay a one-time charge for a real estate tax verification and/or reporting service used by Lender in connection with this Loan.

5. Property Insurance. Borrower shall keep the improvements now existing or hereafter erected on the Property insured against loss by fire, hazards included within the term "extended coverage," and any other hazards including, but not limited to, earthquakes and floods, for which Lender requires insurance. This insurance shall be maintained in the amounts (including deductible levels) and for the periods that Lender requires. What Lender requires pursuant to the preceding sentences can change during the term of the Loan. The insurance carrier providing the insurance shall be chosen by Borrower subject to Lender's right to disapprove Borrower's choice, which right shall not be exercised unreasonably. Lender may require Borrower to pay, in connection with this Loan, either: (a) a one-time charge for flood zone determination, certification and tracking services; or (b) a one-time charge for flood zone determination and certification services and subsequent charges each time remappings or similar changes occur which reasonably might affect such determination or certification. Borrower shall also be responsible for the payment of any fees imposed by the Federal Emergency Management Agency in connection with the review of any flood zone determination resulting from an objection by Borrower.

If Borrower fails to maintain any of the coverages described above, Lender may obtain insurance coverage, at Lender's option and Borrower's expense. Lender is under no obligation to purchase any particular type or amount of coverage. Therefore, such coverage shall cover Lender, but might or might not protect Borrower, Borrower's equity in the Property, or the contents of the Property, against any risk, hazard or liability and might provide greater or lesser coverage than was previously in effect. Borrower acknowledges that the cost of the insurance coverage so obtained might significantly exceed the cost of insurance that Borrower could have obtained. Any amounts disbursed by Lender under this Section 5 shall become additional debt of Borrower secured by this Security Instrument. These amounts shall bear interest at the Note rate from the date of disbursement and shall be payable, with such interest, upon notice from Lender to Borrower requesting payment.

All insurance policies required by Lender and renewals of such policies shall be subject to Lender's right to disapprove such policies, shall include a standard mortgage clause, and shall name Lender as mortgagee and/or as an additional loss payee. Lender shall have the right to hold the policies and renewal certificates. If Lender requires, Borrower shall promptly give to Lender all receipts of paid premiums and renewal notices. If Borrower obtains any form of insurance coverage, not otherwise required by Lender, for damage to, or destruction of, the Property, such policy shall include a standard mortgage clause and shall name Lender as mortgagee and/or as an additional loss payee.

In the event of loss, Borrower shall give prompt notice to the insurance carrier and Lender. Lender may make proof of loss if not made promptly by Borrower. Unless Lender and Borrower otherwise agree in writing, any insurance proceeds, whether or not the underlying insurance was required by Lender, shall be applied to restoration or repair of the Property, if the restoration or repair is economically feasible and Lender's security is not lessened. During such repair and restoration period, Lender shall have the right to hold such insurance proceeds until Lender has had an opportunity to inspect such Property to ensure the work has been completed to Lender's satisfaction, provided that such inspection shall be undertaken promptly. Lender may disburse proceeds for the repairs and restoration in a single payment or in a series of progress payments as the work is completed. Unless an agreement is made in writing or Applicable Law requires interest to be paid on such insurance proceeds, Lender shall not be required to pay Borrower any interest or earnings on such proceeds. Fees for public adjusters, or other third parties, retained by Borrower shall not be paid out of the insurance proceeds and shall be the sole obligation of Borrower. If the restoration or repair is not economically feasible or Lender's security would be lessened, the insurance proceeds shall be applied to the sums secured by this Security Instrument, whether or not then due, with the excess, if any, paid to Borrower. Such insurance proceeds shall be applied in the order provided for in Section 2.

If Borrower abandons the Property, Lender may file, negotiate and settle any available insurance claim and related matters. If Borrower does not respond within 30 days to a notice from Lender that the insurance carrier has offered to settle a claim, then Lender may negotiate and settle the claim. The 30-day period will begin when the notice is given. In either event, or if Lender acquires the Property under Section 22 or otherwise, Borrower hereby assigns to Lender (a) Borrower's rights to any insurance proceeds in an amount not to exceed the amounts unpaid under the Note or this Security Instrument, and (b) any other of Borrower's rights (other than the right to any refund of unearned premiums paid by Borrower) under all insurance policies covering the Property, insofar as such rights are applicable to the coverage of the Property. Lender may use the insurance proceeds either to repair or restore the Property or to pay amounts unpaid under the Note or this Security Instrument, whether or not then due.

6. Occupancy. Borrower shall occupy, establish, and use the Property as Borrower's principal residence within 60 days after the execution of this Security Instrument and shall continue to occupy the Property as Borrower's principal residence for at least one year after the date of occupancy, unless Lender otherwise agrees in writing, which consent shall not be unreasonably withheld, or unless extenuating circumstances exist which are beyond Borrower's control.

7. Preservation, Maintenance and Protection of the Property; Inspections. Borrower shall not destroy, damage or impair the Property, allow the Property to deteriorate or commit waste on the Property. Whether or not Borrower is residing in the Property, Borrower shall maintain the Property in order to prevent the Property from deteriorating or decreasing in value due to its condition. Unless it is determined pursuant to Section 5 that repair or restoration is not economically feasible, Borrower shall promptly repair the Property if damaged to avoid further

deterioration or damage. If insurance or condemnation proceeds are paid in connection with damage to, or the taking of, the Property, Borrower shall be responsible for repairing or restoring the Property only if Lender has released proceeds for such purposes. Lender may disburse proceeds for the repairs and restoration in a single payment or in a series of progress payments as the work is completed. If the insurance or condemnation proceeds are not sufficient to repair or restore the Property, Borrower is not relieved of Borrower's obligation for the completion of such repair or restoration.

Lender or its agent may make reasonable entries upon and inspections of the Property. If it has reasonable cause, Lender may inspect the interior of the improvements on the Property. Lender shall give Borrower notice at the time of or prior to such an interior inspection specifying such reasonable cause.

8. Borrower's Loan Application. Borrower shall be in default if, during the Loan application process, Borrower or any persons or entities acting at the direction of Borrower or with Borrower's knowledge or consent gave materially false, misleading, or inaccurate information or statements to Lender (or failed to provide Lender with material information) in connection with the Loan. Material representations include, but are not limited to, representations concerning Borrower's occupancy of the Property as Borrower's principal residence.

9. Protection of Lender's Interest in the Property and Rights Under this Security Instrument. If (a) Borrower fails to perform the covenants and agreements contained in this Security Instrument, (b) there is a legal proceeding that might significantly affect Lender's interest in the Property and/or rights under this Security Instrument (such as a proceeding in bankruptcy, probate, for condemnation or forfeiture, for enforcement of a lien which may attain priority over this Security Instrument or to enforce laws or regulations), or (c) Borrower has abandoned the Property, then Lender may do and pay for whatever is reasonable or appropriate to protect Lender's interest in the Property and rights under this Security Instrument, including protecting and/or assessing the value of the Property, and securing and/or repairing the Property. Lender's actions can include, but are not limited to: (a) paying any sums secured by a lien which has priority over this Security Instrument; (b) appearing in court; and (c) paying reasonable attorneys' fees to protect its interest in the Property and/or rights under this Security Instrument, including its secured position in a bankruptcy proceeding. Securing the Property includes, but is not limited to, entering the Property to make repairs, change locks, replace or board up doors and windows, drain water from pipes, eliminate building or other code violations or dangerous conditions, and have utilities turned on or off. Although Lender may take action under this Section 9, Lender does not have to do so and is not under any duty or obligation to do so. It is agreed that Lender incurs no liability for not taking any or all actions authorized under this Section 9.

Any amounts disbursed by Lender under this Section 9 shall become additional debt of Borrower secured by this Security Instrument. These amounts shall bear interest at the Note rate from the date of disbursement and shall be payable, with such interest, upon notice from Lender to Borrower requesting payment.

If this Security Instrument is on a leasehold, Borrower shall comply with all the provisions of the lease. If Borrower acquires fee title to the Property, the leasehold and the fee title shall not merge unless Lender agrees to the merger in writing.

10. Mortgage Insurance. If Lender required Mortgage Insurance as a condition of making the Loan, Borrower shall pay the premiums required to maintain the Mortgage Insurance in effect. If, for any reason, the Mortgage Insurance coverage required by Lender ceases to be available from the mortgage insurer that previously provided such insurance and Borrower was required to make separately designated payments toward the premiums for Mortgage Insurance, Borrower shall pay the premiums required to obtain coverage substantially equivalent to the Mortgage Insurance previously in effect, at a cost substantially equivalent to the cost to Borrower of the Mortgage Insurance previously in effect, from an alternate mortgage insurer selected by Lender. If substantially equivalent Mortgage Insurance coverage is not available, Borrower shall continue to pay to Lender the amount of the separately designated payments that were due when the insurance coverage ceased to be in effect. Lender will accept, use and retain these payments as a non-refundable loss reserve in lieu of Mortgage Insurance. Such loss reserve shall be non-refundable, notwithstanding the fact that the Loan is ultimately paid in full, and Lender shall not be required to pay Borrower any interest or earnings

on such loss reserve. Lender can no longer require loss reserve payments if Mortgage Insurance coverage (in the amount and for the period that Lender requires) provided by an insurer selected by Lender again becomes available, is obtained, and Lender requires separately designated payments toward the premiums for Mortgage Insurance. If Lender required Mortgage Insurance as a condition of making the Loan and Borrower was required to make separately designated payments toward the premiums for Mortgage Insurance, Borrower shall pay the premiums required to maintain Mortgage Insurance in effect, or to provide a non-refundable loss reserve, until Lender's requirement for Mortgage Insurance ends in accordance with any written agreement between Borrower and Lender providing for such termination or until termination is required by Applicable Law. Nothing in this Section 10 affects Borrower's obligation to pay interest at the rate provided in the Note.

Mortgage Insurance reimburses Lender (or any entity that purchases the Note) for certain losses it may incur if Borrower does not repay the Loan as agreed. Borrower is not a party to the Mortgage Insurance.

Mortgage insurers evaluate their total risk on all such insurance in force from time to time, and may enter into agreements with other parties that share or modify their risk, or reduce losses. These agreements are on terms and conditions that are satisfactory to the mortgage insurer and the other party (or parties) to these agreements. These agreements may require the mortgage insurer to make payments using any source of funds that the mortgage insurer may have available (which may include funds obtained from Mortgage Insurance premiums).

As a result of these agreements, Lender, any purchaser of the Note, another insurer, any reinsurer, any other entity, or any affiliate of any of the foregoing, may receive (directly or indirectly) amounts that derive from (or might be characterized as) a portion of Borrower's payments for Mortgage Insurance, in exchange for sharing or modifying the mortgage insurer's risk, or reducing losses. If such agreement provides that an affiliate of Lender takes a share of the insurer's risk in exchange for a share of the premiums paid to the insurer, the arrangement is often termed "captive reinsurance." Further:

(A) Any such agreements will not affect the amounts that Borrower has agreed to pay for Mortgage Insurance, or any other terms of the Loan. Such agreements will not increase the amount Borrower will owe for Mortgage Insurance, and they will not entitle Borrower to any refund.

(B) Any such agreements will not affect the rights Borrower has - if any - with respect to the Mortgage Insurance under the Homeowners Protection Act of 1998 or any other law. These rights may include the right to receive certain disclosures, to request and obtain cancellation of the Mortgage Insurance, to have the Mortgage Insurance terminated automatically, and/or to receive a refund of any Mortgage Insurance premiums that were unearned at the time of such cancellation or termination.

11. Assignment of Miscellaneous Proceeds; Forfeiture. All Miscellaneous Proceeds are hereby assigned to and shall be paid to Lender.

If the Property is damaged, such Miscellaneous Proceeds shall be applied to restoration or repair of the Property, if the restoration or repair is economically feasible and Lender's security is not lessened. During such repair and restoration period, Lender shall have the right to hold such Miscellaneous Proceeds until Lender has had an opportunity to inspect such Property to ensure the work has been completed to Lender's satisfaction, provided that such inspection shall be undertaken promptly. Lender may pay for the repairs and restoration in a single disbursement or in a series of progress payments as the work is completed. Unless an agreement is made in writing or Applicable Law requires interest to be paid on such Miscellaneous Proceeds, Lender shall not be required to pay Borrower any interest or earnings on such Miscellaneous Proceeds. If the restoration or repair is not economically feasible or Lender's security would be lessened, the Miscellaneous Proceeds shall be applied to the sums secured by this Security Instrument, whether or not then due, with the excess, if any, paid to Borrower. Such Miscellaneous Proceeds shall be applied in the order provided for in Section 2.

In the event of a total taking, destruction, or loss in value of the Property, the Miscellaneous Proceeds shall be applied to the sums secured by this Security Instrument, whether or not then due, with the excess, if any, paid to Borrower.

In the event of a partial taking, destruction, or loss in value of the Property in which the fair market value of the Property immediately before the partial taking, destruction, or loss in value is equal to or greater than the amount of the sums secured by this Security Instrument immediately before the partial taking, destruction, or loss in value, unless Borrower and Lender otherwise agree in writing, the sums secured by this Security Instrument shall be reduced by the amount of the Miscellaneous Proceeds multiplied by the following fraction: (a) the total amount of the sums secured immediately before the partial taking, destruction, or loss in value divided by (b) the fair market value of the Property immediately before the partial taking, destruction, or loss in value. Any balance shall be paid to Borrower.

In the event of a partial taking, destruction, or loss in value of the Property in which the fair market value of the Property immediately before the partial taking, destruction, or loss in value is less than the amount of the sums secured immediately before the partial taking, destruction, or loss in value, unless Borrower and Lender otherwise agree in writing, the Miscellaneous Proceeds shall be applied to the sums secured by this Security Instrument whether or not the sums are then due.

If the Property is abandoned by Borrower, or if, after notice by Lender to Borrower that the Opposing Party (as defined in the next sentence) offers to make an award to settle a claim for damages, Borrower fails to respond to Lender within 30 days after the date the notice is given, Lender is authorized to collect and apply the Miscellaneous Proceeds either to restoration or repair of the Property or to the sums secured by this Security Instrument, whether or not then due. "Opposing Party" means the third party that owes Borrower Miscellaneous Proceeds or the party against whom Borrower has a right of action in regard to Miscellaneous Proceeds.

Borrower shall be in default if any action or proceeding, whether civil or criminal, is begun that, in Lender's judgment, could result in forfeiture of the Property or other material impairment of Lender's interest in the Property or rights under this Security Instrument. Borrower can cure such a default and, if acceleration has occurred, reinstate as provided in Section 19, by causing the action or proceeding to be dismissed with a ruling that, in Lender's judgment, precludes forfeiture of the Property or other material impairment of Lender's interest in the Property or rights under this Security Instrument. The proceeds of any award or claim for damages that are attributable to the impairment of Lender's interest in the Property are hereby assigned and shall be paid to Lender.

All Miscellaneous Proceeds that are not applied to restoration or repair of the Property shall be applied in the order provided for in Section 2.

12. Borrower Not Released; Forbearance By Lender Not a Waiver. Extension of the time for payment or modification of amortization of the sums secured by this Security Instrument granted by Lender to Borrower or any Successor in Interest of Borrower shall not operate to release the liability of Borrower or any Successors in Interest of Borrower. Lender shall not be required to commence proceedings against any Successor in Interest of Borrower or to refuse to extend time for payment or otherwise modify amortization of the sums secured by this Security Instrument by reason of any demand made by the original Borrower or any Successors in Interest of Borrower. Any forbearance by Lender in exercising any right or remedy including, without limitation, Lender's acceptance of payments from third persons, entities or Successors in Interest of Borrower or in amounts less than the amount then due, shall not be a waiver of or preclude the exercise of any right or remedy.

13. Joint and Several Liability; Co-signers; Successors and Assigns Bound. Borrower covenants and agrees that Borrower's obligations and liability shall be joint and several. However, any Borrower who co-signs this Security Instrument but does not execute the Note (a "co-signer"): (a) is co-signing this Security Instrument only to mortgage, grant and convey the co-signer's interest in the Property under the terms of this Security Instrument; (b) is not personally obligated to pay the sums secured by this Security Instrument; and (c) agrees that Lender and any other Borrower can agree to extend, modify, forbear or make any accommodations with regard to the terms of this Security Instrument or the Note without the co-signer's consent.

Subject to the provisions of Section 18, any Successor in Interest of Borrower who assumes Borrower's obligations under this Security Instrument in writing, and is approved by Lender, shall obtain all of Borrower's rights and benefits under this Security Instrument. Borrower shall not be released from Borrower's obligations and liability under this

Security Instrument unless Lender agrees to such release in writing. The covenants and agreements of this Security Instrument shall bind (except as provided in Section 20) and benefit the successors and assigns of Lender.

14. Loan Charges. Lender may charge Borrower fees for services performed in connection with Borrower's default, for the purpose of protecting Lender's interest in the Property and rights under this Security Instrument, including, but not limited to, attorneys' fees, property inspection and valuation fees. In regard to any other fees, the absence of express authority in this Security Instrument to charge a specific fee to Borrower shall not be construed as a prohibition on the charging of such fee. Lender may not charge fees that are expressly prohibited by this Security Instrument or by Applicable Law.

If the Loan is subject to a law which sets maximum loan charges, and that law is finally interpreted so that the interest or other loan charges collected or to be collected in connection with the Loan exceed the permitted limits, then: (a) any such loan charge shall be reduced by the amount necessary to reduce the charge to the permitted limit; and (b) any sums already collected from Borrower which exceeded permitted limits will be refunded to Borrower. Lender may choose to make this refund by reducing the principal owed under the Note or by making a direct payment to Borrower. If a refund reduces principal, the reduction will be treated as a partial prepayment without any prepayment charge (whether or not a prepayment charge is provided for under the Note). Borrower's acceptance of any such refund made by direct payment to Borrower will constitute a waiver of any right of action Borrower might have arising out of such overcharge.

15. Notices. All notices given by Borrower or Lender in connection with this Security Instrument must be in writing. Any notice to Borrower in connection with this Security Instrument shall be deemed to have been given to Borrower when mailed by first class mail or when actually delivered to Borrower's notice address if sent by other means. Notice to any one Borrower shall constitute notice to all Borrowers unless Applicable Law expressly requires otherwise. The notice address shall be the Property Address unless Borrower has designated a substitute notice address by notice to Lender. Borrower shall promptly notify Lender of Borrower's change of address. If Lender specifies a procedure for reporting Borrower's change of address, then Borrower shall only report a change of address through that specified procedure. There may be only one designated notice address under this Security Instrument at any one time. Any notice to Lender shall be given by delivering it or by mailing it by first class mail to Lender's address stated herein unless Lender has designated another address by notice to Borrower. Any notice in connection with this Security Instrument shall not be deemed to have been given to Lender until actually received by Lender. If any notice required by this Security Instrument is also required under Applicable Law, the Applicable Law requirement will satisfy the corresponding requirement under this Security Instrument.

16. Governing Law; Severability; Rules of Construction. This Security Instrument shall be governed by federal law and the law of the jurisdiction in which the Property is located. All rights and obligations contained in this Security Instrument are subject to any requirements and limitations of Applicable Law. Applicable Law might explicitly or implicitly allow the parties to agree by contract or it might be silent, but such silence shall not be construed as a prohibition against agreement by contract. In the event that any provision or clause of this Security Instrument or the Note conflicts with Applicable Law, such conflict shall not affect other provisions of this Security Instrument or the Note which can be given effect without the conflicting provision.

As used in this Security Instrument: (a) words of the masculine gender shall mean and include corresponding neuter words or words of the feminine gender; (b) words in the singular shall mean and include the plural and vice versa; and (c) the word "may" gives sole discretion without any obligation to take any action.

17. Borrower's Copy. Borrower shall be given one copy of the Note and of this Security Instrument.

18. Transfer of the Property or a Beneficial Interest in Borrower. As used in this Section 18, "Interest in the Property" means any legal or beneficial interest in the Property, including, but not limited to, those beneficial interests transferred in a bond for deed, contract for deed, installment sales contract or escrow agreement, the intent of which is the transfer of title by Borrower at a future date to a purchaser.

If all or any part of the Property or any Interest in the Property is sold or transferred (or if Borrower is not a natural person and a beneficial interest in Borrower is sold or transferred) without Lender's prior written consent, Lender may require immediate payment in full of all sums secured by this Security Instrument. However, this option shall not be exercised by Lender if such exercise is prohibited by Applicable Law.

If Lender exercises this option, Lender shall give Borrower notice of acceleration. The notice shall provide a period of not less than 30 days from the date the notice is given in accordance with Section 15 within which Borrower must pay all sums secured by this Security Instrument. If Borrower fails to pay these sums prior to the expiration of this period, Lender may invoke any remedies permitted by this Security Instrument without further notice or demand on Borrower.

19. Borrower's Right to Reinstate After Acceleration. If Borrower meets certain conditions, Borrower shall have the right to have enforcement of this Security Instrument discontinued at any time prior to the earliest of: (a) five days before sale of the Property pursuant to any power of sale contained in this Security Instrument; (b) such other period as Applicable Law might specify for the termination of Borrower's right to reinstate; or (c) entry of a judgment enforcing this Security Instrument. Those conditions are that Borrower: (a) pays Lender all sums which then would be due under this Security Instrument and the Note as if no acceleration had occurred; (b) cures any default of any other covenants or agreements; (c) pays all expenses incurred in enforcing this Security Instrument, including, but not limited to, reasonable attorneys' fees, property inspection and valuation fees, and other fees incurred for the purpose of protecting Lender's interest in the Property and rights under this Security Instrument; and (d) takes such action as Lender may reasonably require to assure that Lender's interest in the Property and rights under this Security Instrument, and Borrower's obligation to pay the sums secured by this Security Instrument, shall continue unchanged. Lender may require that Borrower pay such reinstatement sums and expenses in one or more of the following forms, as selected by Lender: (a) cash; (b) money order; (c) certified check, bank check, treasurer's check or cashier's check, provided any such check is drawn upon an institution whose deposits are insured by a federal agency, instrumentality or entity; or (d) Electronic Funds Transfer. Upon reinstatement by Borrower, this Security Instrument and obligations secured hereby shall remain fully effective as if no acceleration had occurred. However, this right to reinstate shall not apply in the case of acceleration under Section 18.

20. Sale of Note; Change of Loan Servicer; Notice of Grievance. The Note or a partial interest in the Note (together with this Security Instrument) can be sold one or more times without prior notice to Borrower. A sale might result in a change in the entity (known as the "Loan Servicer") that collects Periodic Payments due under the Note and this Security Instrument and performs other mortgage loan servicing obligations under the Note, this Security Instrument, and Applicable Law. There also might be one or more changes of the Loan Servicer unrelated to a sale of the Note. If there is a change of the Loan Servicer, Borrower will be given written notice of the change which will state the name and address of the new Loan Servicer, the address to which payments should be made and any other information RESPA requires in connection with a notice of transfer of servicing. If the Note is sold and thereafter the Loan is serviced by a Loan Servicer other than the purchaser of the Note, the mortgage loan servicing obligations to Borrower will remain with the Loan Servicer or be transferred to a successor Loan Servicer and are not assumed by the Note purchaser unless otherwise provided by the Note purchaser.

Neither Borrower nor Lender may commence, join, or be joined to any judicial action (as either an individual litigant or the member of a class) that arises from the other party's actions pursuant to this Security Instrument or that alleges that the other party has breached any provision of, or any duty owed by reason of, this Security Instrument, until such Borrower or Lender has notified the other party (with such notice given in compliance with the requirements of Section 15) of such alleged breach and afforded the other party hereto a reasonable period after the giving of such notice to take corrective action. If Applicable Law provides a time period which must elapse before certain action can be taken, that time period will be deemed to be reasonable for purposes of this paragraph. The notice of acceleration and opportunity to cure given to Borrower pursuant to Section 22 and the notice of acceleration given to Borrower pursuant to Section 18 shall be deemed to satisfy the notice and opportunity to take corrective action provisions of this Section 20.

21. Hazardous Substances. As used in this Section 21: (a) "Hazardous Substances" are those substances defined as toxic or hazardous substances, pollutants, or wastes by Environmental Law and the following substances: gasoline, kerosene, other flammable or toxic petroleum products, toxic pesticides and herbicides, volatile solvents, materials containing asbestos or formaldehyde, and radioactive materials; (b) "Environmental Law" means federal laws and laws of the jurisdiction where the Property is located that relate to health, safety or environmental protection; (c) "Environmental Cleanup" includes any response action, remedial action, or removal action, as defined in Environmental Law; and (d) an "Environmental Condition" means a condition that can cause, contribute to, or otherwise trigger an Environmental Cleanup.

Borrower shall not cause or permit the presence, use, disposal, storage, or release of any Hazardous Substances, or threaten to release any Hazardous Substances, on or in the Property. Borrower shall not do, nor allow anyone else to do, anything affecting the Property (a) that is in violation of any Environmental Law, (b) which creates an Environmental Condition, or (c) which, due to the presence, use, or release of a Hazardous Substance, creates a condition that adversely affects the value of the Property. The preceding two sentences shall not apply to the presence, use, or storage on the Property of small quantities of Hazardous Substances that are generally recognized to be appropriate to normal residential uses and to maintenance of the Property (including, but not limited to, hazardous substances in consumer products).

Borrower shall promptly give Lender written notice of (a) any investigation, claim, demand, lawsuit or other action by any governmental or regulatory agency or private party involving the Property and any Hazardous Substance or Environmental Law of which Borrower has actual knowledge, (b) any Environmental Condition, including but not limited to, any spilling, leaking, discharge, release or threat of release of any Hazardous Substance, and (c) any condition caused by the presence, use or release of a Hazardous Substance which adversely affects the value of the Property. If Borrower learns, or is notified by any governmental or regulatory authority, or any private party, that any removal or other remediation of any Hazardous Substance affecting the Property is necessary, Borrower shall promptly take all necessary remedial actions in accordance with Environmental Law. Nothing herein shall create any obligation on Lender for an Environmental Cleanup.

Non-Uniform Covenants. Borrower and Lender further covenant and agree as follows:

22. Acceleration; Remedies. Lender shall give notice to Borrower prior to acceleration following Borrower's breach of any covenant or agreement in this Security Instrument (but not prior to acceleration under Section 18 unless Applicable Law provides otherwise). The notice shall specify: (a) the default; (b) the action required to cure the default; (c) a date, not less than 30 days from the date the notice is given to Borrower, by which the default must be cured; and (d) that failure to cure the default on or before the date specified in the notice may result in acceleration of the sums secured by this Security Instrument and sale of the Property. The notice shall further inform Borrower of the right to reinstate after acceleration and the right to bring a court action to assert the non-existence of a default or any other defense of Borrower to acceleration and sale. If the default is not cured on or before the date specified in the notice, Lender at its option may require immediate payment in full of all sums secured by this Security Instrument without further demand and may invoke the power of sale and any other remedies permitted by Applicable Law. Lender shall be entitled to collect all expenses incurred in pursuing the remedies provided in this Section 22, including, but not limited to, reasonable attorneys' fees and costs of title evidence.

If Lender invokes the power of sale, Lender shall execute or cause Trustee to execute a written notice of the occurrence of an event of default and of Lender's election to cause the Property to be sold and shall cause such notice to be recorded in each county in which any part of the Property is located. Lender or Trustee shall give notice of sale in the manner prescribed by Applicable Law to Borrower and to other persons prescribed by Applicable Law. After the time required by Applicable Law, Trustee, without demand on Borrower, shall sell the Property at public auction to the highest bidder at the time and place and under the terms designated in the notice of sale in one or more parcels and in any order Trustee determines. Trustee may postpone sale of all

or any parcel of the Property by public announcement at the time and place of any previously scheduled sale. Lender or its designee may purchase the Property at any sale.

Trustee shall deliver to the purchaser Trustee's deed conveying the Property without any covenant or warranty, expressed or implied. The recitals in the Trustee's deed shall be prima facie evidence of the truth of the statements made therein. Trustee shall apply the proceeds of the sale in the following order: (a) to all expenses of the sale, including, but not limited to, reasonable Trustee's and attorneys' fees; (b) to all sums secured by this Security Instrument; and (c) any excess to the person or persons legally entitled to it.

23. Reconveyance. Upon payment of all sums secured by this Security Instrument, Lender shall request Trustee to reconvey the Property and shall surrender this Security Instrument and all notes evidencing debt secured by this Security Instrument to Trustee. Trustee shall reconvey the Property without warranty to the person or persons legally entitled to it. Such person or persons shall pay any recordation costs. Lender may charge such person or persons a fee for reconveying the Property, but only if the fee is paid to a third party (such as the Trustee) for services rendered and the charging of the fee is permitted under Applicable Law.

24. Substitute Trustee. Lender may from time to time remove Trustee and appoint a successor trustee to any Trustee appointed hereunder. Without conveyance of the Property, the successor trustee shall succeed to all the title, power and duties conferred upon Trustee herein and by Applicable Law.

25. Attorneys' Fees. As used in this Security Instrument and in the Note, attorneys' fees shall include those awarded by an appellate court.

26. Protective Advances. This Security Instrument secures any advances Lender, at its discretion, may make under Section 9 of this Security Instrument to protect Lender's interest in the Property and rights under this Security Instrument.

27. Required Evidence of Property Insurance.

WARNING

Unless you provide us with evidence of the insurance coverage as required by our contract or loan agreement, we may purchase insurance at your expense to protect our interest. This insurance may, but need not, also protect your interest. If the collateral becomes damaged, the coverage we purchase may not pay any claim you make or any claim made against you. You may later cancel this coverage by providing evidence that you have obtained property coverage elsewhere.

You are responsible for the cost of any insurance purchased by us. The cost of this insurance may be added to your contract or loan balance. If the cost is added to your contract or loan balance, the interest rate on the underlying contract or loan will apply to this added amount. The effective date of coverage may be the date your prior coverage lapsed or the date you failed to provide proof of coverage.

The coverage we purchase may be considerably more expensive than insurance you can obtain on your own and may not satisfy any need for property damage coverage or any mandatory liability insurance requirements imposed by Applicable Law.

BY SIGNING BELOW, Borrower accepts and agrees to the terms and covenants contained in this Security Instrument and in any Rider executed by Borrower and recorded with it.

Borrower

Ross R. Smith 2-21-17
Ross R Smith **Date**
Seal

Kay D. Smith 2-21-17
Kay D Smith **Date**
Seal

Acknowledgment

State of Oregon

County of Clackamas

This instrument was acknowledged before me on 02-21-2017 by Ross R. Smith and Kay D. Smith

Notary Public
My commission expires: 7-12-2017

OFFICIAL SEAL
LAURITA L CASTRO
NOTARY PUBLIC - OREGON
COMMISSION NO. 479256
MY COMMISSION EXPIRES JULY 12, 2017

Loan Origination Organization: Wells Fargo Bank N.A.

NMLSR ID: 399801

Loan Originator: ALLEN R WINTERHALTER

NMLSR ID: 73948

[This page immediately follows the appropriate acknowledgments and recording information. This page was intentionally left blank to conform to the local "last-page" recording requirements.]

[End of Document]

Record and Return by Mail to:

Wells Fargo Bank, N.A.
FINAL DOCS N0012-01B
6200 PARK AVE
DES MOINES, IA 50321

MANUFACTURED HOME RIDER TO SECURITY INSTRUMENT

This Rider is made this February 21, 2017, and is incorporated into and amends and supplements the Mortgage, Open-End Mortgage, Deed of Trust, or Credit Line Deed of Trust, Security Deed ("Security Instrument") of the same date given by the undersigned ("Borrower") to secure Borrower's Note to Wells Fargo Bank, N.A. ("Lender") of the same date ("Note") and covering the Property described in the Security Instrument and located at 19691 S LELAND RD, OREGON CITY, OR 97045-9130 (Property Address)

Borrower and Lender agree that the Security Instrument is amended and supplemented to read as follows:

1. **Meaning of Some Words.** As used in this Rider, the term "Loan Documents" means the Note, the Security Instrument and any Construction Loan Agreement, and the term "Property", as that term is defined in the Security Instrument, includes the "Manufactured Home" described in paragraph 3 of this Rider. All terms defined in the Note or the Security Instrument shall have the same meaning in this Rider.
2. **Purpose and Effect of Rider.** IF THERE IS A CONFLICT BETWEEN THE PROVISIONS IN THIS RIDER AND THOSE IN THE SECURITY INSTRUMENT, THE PROVISIONS IN THIS RIDER SHALL CONTROL. THE CONFLICTING PROVISIONS IN THE SECURITY INSTRUMENT WILL BE ELIMINATED OR MODIFIED AS MUCH AS IS NECESSARY TO MAKE ALL OF THE CONFLICTING TERMS AGREE WITH THIS RIDER.
3. **Lender's Security Interest.** All of Borrower's obligations secured by the Security Instrument also shall be secured by the Manufactured Home:

New or Used:	Used
Year:	1985
Manufacturer's Name:	Fleetwood Homes
Model Name or Model Number:	NA na
Length x Width:	61 x 26
Serial Number:	6168
Serial Number:	6168

4. **Affixation.** Borrower covenants and agrees:
   (A) to affix the Manufactured Home to a permanent foundation on the Property:
   (B) to comply with all Applicable Law regarding the affixation of the Manufactured Home to the Property;
   (C) upon Lender's request, to surrender the certificate of title to the Manufactured Home, if surrender is permitted by Applicable Law, and to obtain the requisite governmental approval and documentation necessary to classify the Manufactured Home as real property under Applicable Law;
   (D) that affixing the Manufactured Home to the Property does not violate any zoning laws or other local requirements applicable to the Property;

(E) that the Manufactured Home will be, at all times and for all purposes, permanently affixed to and part of the Property.

5. **Charges; Liens.** Section 4, Paragraph 1 of the Security Instrument is amended to add a new third sentence to read: Borrower shall promptly furnish to Lender all notices of amounts to be paid under this paragraph and receipts evidencing the payments.
6. **Property Insurance.** Section 5, Paragraph 1 of the Security Instrument is amended to add a new second sentence to read: Whenever the Manufactured Home is transported on the highway, Borrower must have trip insurance.
7. **Notices.** The second sentence of Section 15 of the Security Instrument is amended by inserting the words "unless otherwise required by law" at the end.
8. **Additional Events of Default.** Borrower will be in default under the Security Instrument:
   (A) if any structure on the Property, including the Manufactured Home, shall be removed, demolished, or substantially altered;
   (B) if Borrower fails to comply with any requirement of Applicable Law (Lender, however, may comply and add the expense to the principal balance Borrower owes to Lender); or
   (C) if Borrower grants or permits any lien on the Property other than Lender's lien, or liens for taxes and assessments that are not yet due and payable.
9. **Notice of Default.** If required by Applicable Law, before using a remedy, Lender will send Borrower any notice required by law, and wait for any cure period that the law may require for that remedy.
10. **Additional Rights of Lender in Event of Foreclosure and Sale.** In addition to those Rights granted in the Note and Security Instrument, Lender shall have the following rights in the event Lender commences proceedings for the foreclosure and sale of the Property.
    (A) At Lender's option, to the extent permitted by Applicable Law, Lender may elect to treat the Manufactured Home as personal property ("Personal Property Collateral"). Lender may repossess peacefully from the place where the Personal Property Collateral is located without Borrower's permission. Lender also may require Borrower to make the Personal Property Collateral available to Lender at a place Lender designates that is reasonably convenient to Lender and Borrower. At Lender's option, to the extent permitted by Applicable Law, Lender may detach and remove Personal Property Collateral from the Property, or Lender may take possession of it and leave it on the Property. Borrower agrees to cooperate with Lender if Lender exercises these rights.
    (B) After Lender repossesses, Lender may sell the Personal Property Collateral and apply the sale proceeds to Lender's reasonable repossession, repair, storage, and sale expenses, and then toward any other amounts Borrower owes under the Loan Documents.

By signing below, Borrower accepts and agrees to the terms and covenants contained in this Rider.

WITNESS my hand and seal this 21st day of February 2017.

Borrower

Ross R. Smith 2-21-17
Ross R Smith **Date**
Seal

Kay D. Smith 2-21-17
Kay D Smith **Date**
Seal

Acknowledgment

State of Oregon

County of Clackamas

This instrument was acknowledged before me on 02-21-2017 by Ross R. Smith and Kay D. Smith.

Notary Public
My commission expires: 7-12-2017

OFFICIAL SEAL
LAURITA L CASTRO
NOTARY PUBLIC - OREGON
COMMISSION NO. 479256
MY COMMISSION EXPIRES JULY 12, 2017

Exhibit A

LEGAL DESCRIPTION

A tract of land, being that certain tract of land conveyed to Dale D. and Paula J. Morris by deed recorded as Fee No. 88-16753 and Parcel III of that certain tract or land conveyed to Dennis C. and Cynthia R. Elam by deed recorded as Fee No. 97-031624, Deed Records of Clackamas County, a part of the John Howland Donation Land Claim No. 45 and being situated in the Southwest one quarter of Section 7, Township 3 South, Range 2 East, Willamette Meridian and being described as follows:

Beginning at an iron rod at the most Northerly corner of Parcel 1, Clackamas County Partition plat No. 1992-78, which is on the Southwesterly right of way line of Leland Road, County Road No. 518 and which is the most Easterly corner of the said Morris Tract; thence North 47°02'27" West along said Southwesterly right of way line of Leland Road, 300.00 feet to the most Northerly corner of said Parcel III of Fee 97-031624; thence South 42°52'00" West, along the Northwesterly line of said Elam Tract, 400.21 feet to an iron rod at the most Westerly corner of said Parcel III; thence South 47°02'27" East, parallel with the Southwesterly right of way line of Leland Road, 280.00 feet to the most Southerly corner of said Parcel III of said Elam Tract; thence South 42°58'00" West along said Southeasterly line of said Elam Tract, 499.47 feet to the most Southerly corner thereof; thence North 47°06'48" West, along the Southwesterly line of said Elam Tract, 280.00 feet to an iron rod found at the most Westerly corner thereof; thence South 42° 58' 00" West along the Northwesterly of said Morris Tract, 1398 feet, more or less, to the Northwesterly corner of that certain tract of land conveyed to John Martinson Jr., by deed recorded as Fee No. 2001-006924, Deed Records of Clackamas County; thence Easterly, along the North line of said Martinson Tract, 400 feet, more or less, to the Southeasterly line of the aforementioned Morris Tract; thence North 42°58'00" East along the Southeasterly line of said Morris tract, 2010 feet, more or less, to the point of beginning.

TICOR TITLE

Subject Parcel

TICOR TITLE™
The RIGHT choice...*your* choice!

Customer Service
Phone: 503.219.1000
Email: Ticor.Resource@TicorTitle.com
Clackamas (OR)

OWNERSHIP INFORMATION

Owner(s)	: **Smith Ross R & Kay D**
CoOwner(s)	:
Site Address	: **19691 Leland Rd Oregon City 97045**
Mail Address	: 19691 Leland Rd Oregon City Or 97045

Parcel Number	: **01655621**
Ref Parcel #	: **32E07C 00199**
T: 03S R: 02E S: 07 Q: SW QQ:	
Telephone	:

PROPERTY DESCRIPTION

Map Page Grid	:
Census Tract	: 226.06 Block: 1
Neighborhood	: Oregon City Rural
Subdivision/Plat	:
Improvement	: 900 Contiguous Property
Land Use	: 101 Res,Residential Land,Improved
Legal	: SEE SPLIT CODE ACCT 00109
	:
	:

ASSESSMENT AND TAX INFORMATION

Mkt Land	: $214,475
Mkt Structure	:
Mkt Total	: **$214,475**
%Improved	:
Assessed Total	: **$51,824**
Mill Rate	: 14.8852
Levy Code	: 062084
16-17 Taxes	: $771.41

PROPERTY CHARACTERISTICS

Bedrooms	:	BldgLivingSqFt	:	BldgSqFt	:
Bathrooms	:	1st Floor SqFt	:	Lot Acres	: 2.98
Full Baths	:	UpperFinSqFt	:	Lot SqFt	: 129,809
Half Baths	:	Finished SqFt	:	Year Built	:
Fireplace	:	AbvGrdSqFt	:	Foundation	:
Heat Type	:	UpperTotSqFt	:	Roof Type	:
Floor	:	UnFinUpStySqFt	:	Roof Shape	:
Stories	:	Bsmt Fin SqFt	:	Exterior Fin	:
Garage SF	:	Bsmt Unfin SqFt	:		
		Bsmt Total SqFt	:		

TRANSFER HISTORY

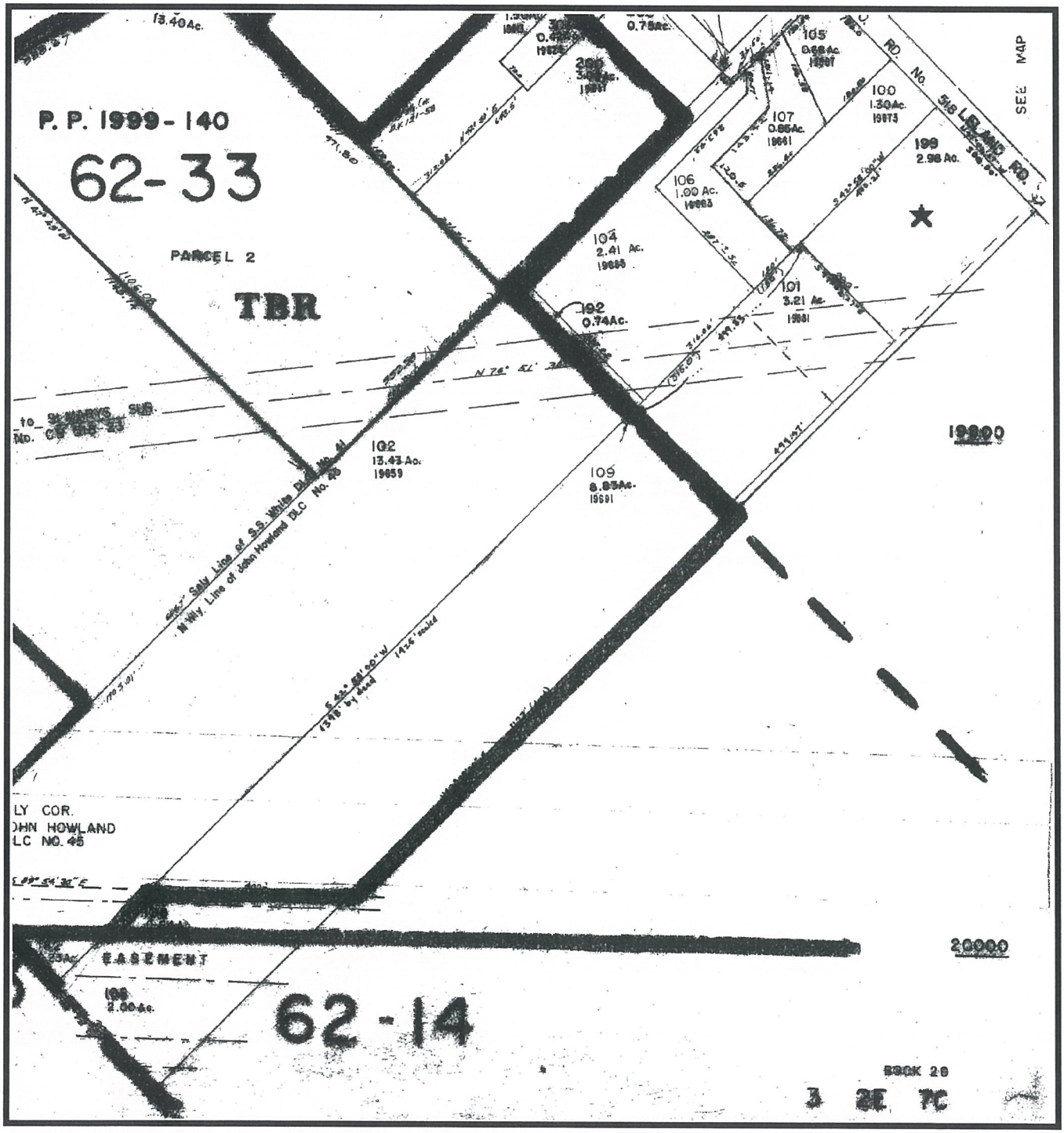
Owner(s)	Date	Doc #	Price	Deed	Loan	Type
:Smith Ross R;Kay D	:08/06/2009	009-056411	:$285,000	:Warranty	:$198,412	:Fha
:Morris Dale D	:03/15/2006	006-022748	:	:	:	:
:	:		:	:	:	:
:	:		:	:	:	:
:	:		:	:	:	:
:	:		:	:	:	:

TICOR TITLE™

The RIGHT choice...*your* choice!

Customer Service
Phone: 503.219.1000
Email: Ticor.Resource@TicorTitle.com

Parcel # : 01655621 **Ref Parcel Number : 32E07C 00199**



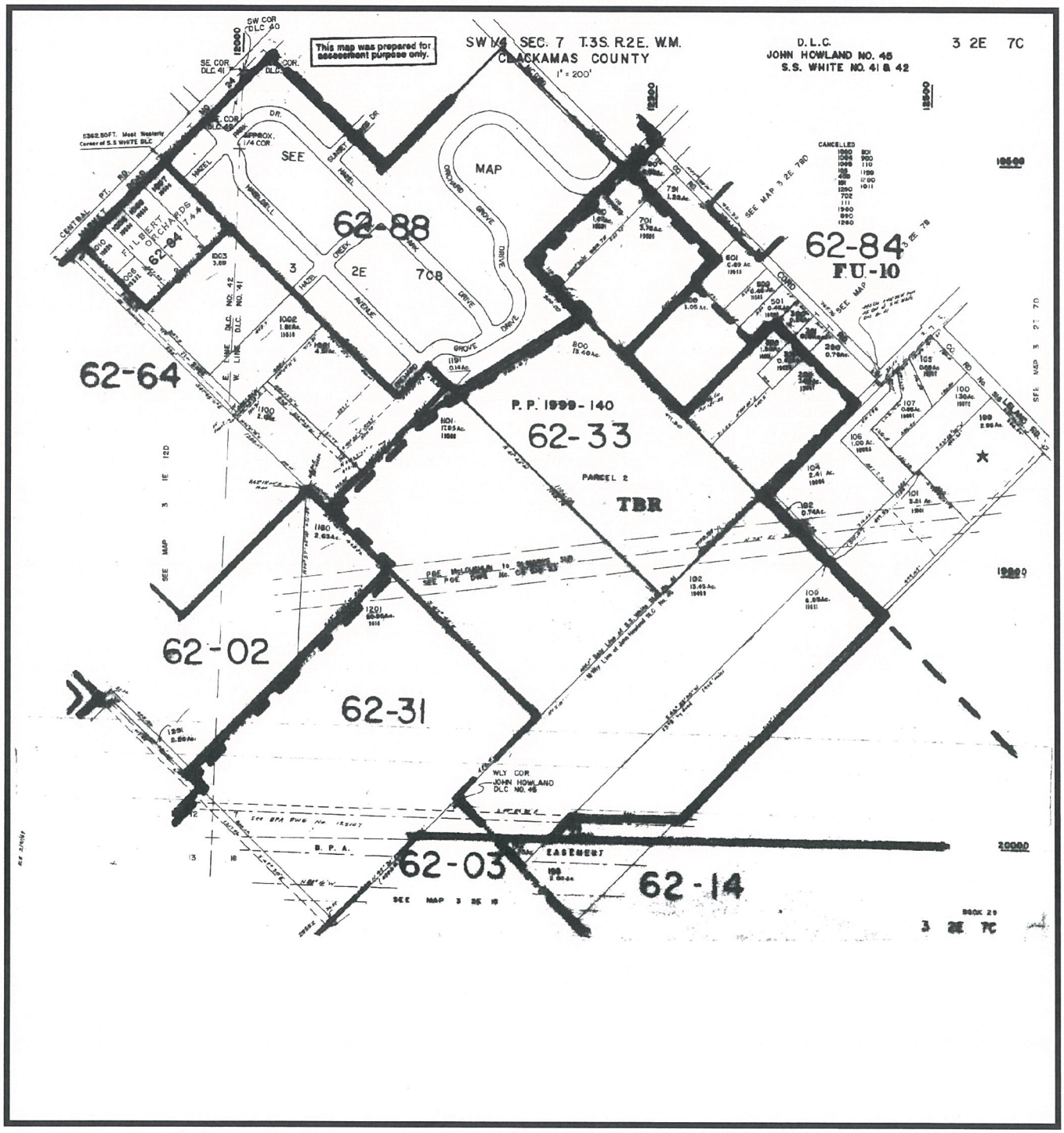
This map is made solely for assisting in locating said premises. The company assumes no liability for variations, if any, in dimensions and location ascertained by an actual survey.

TICOR TITLE™

The RIGHT choice...*your* choice!

Customer Service
Phone: 503.219.1000
Email: Ticor.Resource@TicorTitle.com

Parcel # : 01655621 **Ref Parcel Number : 32E07C 00199**



This map is made solely for assisting in locating said premises. The company assumes no liability for variations, if any, in dimensions and location ascertained by an actual survey.

2/2
16
10
10

Lawyers Title
INSURANCE CORPORATION

Clackamas County Official Records
Sherry Hall, County Clerk
2009-056411
$36.00
01332582200900564110020022
08/06/2009 03:30:30 PM
D-D Cnt=1 Stn=8 DEBBIE
$10.00 $10.00 $16.00

After recording return to:
Luke R. Smith
19691 S. Leland Road
Oregon City, OR 97045

Until a change is requested, all tax statements shall be sent to the following address:
Luke R. Smith
19691 S. Leland Road
Oregon City, OR 97045

87g0900782

LAWYERS

STATUTORY WARRANTY DEED

Keli Dotson as Successor Trustee to Dale D. Morris, original Trustee of the Dale D. Morris Living Trust, Grantor, conveys and warrants to Luke R. Smith and Loren Smith, Grantee, the following described real property free of encumbrances except as specifically set forth herein:

SEE ATTACHED EXHIBIT "A"

Tax Account No. 01655621 and 01352985

This property is free of encumbrances, EXCEPT:
SEE EXHIBIT "A" WITH EXCEPTIONS
The true consideration for this conveyance is $285,000.00

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY , UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930 AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11 CHAPTER 424, OREGON LAWS 2007.

Dated 5 day of August, 2009

Dale D. Morris Living Trust

BY Keli Dotson
ITS Successor Trustee

STATE OF OREGON
COUNTY OF CLACKAMAS
The foregoing instrument was acknowledged before me this 5th day of August, 2009 by Keli Dotson as the Successor Trustee of Dale D. Morris Living Trust on its behalf.

Notary Public State of Oregon
My commission expires: 1-12-10

OFFICIAL SEAL
J MARTIN
NOTARY PUBLIC-OREGON
COMMISSION NO. 400883
MY COMMISSION EXPIRES JANUARY 12, 2010

Order No. 87g0900782

Exhibit "A" with Exceptions

AMENDED LEGAL DESCRIPTION

Part of the John S. Howland and wife Donation Land Claim No. 45, in Section 7 and 18, Township 3 South, Range 2 East, of the Willamette Meridian, Clackamas County, Oregon, described as follows:

Beginning at the most Westerly corner of that tract conveyed to Samuel B. Solomon and recorded as Fee No. 81 9972, Deed Records; said point being South 46° 27' 45" East, 358.24 feet from a stone at the most Westerly corner of the John S. Howland Donation Land Claim; thence continuing South 46° 27' 45" East 300 feet to a stone at the most Southerly corner of said Solomon tract; thence North 42° 58' East along the Southwesterly line of said Solomon tract, 2571.12 feet to a point o the Southwesterly line of Long Road; thence North 47° 05' West along said road, 20.0 feet; thence South 42° 48' West 900.00 feet; thence North 47° 05' West 280.0 feet to a point on the Northwesterly line of said Solomon tract; thence South 42° 58' West along said line, 1667.34 feet to the point of beginning.

EXCEPTING THEREFROM that tract described as Fee No. 81 10284, Clackamas County Deed Records.

Subject to:

1. **2009-10 taxes, a lien in an amount to be determined, but not yet payable**

2. **The rights of the public in and to that portion of the herein described property lying within the limits of roads and highways.**

3. **An easement disclosed by instrument,**
   Recorded : March 21, 1963
   As : B 619 ; P 42
   In favor of : Portland General Electric Company
   For : Utilities

4. **Terms and provisions of License Agreement,**
   Recorded : April 26, 1988
   As : 88016755

5. **An easement disclosed by instrument,**
   Recorded : September 27, 1989
   As : 89042884
   In favor of : Adjacent property owners
   For : Road and utilities

6. **Terms and provisions of Road Maintenance Agreement,**
   Recorded : February 27, 1989
   As : 89042884

Exhibit E: Certified Annexation Petition

PETITION OF OWNERS OF 100 % OF LAND AND PETITION OF A MAJORITY OF REGISTERED VOTERS

PETITION FOR ANNEXATION TO THE CITY OF OREGON CITY , OREGON

TO: The City Commission of the City of Oregon City, Oregon:

We, the undersigned property owners of and/or registered voters in the area described below, hereby petition for, and give our consent to, annexation of the area to the City of Oregon City.

The property to be annexed is described as follows:

(Insert Legal Description here OR attach it as Exhibit "A")

Please refer to Exhibit F of the application materials for the Legal Description

CERTIFICATION OF PROPERTY OWNERSHIP OF

100% OF LAND AREA

(City 100% Ownership Method)

I hereby certify that the attached petition for a proposed boundary change involving the territory described in the petition contains the names of the owners* of 100% of the land area within the annexation area described in the petition, as shown on the last available complete assessment roll.

NAME Kevin Clarke

TITLE GIS Cartographer II

DEPARTMENT Assessment and Taxation

COUNTY OF Clackamas

DATE 12/20/17

* "Owner" means the legal owner of record or, where there is a recorded land contract which is in force, the purchaser thereunder. If there is a multiple ownership in a parcel of land each consenting owner shall be counted as a fraction to the same extent as the interest of the owner in the land bears in relation to the interest of the other owners and the same fraction 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.

CITY OF OREGON CITY

ANNEXATION PETITION

By signing below I indicate my consent to and support of being annexed into the City of Oregon City, and my consent for having my signature (below) used for any application form required for the annexation, including but not limited to the City of Oregon City's Land Use Application Form.

NOTE: This petition may be signed by qualified persons even though they may not know their property description or precinct number.

SIGNATURE	PRINTED NAME	I AM A *			ADDRESS	PROPERTY DESCRIPTION				PRECINCT #	DATE
		PO	RV	OV		LOT #	1/4 SEC	TWNSHP	RANGE		
Ross R. Smith	Ross R. Smith			✓	19691 S Leland Road	Tax Lot 199	7C	3S	2E	510	12-9-17
Kay D. Smith	Kay D. Smith			✓	19691 S Leland Road	Tax Lot 199	7C	3S	2E	510	12-9-17

* PO = Property Owner
RV = Registered Voter
OV = Owner and Registered Voter

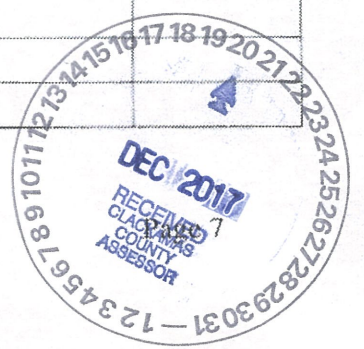


Exhibit F: Certified Legal Description and Map

CERTIFICATION OF LEGAL DESCRIPTION AND MAP

I hereby certify that the description of the property included within the attached petition (located on Assessor's Map 3S 2E 07C) has been checked by me and it is a true and exact description of the property under consideration, and the description corresponds to the attached map indicating the property under consideration.

NAME Kevin Clarke

TITLE GIS Cartographer II

DEPARTMENT Assessment and Taxation

COUNTY OF Clackamas

DATE 12/20/17

AKS ENGINEERING & FORESTRY, LLC
12965 SW Herman Road, Suite 100, Tualatin, OR 97062
P: (503) 563-6151 F: (503) 563-6152
OFFICES IN: TUALATIN, OR - VANCOUVER, WA - KEIZER, OR - BEND, OR

AKS Job #6141

EXHIBIT A

Annexation Description

A tract of land, and a portion of right-of-way, located in the Southwest One-Quarter of Section 7, Township 3 South, Range 2 East, Willamette Meridian, Clackamas County, Oregon, and being more particularly described as follows:

Beginning at the westerly corner of Parcel 1 of Partition Plat 1992-078, also being on the City of Oregon City city limits line; thence leaving said city limit line along the northwesterly line of said plat, South 43°40'48" West 5.72 feet to the southeasterly extension of the southwesterly line of Document Number 2012-005687; thence along said southeasterly extension, North 46°22'54" West 20.00 feet to the southerly corner of said deed; thence along the southeasterly line of said deed, North 43°40'13" East 499.47 feet to the easterly corner of said deed; thence along the northeasterly line of said deed, North 46°18'20" West 279.94 feet to the northerly corner of said deed, also being on the southerly line of Deed Book 654 Page 456; thence along said southerly line and the northeasterly extension thereof, North 43°40'41" East 459.98 feet to the northeasterly right-of-way line of Leland Road (30.00 feet from centerline); thence along said right-of-way line, South 46°21'05" East 299.88 feet to the City of Oregon City city limits line, also being on the northeasterly extension of the northwesterly line of said plat; thence along said northeasterly extension and northeasterly line of said plat and said city limits line, South 43°40'13" West 953.94 feet to the Point of Beginning.

The above tract of land contains 3.40 acres, more or less.

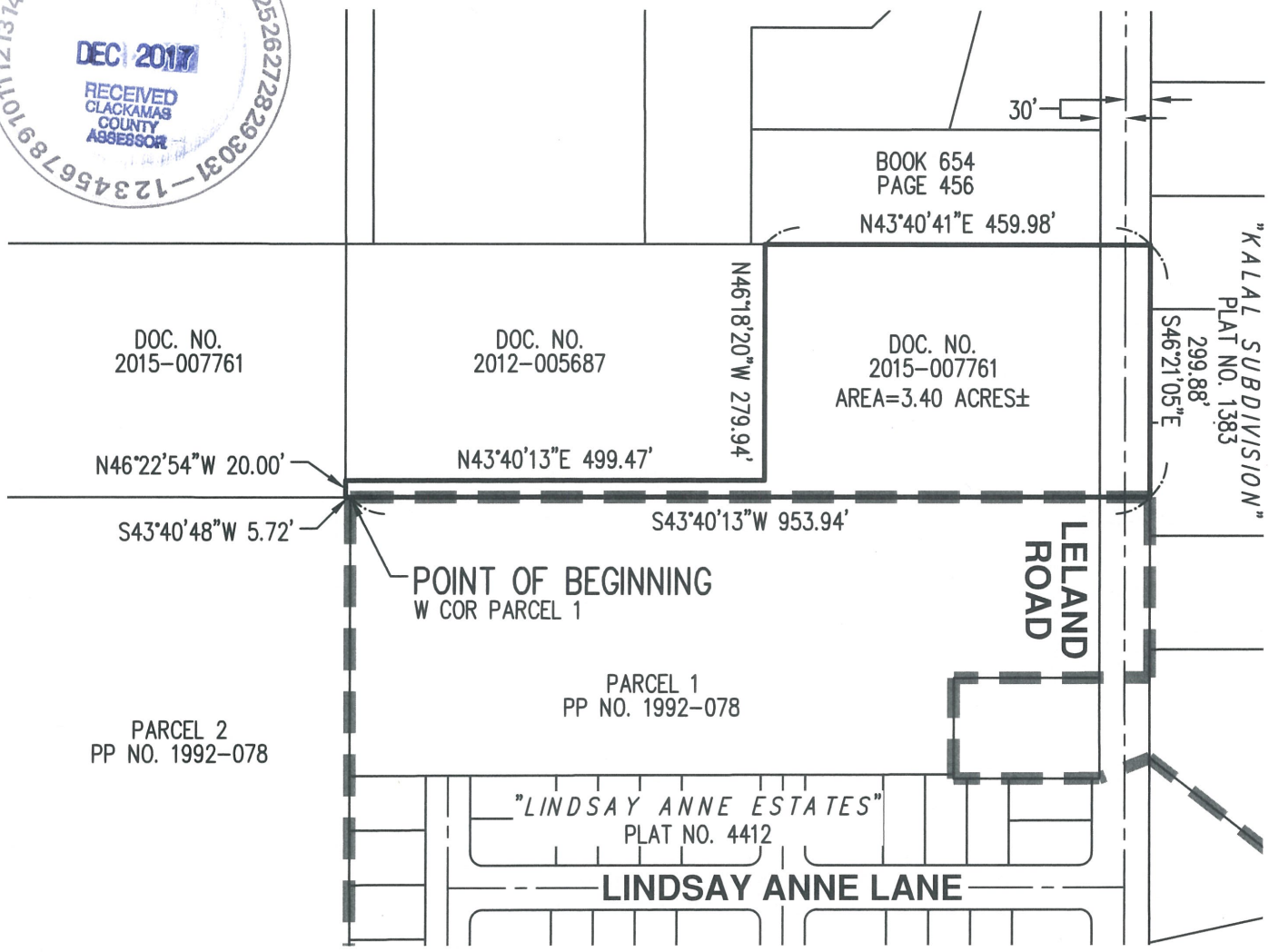
12/14/2017

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JANUARY 11, 2005
ROBERT D. RETTIG
60124LS
RENEWS: 12/31/18

EXHIBIT B

A TRACT OF LAND LOCATED IN THE SOUTHWEST 1/4 OF SECTION 7, TOWNSHIP 3 SOUTH, RANGE 2 EAST, WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON



LEGEND

CITY OF OREGON CITY CITY LIMITS LINE

PREPARED FOR

RICK DOTSON
19695 S LELAND ROAD
OREGON CITY, OR 97045

SCALE: 1"= 200 FEET

200 0 80 120 160 200

N

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JANUARY 11, 2005
ROBERT D. RETTIG
60124LS

RENEWS: 12/31/18

MAP OF ANNEXATION	EXHIBIT B
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 P: 503.563.6151 F: 503.563.6152 aks-eng.com	DRWN: WCB CHKD: RDR AKS JOB: 6141

DWG: 6141 20171214 EXB | EXB

Exhibit G: Boundary Change Information Sheet

BOUNDARY CHANGE INFORMATION SHEET

I. EXISTING CONDITIONS IN AREA TO BE ANNEXED

A. General location 19691 S Leland Road

B. Land Area: Acres ±2.98 acres or Square Miles _____

C. General description of territory. (Include topographic features such as slopes, vegetation, drainage basins, floodplain areas, which are pertinent to this proposal).
Vacant property with generally flat topography. Vegetation consists of pasture grasses, crops, and several trees along the margins of the property.

D. Describe land uses on surrounding parcels. Use tax lots as reference points.

North: Abutting properties to the northwest are located within Clackamas County's FU-10 zoning district, and developed with single-family residences, outbuildings, and pasture land.

East: Properties to the northeast of the subject property are part of a previous subdivision within Clackamas County's FU-10 zoning district.

South: Abutting property to the southeast is part of the Lindsay Anne Estates Too Subdivision and is in the process of annexation and zone change to Oregon City's R-6 zoning district

West: Abutting properties to the west are occupied by single-family residences and outbuildings, and are located outside the Urban Growth Boundary.

E. Existing Land Use:

Number of single-family units 0 Number of multi-family units 0

Number commercial structures 0 Number industrial structures 0

Public facilities or other uses N/A

What is the current use of the land proposed to be annexed: Vacant / agriculture

F. Total current year Assessed Valuation $ 214,475

G. Total existing population N/A

II. REASON FOR BOUNDARY CHANGE (Please see attached written narrative)

A. The City Code (Section 6) and the Metro Code (3.09.050 (d) & (e)) spell out criteria for consideration (see copies attached). Please provide a narrative which addresses these criteria. With regard to the City criteria, please provide a narrative statement explaining the conditions surrounding the proposal and addressing the factors in Section 6, as relevant, including:

1. Statement of availability, capacity and status of existing water, sewer, drainage, transportation, park and school facilities;
2. Statement of increased demand for such facilities to be generated by the proposed development, if any, at this time;
3. Statement of additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand;
4. Statement outlining method and source of financing required to provide additional facilities, if any;
5. Statement of overall development concept and methods by which physical and related social environment of the site, surrounding area and community will be enhanced;
6. Statement of potential physical, aesthetic and related social effects of the proposed or potential development on the community as a whole and on the small subcommunity or neighborhood of which it will become a part; and proposed actions to mitigate such negative effects, if any;
7. Statement indicating the type and nature of any Comprehensive Plan text or map amendments or Zoning text or map amendments that may be required to complete the proposed development.

B. Please submit 25 copies of a site plan, drawn to scale (not greater than 1" = 50') indicating:

1. The location of existing structures (if any);
2. The location of streets, sewer, water, electric and other utilities, on or adjacent to the property to be annexed.
3. The location and direction of all water features on and abutting the subject property. Approximate location of areas subject to inundation, stormwater overflow or standing water. Base flooding data showing elevations of all property subject to inundation in the event of one-hundred year flood shall be shown;
4. Natural features, such as rock outcroppings, marshes or wetlands (as delineated by the Division of Sate Lands) wooded areas, isolated preservable trees (trees with trunks over 6" in diameter- - -as measured 4 feet above the ground) and significant areas of vegetation.
5. General land use plan indicating the types and intensities of the proposed or potential development;

III. LAND USE AND PLANNING

A. What is the applicable County Planning Designation? Future Urban
What City Planning Designation is being sought? LR - Low Density Residential

B. What is the zoning on the territory to be served?
Clackamas County Future Urban 10-Acre (FU-10)

What zoning designation is being sought? City of Oregon City R-6 Single-Family Dwelling District

C. Is the subject territory to be developed at this time? Yes

D. Generally describe the anticipated development (building types, facilities, number of units).
A subdivision application submitted concurrently with this application creates lots for future single-family detached residential homes, which are consistent with the Low Density Residential and R-6 zoning designations.

E. Can the proposed development be accomplished under current county zoning?
☐ Yes ☑ No

If No,---has a zone change been sought from the county either formally or informally.

☑ Yes ☐ No

Please describe outcome of zone change request if answer to previous questions was Yes. A zone change application submitted with this application would change the zoning designation from Clackamas County FU-10 to Oregon City R-6.

F. Is the proposed development compatible with the city's comprehensive land use plan for the area? (Requested zone change to City of Oregon City R-6 zoning is compatible with City's Comprehensive Plan LR designation)
☑ Yes ☐ No ☐ City has no Plan for the area.

Has the proposed development been discussed either formally or informally with any of the following? (Please indicate)

☐ City Planning Commission ☑ City Planning Staff
☐ City Council ☐ City Manager
☑ Neighborhood Association

Please describe the reaction to the proposed development from the persons or agencies indicated above.
Please refer to the pre-application conference notes and neighborhood meeting summary included with this application.

G. Please indicate all permits and/or approvals from a City, County, or Regional Government which will be needed for the proposed development. If already granted, please indicate date of approval and identifying number:

APPROVAL	PROJECT FILE #	DATE OF APPROVAL	FUTURE REQUIREMENT
Metro UGB Amendment			N/A
City or County Plan Amendment			N/A
Pre-Application Hearing (City or County)	PA 17-46		
Preliminary Subdivision Approval			✓
Final Plat Approval			✓
Land Partition			N/A
Conditional Use			N/A
Variance			N/A
Sub-Surface Sewage Disposal			N/A
Building Permit			✓

Please submit copies of proceedings relating to any of the above permits or approvals which are pertinent to the annexation.

H. Does the proposed development comply with applicable regional, county or city comprehensive plans? Please describe.

Annexation to Oregon City's R-6 zone is consistent with applicable County and City Comprehensive Plans.

I. If a city and/or county-sanctioned citizens' group exists in the area of the annexation, please list its name and address of a contact person.
Hillendale Neighborhood Association. Roy Harris. royandanna@centurylink.net

Tower-Vista Neighborhood Association. Vern Johnson.

IV. SERVICES AND UTILITIES

A. Please indicate the following:

1. Location and size of nearest water line which can serve the subject area.
The subject property is currently within, but not served by Clackamas River Water (CRW) District. A 12-inch City water main is also located in S Leland Road. A subdivision application submitted concurrently with this application would establish a new connection to the City's water main by extending the main along the property's S Leland Road frontage. An additional water main stubbed in abutting Cherrywood Way to the southeast would extend through the project.
2. Location and size of nearest sewer line which can serve the subject area.
The subject property is not currently connected to a sanitary sewer system, nor is it within the service area of a sewer district. An existing 8-inch sanitary sewer main is stubbed in Cherrywood way to the southeast. An 8-inch sanitary sewer main is located in S Leland Road, and is planned to be extended along the subject property frontage as part of a subdivision application submitted concurrently with this application.

3. Proximity of other facilities (storm drains, fire engine companies, etc.) which can serve the subject area An existing public stormwater system exists to the southeast ugrfgl Afcppwummb U_w and S Leland Road rights-of-way, Rfc ajmqcqr n_pi gq Ucqjcw Jwl l N_pi*_nnpmv. ±32. dccr rm rfc lmprfc_qr, The property is served by Clackamas Fire District No. 1 and Clackamas Sheriff's Office, and located within the Oregon City School District. The property would receive the same services, except service instead from Oregon City Police Dept.

4. The time at which services can be reasonably provided by the city or district. Adjacent services are able to be extended to serve future single-family detached residential dwellings on lots created by a subdivision application filed concurrently with this application.

5. The estimated cost of extending such facilities and/or services and what is to be the method of financing. (Attach any supporting documents.) The estimated cost of extending services is planned to be determined in conjunction with a subdivision property submitted concurrently with this application. Please refer to the written narrative for information related to the method of financing the extension of services.

6. Availability of the desired service from any other unit of local government. (Please indicate the government.)

N/A

B. If the territory described in the proposal is presently included within the boundaries of or being served extraterritorially or contractually by, any of the following types of governmental units, please so indicate by stating the name or names of the governmental units involved.

City N/A	Rural Fire Dist Clackamas County Fire District No. 1
County Service Dist. Clackamas County Sheriff's Office	Sanitary District N/A
Hwy. Lighting Dist. N/A	Water District Clackamas River Water District
Grade School Dist. Oregon City School District	Drainage District N/A
High School Dist. Oregon City School District	Diking District N/A
Library Dist. N/A	Park & Rec. Dist. N/A
Special Road Dist. N/A	Other Dist. Supplying Water Service N/A

C. If the territory is proposed to be served by any of the above units or any other units of government please note. Oregon City Police Department, Oregon City School District, Clackamas Fire District No. 1, Tri-City Service District, City of Oregon City Water Division

D. If any of the above units are presently servicing the territory (for instance, are

residents in the territory hooked up to a public sewer or water system), please so describe.

The subject property is currently served by Clackamas River Water District, Clackamas Fire District No. 1, Clackamas County Sheriff's Office, and the Oregon City School District.

APPLICANT'S NAME Oregon Builders & Restoration

MAILING ADDRESS 19695 S Leland Road

Oregon City, OR 97045

TELEPHONE NUMBER Applicant's consultant: (503) 563-6151 (Work)

_____ (Res.)

REPRESENTING Applicant's consultant: AKS Engineering & Forestry, LLC

DATE: December 2017

Exhibit H: Approved Subdivision Name

REQUEST TO RESERVE SUBDIVISION / CONDOMINIUM NAME

Clackamas County Surveyor's Office
150 Beavercreek Road, #325
Oregon City, OR 97045
(503) 742-4475
E-mail address: surveyor@clackamas.us

PLAT NAME REQUESTED:

Dotson Farms

	TWP/RANGE:	SECTION#:	QTR SECTION:	TAX LOT#(s):
***Location of Plat*:**	**03S/02E**	**07**	**C**	**199**

I understand that if the above name plat is not pending or recorded within two years, the name will be removed from the reserved list.

RESERVED BY: Zachary Gustafson

DATE:	TELEPHONE:	FAX:
11/01/2017	**(503) 563 - 6151**	**(503) 563 - 6152**

PLAT SURVEYOR:

Rob Rettig #60124

NAME OF DEVELOPER:

Unknown at this time

APPROVED BY:	APPROVAL DATE:

From: Fuller, Debbie
To: Zach Gustafson
Subject: RE: Subdivision Name Request
Date: Wednesday, November 1, 2017 4:07:03 PM

Hi Zach,

Your request to reserve the plat name of Dotson Farms is approved.

Thank you.

Debbie Fuller
Department of Transportation & Development
Office Manager
County Surveyor & Engineering
Phone: 503.742.4492 | Email: debbieful@clackamas.us
My office hours 7:30-4:30 Monday – Thursday and Friday 7:30-3:00

From: Zach Gustafson [mailto:gustafsonz@aks-eng.com]
Sent: Wednesday, November 01, 2017 3:59 PM
To: Fuller, Debbie <DebbieFul@co.clackamas.or.us>
Subject: Subdivision Name Request

Good afternoon Debbie,

Would you please review and hopefully reserve the attached Subdivision Name Request? Please let me know if you have any questions.

Thanks,

Zach Gustafson

AKS ENGINEERING & FORESTRY, LLC
12965 SW Herman Road, Suite 100 | Tualatin, OR 97062
P: 503.563.6151 ext. 136 | F: 503.563.6152 | www.aks-eng.com | gustafsonz@aks-eng.com
Offices in: Tualatin, OR | Salem-Keizer, OR | Vancouver, WA

Exhibit I: Draft CC&Rs

DRAFT

AFTER RECORDING, RETURN TO:

DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS

This Declaration of Protective Covenants, Conditions and Restrictions ("Declaration") is made and effective the ____, day of _____, 2017. This Declaration affects that certain real property (the "Property") located in the City of Oregon City, Clackamas County, Oregon and more particularly described as Lots 1 through 12, inclusive, as shown on Subdivision Plat _____ (the "Plat) recorded in the official records of Clackamas County on _____, and all improvements now existing or to be constructed on Property, which Property and improvements are collectively known and referred to as Dotson Farms.

RECITALS, INTENT AND PURPOSE

A. _____ is the owner in fee simple of the Property and the Declarant herein.

NOW, THEREFORE, for such purposes, Declarant makes this Declaration for governance of the Property:

DECLARATION

Declarant hereby declares on behalf of itself, its successors, grantees and assigns, as well as any and all persons having, acquiring or seeking to have or acquire any interest of any nature whatsoever in and to any part of the Property, as follows:

1. Definitions. Except as otherwise provided or modified by this Section 1, the terms contained herein shall have the meaning set forth in the Oregon Planned Community Act, ORS 94.550 et seq. As used in this Declaration, the following terms shall have the following meanings:

1.1 Mortgage. Mortgage means a recorded first mortgage, first trust deed or first contract of sale that creates a first lien against a Lot, and "Mortgagee" means the holder,

beneficiary or vendor of such a mortgage, trust deed or contract of sale, but only when such holder, beneficiary or vendor notifies the Association in writing of the existence of such mortgage and gives the Association a current name and mailing address.

1.2 Owner. Owner means the sole, or all joint, owners of one or more Lots.

1.3 Plat. Plat has the meaning provided in the initial paragraph of this Declaration.

2. Name Description

2.1. Name. The name by which the Property shall be known is Dotson Farms.

2.2. Lot Designation. The Property is comprised of twelve (12) Lots, each suitable for construction of one residential building, and easements as described in the Plat. The boundaries, designation, location and dimensions of each Lot are shown on the Plat.

3. Easements. Easements are reserved as shown on the Plat. Within these easements no structure, planting or other materials shall be placed or permitted to remain which may damage or interfere with the purpose of the easement.

4. Building Materials and Size Limitations. All building materials to be incorporated into and visible as a part of the external structure of any building or other structure in the Property conform to the following criteria:

4.1. Roofing material. In particular, all roofing material for any building or structure shall be of wood (shake or shingle), tile, or a 25-year or better composition architectural shake with ridge caps.

4.2. Siding material. All siding materials shall be natural wood, or man-made lap siding materials provided.

4.3. Minimum House Size. Each residence constructed on a Lot shall have a minimum floor area of 1,000 square feet, exclusive of garages.

5. Landscape, Hedges and Fences. All front and side yards must be completely landscaped within six (6) months of initial occupancy. All grounds and related structures shall be maintained in harmony with surrounding landscaping. No weeds, noxious plants, or unsightly vegetation shall be planted or allowed to grow. Fences shall comply with applicable City regulations but shall not exceed six(6) feet in height. Fences shall be well constructed of suitable materials and shall not detract from the appearance of the adjacent structures or buildings. No high output exterior lighting, including but not limited to mercury vapor and halide lights, shall be installed. No tree shall be removed except in accordance with City of Oregon City permit standards.

6. No Rezoning or Redivision. No property within the Property may be rezoned or

redivided, nor may a Lot line or boundary line of a Lot be altered, without the written consent of the City of Oregon City and a majority of Owners.

7. Restrictions on Animals. No animals of any kind shall be raised, bred or kept in the Property, except that dogs, cats and other commonly maintained household pets may be kept so long as they are not bred, maintained or kept for commercial purposes. No animal of any kind, including dogs and cats, shall be allowed to interfere with the quiet enjoyment of the other residents in the Property, or permitted untended upon the streets, or upon premises of other occupants of the Property.

8. No Commercial Use. No portion of property in the Property shall be used for business or commercial purposes. No occupant of property within the Property shall park, nor permit to be parked, any commercial vehicle such as log trucks, dump trucks, tractor trailer rigs, or any other vehicles except passenger automobiles (including pickups) upon property, including streets, in the Property. No owner or occupant shall permit, initiate, or carry on activities in the Property that are obnoxious or offensive, nor allow conditions on any Lot to become a nuisance or annoyance to the neighborhood. No commercial signs shall be erected on the property, except real estate sales signs of not more than five (5) square feet advertising property within the Property for sale or rent.

9. Screening. Trash, garbage and other waste shall not be kept except in sanitary containers, screened from public view. No Lot or Tract shall be used as a dumping ground for trash, garbage, waste or debris. All heat pumps and condensers on Lots (or other utilities and devices commonly placed out of doors) shall receive special consideration to provide visual screening and noise attenuation. All boats, trailers, recreational vehicles, equipment, campers and the like must be parked off streets of the Property in a garage or on a concrete pad beside a garage built specifically for the purpose.

10. No Interference. Owners or occupants within the Property shall not engage in nor continue uses which unreasonably interfere with use of other property within the Property. The following activities shall conclusively be deemed to unreasonably interfere with other property in the Property: (1) construction and maintenance of communications transmission and reception towers and antenna; and (2) construction and maintenance of exterior radio and television antennae and other receptors except for satellite dish type antennae not larger than 36 inches in diameter.

11. Completion of Improvements. All structures (including flat work and landscaping) constructed within the Property shall be erected and completed within one year after the commencement of construction. All remodeling, reconstruction, or enhancement of structures shall be completed within one year of the commencement of construction. Commencement of construction shall be deemed to be the date upon which a building permit was first issued for the construction, or, if no building permit was obtained, the date on which Lot clearing, demolition or remodeling commenced.

12. No Further Subdivision. No Lot may be subdivided or partitioned into divisions of any nature without City approval.

13. Mandatory Mediation Prior to Litigation. All Lot owners agree that all claims, controversies or disputes, whether they be statutory, contract and/or tort claims between or among the parties hereto which arise out of or are related to this Agreement, or which relate to the formation, interpretation, breach or invalidity of this Agreement, whether arising before, during or after termination (hereinafter collectively referred to as "Claims"), shall be resolved in accordance with the mediation and litigation procedures specified herein.

13.1 Mediation. All "Claims" defined in the foregoing paragraph shall be submitted to mediation. The parties shall agree to a mediator. If the parties cannot agree as to the selection of a mediator, then either party may request appointment of a mediator from the American Arbitration Association or the Arbitration Service of Portland, Inc., whichever organization is selected by the party which first initiates mediation by filing a claim in accordance with the filing rules of the organization selected. The parties shall share equally the cost of the mediation process.

13.2 Litigation and Attorney's Fees. Any "Claims" that have not been resolved by mediation may be the subject of litigation in which the parties shall have all rights and remedies available at law and in equity, and the prevailing party in such litigation shall be entitled to an award of attorneys' fees and costs of action at trial and on appeal and review.

13.3 Judgment. Judgment upon the award rendered pursuant to such arbitration may be entered in any court having jurisdiction thereof. The parties shall share equally the fees and costs charged by the arbitration entity. The parties knowingly and voluntarily waive their rights to have their dispute tried and adjudicated by a judge or jury. In the event a party fails to proceed with arbitration, unsuccessfully challenges the arbitrator's award, or fails to comply with the arbitrator's award, the other party is entitled to costs, including reasonable attorney's fees, for having to compel arbitration or defend or enforce the award.

13.4 Venue. The venue for any litigation to interpret or enforce the provisions hereof shall be Oregon City, Oregon. The parties expressly consent to the jurisdiction of such court.

14. Section and Paragraph Captions. Section and paragraph captions shall not be deemed to be a part of this Declaration unless the context otherwise requires. In construing this Declaration, if the context so requires, the singular shall be taken to mean and to include the plural, the masculine shall be taken to mean and to include the feminine and the neuter and, generally, all grammatical changes shall be made, assumed and implied to make the provisions hereof apply equally to individuals, trusts, estates, personal representative, trustees and corporations.

The undersigned Owner of the subject property has caused this Declaration to be executed this

_____ day of _____, 2017.

DECLARANT:

_____

Exhibit J: Transportation Analysis Letter

Technical Memorandum

LANCASTER
ENGINEERING

321 SW 4th Ave., Suite 400
Portland, OR 97204
phone: 503.248.0313
fax: 503.248.9251
lancasterengineering.com

To: Oregon Builders and Restoration

From: Jessica Hijar
Todd Mobley, PE

Date: December 8, 2017

Subject: Dotson Farms Subdivision Traffic Analysis Letter

This memorandum describes our findings related to the proposed annexation, zone change, and 12-lot residential subdivision located on the southwest side of S Leland Road in Oregon City, Oregon. In accordance with Oregon City's "Guidelines for Transportation Impact Analyses" and based on the scale of the proposed development, a full traffic impact analysis is not required; however, a Transportation Analysis Letter (TAL) is needed. This letter is provided to address the TAL requirements.

Project & Location Description

A ±2.98-acre property located on Leland Road is proposed for annexation into Oregon City, Oregon. Upon annexation, the property will be rezoned from the R-10 designation to R-6 for the purpose of developing a residential subdivision, in conformance with the City's Comprehensive Plan.

Leland Road is classified by Oregon City as a Minor Arterial roadway. It has a two-lane cross-section with one travel lane in each direction and has a posted speed limit of 35 mph. Sidewalks, bicycle lanes, and on-street parking are intermittently provided along the roadway. There is a corner advisory speed of 10 mph for the corner on S Leland Road approximately 470 feet northwest of the proposed site access location.

An aerial view of the project vicinity is shown on the following page, with the subject property outlined in blue.

RENEWS: 12/31/2018

Figure 1 - Vicinity Map

Trip Generation Analysis

A trip generation analysis was prepared for both the proposed zone change and the subsequent proposed development. The trip generation numbers for these two analyses differ, since the analysis for the zone change focuses on the net change in potential site trips between the "reasonable worst-case development scenarios" for the R-6 and R-10 zonings, while the analysis for the proposed development considers the actual number of homes planned for construction on the property.

For all scenarios, trip rates from the manual *TRIP GENERATION*, *Ninth Edition*, published by the Institute of Transportation Engineers (ITE), were used. The trip rates used were those given for land-use category 210, *Single-Family Detached Housing* based on the number of dwelling units.

Trip Generation - Zone Change Analysis

Since a change in zoning is proposed for the site, a trip comparison was prepared to assess the reasonable-worst-case development potentials under both the default R-10 zoning that will apply automatically upon annexation of the property into the City of Oregon City and the currently-proposed R-6 zoning. Calculations

were made under the conservative assumption that 80% of the gross site area can be used for development of subdivision lots. Under the R-10 zoning, a total of 10 single family dwelling units can be constructed. Under the proposed R-6 zoning, a total of 16 single family dwelling units can be constructed, resulting in a net increase of 6 homes. A summary of the trip generation under each zone is shown in the following table.

Table 1 - Trip Generation Comparison: Worst-Case Development

		Morning Peak Hour			Evening Peak Hour		
Land Use Code - Type	**Size**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
#210 - Single-Family Detached Housing							
R-6 Zoning Potential	16 units	3	9	12	10	6	16
R-10 Zoning Potential	10 units	2	6	8	6	4	10
Net Increase in Site Trips		1	3	4	4	2	6

Trip Generation - Actual Development Scenario

Trip generation for the 12 future single-family homes is summarized in Table 2. The trip generation calculations show that the proposed 12-lot subdivision is projected to generate 9 trips during the morning peak hour with 2 trips entering and 7 trips exiting the site. During the evening peak hour, the site is projected to generate 12 trips with 8 entering and 4 exiting the site.

Table 2 - Trip Generation Summary

		Morning Peak Hour			Evening Peak Hour		
Land Use Code - Type	**Size**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
#210, Single-Family Detached Housing	12 units	2	7	9	8	4	12

Since both the zone change and the subsequent proposed development generate fewer than 24 peak-hour trips during the morning and evening peak hours, preparation of a full Transportation Impact Analysis (TIS) is not required. This memorandum therefore addresses the requirements of a Transportation Analysis Letter (TAL), as described in Oregon City's "Guidelines for Transportation Impact Analyses". Detailed trip generation calculations for each of the analyzed scenarios are included in the appendix to this report.

Driveway Width Standards

According to Oregon City's municipal code, driveway widths for single or two-family dwellings vary based on garage/parking capacity. All driveways within the proposed subdivision must comply with the minimum and maximum driveway widths provided in the following table.

Property Use	Minimum Driveway Width at sidewalk or property line	Maximum Driveway Width at sidewalk or property line
Single or two-family dwelling with one car garage/parking space	10 feet	12 feet
Single or two-family dwelling with two car garage/parking space	12 feet	24 feet
Single or two-family dwelling with three or more car garage/parking space	18 feet	30 feet

Access Spacing Standards

Oregon City requires a minimum block size (as measured from street to street) along Minor Arterial roadways of 150 feet. The maximum block size is 530 feet. The street layout will meet these spacing standards as measured between Dotson Way and Miller Road, the future local street that will serve the adjacent "Lindsey Anne Estates Too" subdivision immediately southeast of the subject property.

In addition to the block length standards, Oregon City's Minimum Driveway Spacing Standards state that for Minor Arterials a minimum distance of 175 feet is required between all proposed driveways and the nearest street corner, as measured from the near-side right-of-way at the intersecting street to the near side of the driveway. Further, the minimum spacing between a street corner and a driveway along local streets within the proposed subdivision is 25 feet. The subdivision plan does not explicitly indicate the locations of driveways; however, it is acknowledged that these spacing standards must be met.

Intersection Sight Distance

Intersection sight distance was measured and evaluated in accordance with the standards established in *A Policy on Geometric Design of Highways and Streets*, published in 2011 by the American Association of State Highways and Transportation Officials (AASHTO). According to AASHTO the driver's eye is assumed to be 14.5 feet from the near edge of the nearest lane of the intersecting street and at a height of 3.5 feet above the approach street pavement. The measurement is made to an oncoming driver's eye height of 3.5 feet above the surface of the oncoming travel lane.

According to AASHTO, intersection sight distance is an operational measure, intended to provide sufficient line of sight along the major street so that a driver can turn from the minor street without impeding traffic flow. Conversely, stopping sight distance is considered the minimum requirement to ensure safe operation of an intersection. Stopping sight distance is the distance that allows an oncoming driver to see a hazard in the roadway, react, and come to as complete stop as necessary to avoid a collision. As long as the available intersection sight distance (measured as previously described) is at least equal to the minimum required stopping sight distance for the design speed of the roadway, adequate sight distance is available for safe operation of the intersection.

Intersection sight distance at the proposed site access roadway (Dotson Way) was measured to be 610 feet to the south and 307 feet to the north along S Leland Road. Sight distance to the north is restricted by a vertical crest curve. Based on the posted speed limit of 35 mph and the measured 2.4 percent downhill grade of the roadway, the required stopping sight distance for vehicles approaching from the north was calculated to be 240 feet. It should be noted that vehicles approaching from the north must negotiate a 90-degree turn on S Leland Road approximately 475 feet northwest of the proposed access roadway. The turn has a posted advisory speed of 10 mph, but may accommodate vehicles traveling at speeds of up to 20 mph. Given the acceleration distance of 163 feet from the corner to the limits of sight distance it is anticipated that an 85th percentile approach speed of up to 35 mph may be achievable at the limits of sight distance. The measured intersection sight distance to the north can safely accommodate vehicles approaching at speeds of up to 39 mph. Accordingly, sufficient sight distance is available for safe operation of the proposed site access intersection.

Safety

There were no crashes reported during the most recent five years for which data is available from the Oregon Department of Transportation's Crash Analysis and Reporting Unit (January 2011 through December 2015) at the intersections of S Leland Road at S McCord Road and S Leland Road at S Jessie Avenue. Accordingly, no existing crash hazards were identified in the site vicinity.

Based on the review of the existing infrastructure surrounding the site, roadway geometry and speeds, and the existing traffic on Leland Road, no other potential safety concerns were identified in association with the proposed development.

Compliance with TSP and Applicable Standards

Oregon City TSP

The Oregon City Transportation System Plan states that household growth is expected to be highest towards the southwest end of the City, specifically along S Leland Road. Sidewalks and bicycle lanes are planned along S Leland Road.

Transportation Planning Rule

The Transportation Planning Rule (TPR) is in place to ensure that the transportation system is capable of supporting possible increases in traffic intensity that could result from changes to adopted plans and land-use regulations. Because the proposed project includes a change in zoning, the TPR must be addressed. The applicable elements of the TPR are each quoted directly in *italics* below, with a response directly following.

Oregon Administrative Rule 660-12-0600

(1) If an amendment to a functional plan, an acknowledge comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of the rule, unless the amendment is allowed under section (3), (9), or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:

(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan;

(b) Change standards implementing a functional classification system; or

(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.

(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or

(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet performance standards identified in the TSP or comprehensive plan.

In the case of this report, subsections (a) and (b) are not triggered, since the zone change will not impact or alter the functional classification of any existing or planned facility and the project does not include a change to any functional classification standards. Subsection (c) is also not triggered since the net increase in trips resulting from the proposed zone change is six or fewer added trips during the peak hours. The proposed zone change will therefore have a de minimis impact on operation of area transportation facilities, and the performance of existing and planned transportation facilities will not be degraded. The TPR is satisfied since the zone change will not significantly affect the transportation system.

Conclusions

Based on the trip generation calculations, the zone change from R-10 to R-6 could result in a net increase of up to six homes within the subject property. The zone change could result in up to four additional site trips during the morning peak hour, with one entering and three exiting the site, and up to six additional site trips during the evening peak hour, with four entering and two exiting the site. These traffic increases fall well below the threshold at which detailed operational analysis is required to assess site impacts. The addition of these trips would be expected to have a de minimis impact on operation of area intersections.

The actual proposed subdivision will consist of 12 lots, which are projected to result in 9 new trips during the morning peak hour and 12 new trips during the evening peak hour. Accordingly, the subdivision also falls below the thresholds at which Oregon City requires a detailed operational analysis of site impacts.

Driveway widths within the proposed subdivision will follow the requirements outlined in the Oregon City Municipal Code Section 12.04.025.

The local street alignment within Dotson Farms will meet Oregon City's block length standards. Future driveways serving lots within the subdivision must be spaced a minimum of 25 feet between the driveway and the nearest street corner. Any future driveways along S Leland Road must be spaced a minimum of 175 feet from public streets and other driveways.

Intersection sight distance was measured along S Leland Road at the proposed access roadway (Dotson Way). Based on the measured sight distance and roadway speeds, adequate sight distance is available for safe operation of the proposed site access intersection. No sight distance mitigations are recommended in conjunction with the project.

Based on the analysis, the Transportation Planning Rule is satisfied, and the annexation, zone change, and 12-lot subdivision will not significantly affect the surrounding transportation system.

Appendix

TRIP GENERATION CALCULATIONS

Land Use: Single-Family Detached Housing
Land Use Code: 210
Variable: Dwelling Units
Variable Value: 12

AM PEAK HOUR

Trip Rate: 0.75

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**2**	**7**	**9**

PM PEAK HOUR

Trip Rate: 1.00

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**8**	**4**	**12**

WEEKDAY

Trip Rate: 9.52

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**57**	**57**	**114**

SATURDAY

Trip Rate: 9.91

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**59**	**59**	**118**

Source: TRIP GENERATION, Ninth Edition

Exhibit K: Geotechnical Engineering Report

Real-World Geotechnical Solutions
Investigation • Design • Construction Support

December 14, 2017
Project No. 17-4724

Rick Dotson
Oregon Builders and Restoration
19695 S. Leland Road
Oregon City, OR 97045

CC: Chris Goodell, AKS Engineering & Forestry via email: chrisg@aks-eng.com

SUBJECT: GEOTECHNICAL ENGINEERING REPORT
DOTSON FARMS SUBDIVISION
T3S R2E SECTION 7 TAX LOT 00199
OREGON CITY, OREGON

This report presents the results of a geotechnical exploration conducted by GeoPacific Engineering, Inc. (GeoPacific) for the above-referenced project. The purpose of our work was to evaluate subsurface conditions at the site and provide recommendations for site development. This geotechnical exploration was performed in accordance with GeoPacific Proposal No. P-6214 dated September 7, 2017 and your subsequent authorization of our proposal and *General Conditions for Geotechnical Services*.

SITE AND PROJECT DESCRIPTION

The subject site is a flag shaped parcel located on the south side of South Leland Road in Oregon City, Clackamas County, Oregon (Figures 1 & 2). The property is approximately ± 2.9 acres in size and topography is gently sloping to the southwest at grades of 5 percent or less. Vegetation consists primarily of short grasses and sparse trees. The property is currently unimproved with the exception of a driveway. A 125 foot wide electric transmission line easement bisects the property.

It is our understanding that the proposed development will consist of ±12 lot subdivision for single family homes, new streets, stormwater facility, and associated underground utilities. The grading indicates maximum cuts and fills will be on the order of 4 feet or less.

REGIONAL GEOLOGIC SETTING

Regionally, the subject site lies within the Willamette Valley/Puget Sound lowland, a broad structural depression situated between the Coast Range on the west and the Cascade Range on the east. A series of discontinuous faults subdivide the Willamette Valley into a mosaic of fault-bounded, structural blocks (Yeats et al., 1996). Uplifted structural blocks form bedrock highlands, while down-warped structural blocks form sedimentary basins.

The subject site lies on a broad volcanic plateau underlain by the Boring Lava Formation which formed during a period of Plio-Pleistocene (5 to 0.2 million years ago) volcanism and faulting (Schlicker and Finlayson, 1979). The Boring Lava consists mainly of basaltic lava flows, but locally contains tuff breccia, ash, tuff, cinders, and scoriaceous volcanic debris flows deposited on the flanks of volcanic cones. The flows are commonly light gray to nearly black, with lighter tones predominating, and are characterized by columnar jointing and flow structures. The upper surface of the Boring Lava is typically weathered to depths of 25 feet or more with the upper 5 to 15 feet consisting of red-brown, clayey silt to silty clay soil.

Underlying the Boring Lava is the late Miocene to late Pliocene age (6 to 1.6 million years old) Troutdale Formation (Schlicker and Finlayson, 1979; Madin, 2009). In the site vicinity, the Troutdale Formation consists primarily of massive mudstone, claystone, and siltstone with minor sandstone and water-laid tuff. Ripples, channels and cross bedding structures are common, indicating a fluvial origin of deposition. Locally, the Troutdale Formation may contain organic material including wood and logs.

REGIONAL SEISMIC SETTING

At least four potential source zones capable of generating damaging earthquakes are thought to exist in the region. These include the Grant Butte and Damascus-Tickle Creek Fault Zones, Portland Hills Fault Zone, Gales Creek-Newberg-Mt. Angel Structural Zone, and the Cascadia Subduction Zone, as discussed below.

Portland Hills Fault Zone

The Portland Hills Fault Zone is a series of NW-trending faults that include the central Portland Hills Fault, the western Oatfield Fault, and the eastern East Bank Fault. These faults occur in a northwest-trending zone that varies in width between 3.5 and 5.0 miles. The combined three faults vertically displace the Columbia River Basalt by 1,130 feet and appear to control thickness changes in late Pleistocene (approx. 780,000 years) sediment (Madin, 1990). The Portland Hills Fault occurs along the Willamette River at the base of the Portland Hills, and is about 4.9 miles northeast of the site. The Oatfield Fault occurs along the western side of the Portland Hills, and is about 4.4 miles northeast of the site. The accuracy of the fault mapping is stated to be within 500 meters (Wong, et al., 2000). No historical seismicity is correlated with the mapped portion of the Portland Hills Fault Zone, but in 1991 a M3.5 earthquake occurred on a NW-trending shear plane located 1.3 miles east of the fault (Yelin, 1992). Although there is no definitive evidence of recent activity, the Portland Hills Fault Zone is assumed to be potentially active (Geomatrix Consultants, 1995).

Grant Butte and Damascus-Tickle Creek Fault Zones

The Grant Butte fault zone was mapped along the north side of Mt. Scott and Powell Butte by Madin (1990). It was also extended eastward to Grant Butte on the basis of mapping by CH2M Hill and others (1991) and informally named the Grant Butte fault (Cornforth and Geomatrix, 1992). The Damascus-Tickle Creek fault zone displaces Pliocene and possibly Pleistocene sediments in the vicinity of Boring, Oregon (Madin,1992; Lite, 1992). Relatively short faults define a 17-km-long fault zone that is apparently linked to the Grant Butte fault on the basis of stratigraphic relationships showing middle and late Pleistocene activity. Geomatrix (1995) assigns a probability of 0.5 for activity on structures within these fault zones. The nearest portion of the Grant Butte and Damascus-Tickle Creek fault is mapped 5.8 miles northeast of the subject site.

Gales Creek-Newberg-Mt. Angel Structural Zone

The Gales Creek-Newberg-Mt. Angel Structural Zone is a 50-mile-long zone of discontinuous, NW-trending faults that lies approximately 16.1 miles southwest of the subject site. These faults are recognized in the subsurface by vertical separation of the Columbia River Basalt and offset seismic reflectors in the overlying basin sediment (Yeats et al., 1996; Werner et al., 1992). A recent geologic reconnaissance and photogeologic analysis study conducted for the Scoggins Dam site in the Tualatin Basin revealed no evidence of deformed geomorphic surfaces along the structural zone (Unruh et al., 1994). No seismicity has been recorded on the Gales Creek or Newberg Faults (the faults closest to the subject site); however, these faults are considered to be potentially active because they may connect with the seismically active Mount Angel Fault and the rupture plane of the 1993 M5.6 Scotts Mills earthquake (Werner et al. 1992; Geomatrix Consultants, 1995).

Cascadia Subduction Zone

The Cascadia Subduction Zone is a 680-mile-long zone of active tectonic convergence where oceanic crust of the Juan de Fuca Plate is subducting beneath the North American continent at a rate of 4 cm per year (Goldfinger et al., 1996). A growing body of geologic evidence suggests that prehistoric subduction zone earthquakes have occurred (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). This evidence includes: (1) buried tidal marshes recording episodic, sudden subsidence along the coast of northern California, Oregon, and Washington, (2) burial of subsided tidal marshes by tsunami wave deposits, (3) paleoliquefaction features, and (4) geodetic uplift patterns on the Oregon coast. Radiocarbon dates on buried tidal marshes indicate a recurrence interval for major subduction zone earthquakes of 250 to 650 years with the last event occurring 300 years ago (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). The inferred seismogenic portion of the plate interface lies roughly along the Oregon Coast at depths of 20 and 40 kilometers below the ocean surface.

FIELD EXPLORATION

Our site-specific exploration for this report was conducted on October 17, 2017. Four exploratory test pits were excavated with a medium sized trackhoe to depths ranging between 7.5 and 12.5 feet at the approximate locations shown on Figure 2. It should be noted that exploration locations were located in the field by pacing or taping distances from apparent property corners and other site features shown on the plans provided. As such, the locations of the explorations should be considered approximate.

A GeoPacific geologist continuously monitored the field exploration program and logged the explorations. Soils observed in the explorations were classified in general accordance with the Unified Soil Classification System (USCS). Rock hardness was classified in accordance with Table 1, modified from the ODOT Rock Hardness Classification Chart. During exploration, our geologist also noted geotechnical conditions such as soil consistency, moisture and groundwater conditions. Logs of the test pits are attached to this report. The following report sections are based on the exploration program and summarize subsurface conditions encountered at the site.

Table 1. Rock Hardness Classification Chart

ODOT Rock Hardness Rating	Field Criteria	Unconfined Compressive Strength	Typical Equipment Needed For Excavation
Extremely Soft (R0)	Indented by thumbnail	<100 psi	Small excavator
Very Soft (R1)	Scratched by thumbnail, crumbled by rock hammer	100-1,000 psi	Small excavator
Soft (R2)	Not scratched by thumbnail, indented by rock hammer	1,000-4,000 psi	Medium excavator (slow digging with small excavator)
Medium Hard (R3)	Scratched or fractured by rock hammer	4,000-8,000 psi	Medium to large excavator (slow to very slow digging), typically requires chipping with hydraulic hammer or mass excavation)
Hard (R4)	Scratched or fractured w/ difficulty	8,000-16,000 psi	Slow chipping with hydraulic hammer and/or blasting
Very Hard (R5)	Not scratched or fractured after many blows, hammer rebounds	>16,000 psi	Blasting

SUBSURFACE CONDITIONS

Results of the field exploration program indicate the site is underlain by a topsoil horizon, residual soil, and weathered rock belonging to the Boring Lava Formation. The observed soil and groundwater conditions are summarized below.

Topsoil – The ground surface in test pits TP-1 through TP-4 was directly underlain by a moderately to highly organic topsoil horizon. The topsoil horizon was composed of brown silt (OL-ML) that contained fine roots throughout. The topsoil generally extended to a depth of 9 to 12 inches below the ground surface.

Residual Soil of Boring Lava Formation – Underlying the topsoil horizon in test pits TP-1 through TP-4 was clayey silt (ML) to silty clay (CL) residual soil resulting from in-place weathering of the underlying Boring Lava Formation. The light reddish brown silty clay to clayey silt contained weathered basalt fragments and was generally characterized by a stiff to very stiff consistency. In test pits TP-1 through TP-3, the residual soil extended to a depth of 5 to 10 feet below the ground surface. Practical refusal with a medium sized trackhoe was achieved on medium hard boulders within the residual soil at a depth of 7.5 feet in test pit TP-4.

Boring Lava Formation – Highly weathered basalt belonging to the Boring Lava Formation was encountered beneath the residual soil in test pits TP-1 through TP-3. The basalt was weathered to extremely soft (R0) and contained trace silty clay to clayey silt matrix. In test pits TP-1 through TP3, the extremely soft (R0) basalt extended beyond the maximum depth of exploration (12 to 12.5 feet).

Groundwater

On October 17, 2017, soils encountered in explorations were damp to moist. Neither static groundwater nor perched groundwater seepage was encountered in test pits excavated to a maximum depth of 12.5 feet. Regional groundwater mapping by Snyder (2008) indicates groundwater levels are approximately 20 feet below the existing ground surface. Experience has shown that temporary perched storm-related groundwater conditions often occur within the surface soils 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 1979 Geology and Geologic Hazards Study by Schlicker and Finlayson identifies the area as having wet soils and/or a high water table; this is the study that primarily helped modify Oregon City's development code to require that groundwater concerns be addressed. This regionally mapped wet soils condition is predominantly created by storm runoff during the wet season due to the impermeable clay soils derived from the Boring Lava Formation and slow draining topography of the Oregon City plain. Such shallow, perched groundwater is a lesser geotechnical issue than seeps or springs created from groundwater emanating from below due to geologic structural control of groundwater flow. The effects of shallow perched groundwater are most pronounced in low-lying areas which are currently mapped as wetlands and stay wet for longer periods, perhaps year round. At the time of the 1979 report, areas of severe concern such as low-lying wetlands and drainages could still be developed. This report served as a warning for those attempting to develop in low-lying areas that localized development sites may have more severe problems than the average site in the region and that specific types of constructed systems may experience water related difficulties. The report specifically addresses concerns relating to hydrostatic pressures on basement walls, underground storage tanks, and poor performance of septic systems. We do not believe that any of these constructed systems are currently proposed at the South Leland Road Subdivision.

INFILTRATION TESTING

Soil infiltration testing was performed using the open hole infiltration method in test pits TP-1 through TP-4 at depths of 6 and 10 feet, as indicated on Table 2. The soil was pre-saturated for a period of over 3 hours. The water level was measured to the nearest tenth of an inch every half hour with reference to the ground surface. Table 2 presents the results of our falling head infiltration testing and does not incorporate a factor of safety.

Table 2. Summary of Infiltration Test Results

Test Pit	Depth (feet)	Soil Type	Infiltration Rate (in/hr)	Hydraulic Head Range (inches)
TP-1	10	Highly Weathered Basalt	0	12.13
TP-2	6	Highly Weathered Basalt	0.24	13-15
TP-3	6	Highly Weathered Basalt	0.3	11-15
TP-4	6	Residual Soil – Silty Clay (CL) to Clayey Silt (ML)	0.25	8-14

ORGANIC CONTENT OF TOPSOIL

Three samples of the topsoil horizon encountered in test pits were tested to determine organic content. Samples were taken at depths of 6 to 9 inches below the ground surface. Organic content and topsoil depths at the test locations indicated are summarized in Table 3. The results of laboratory testing are attached at the end of this report.

Table 3. Summary of Organic Content Test Results

Exploration Designation	Topsoil Thickness (Inches)	Sample Depth (Inches)	Soil Type	Organic Content (%)	Moisture Content (%)
TP-1	12	6-9	Moderately Organic Silt (OL-ML)	6.7	24.5
TP-2	10	6-9	Moderately Organic Silt (OL-ML)	7.8	24.9
TP-4	9	6-9	Highly Organic Silt (OL-ML)	10.2	25.2

CONCLUSIONS AND RECOMMENDATIONS

Our investigation indicates 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. In our opinion, the greatest geotechnical constraint for this project is the potential for encountering hard rock boulders and low permeability soils.

The Boring Lava Formation, which underlies the site, is known for hard, rounded basalt boulders which could hamper excavations (such as for utility trenching). The rock encountered in test pits TP-1 through TP-3 was highly weathered and excavatable to depths of 12 to 12.5 feet. In test pit TP-4, practical refusal was achieved at a depth of 7.5 feet with a medium sized trackhoe on medium hard (R3) boulders up to 24 inches diameter within the residual soil. Large, hard boulders should be expected throughout the site that could make deep excavations difficult. Contractors should be prepared to manage difficult excavation conditions and budget accordingly.

Topsoil sampling and testing indicates the topsoil horizon varies in depth from 9 to 12 inches. Organic content of the topsoil, from a depth of 6 to 9 inches, ranges from 6.7 to 10.2 percent, with an average of 8.2 percent. Our recommendations are to strip the moderately to highly organic upper 9 inches of soil and mix low organic, native silt to clay soils with moderately organic topsoil (from a depth of 9 inches and below) at a ratio of 3:1 to yield a soil mixture with an overall organic content of less than 4 percent.

Stormwater Disposal

The results of our infiltration testing indicate that soils have a limited infiltration capacity at depths of 6 and 10 feet below the ground surface in clayey silt to silty clay residual soils and weathered basalt, as shown on Table 2. Infiltration test methods and procedures attempt to simulate the as-built conditions of the planned subsurface 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. This report presents infiltration test results only, and should not be construed as an approval of a system design.

Site Preparation

Areas of proposed buildings, new streets, and areas to receive fill should be cleared of vegetation and any organic and inorganic debris. Existing buried structures (tile drains, basements, driveway and landscaping fill, old utility lines, septic leach fields, etc.) should be demolished and any cavities structurally backfilled. Inorganic debris and organic materials from clearing should be removed from the site. Existing fill and any organic-rich topsoil should then be stripped from construction areas of the site or where engineered fill is to be placed. Fill was not encountered in our explorations; however, areas of fill may be present elsewhere at the site.

The upper approximately 9 inches of moderately to highly organic topsoil should then be stripped from native soil areas of the site and may not be used in engineered fill. Deeper removals may be necessary in other areas of the site. The final depth of soil removal will be determined on the basis of a site inspection after the stripping/excavation has been performed. Remaining topsoil should be stockpiled only in designated areas and may be redistributed across the lot upon conclusion of grading.

Once the moderately to highly organic upper 9 inches of soil is removed, low organic, native clayey silt to silty clay may be mixed with the remaining moderately organic topsoil (from a depth of 9 inches and below) at a ratio of 3:1 to yield a soil mixture with an overall organic content of less than 4 percent.

Once stripping of a particular area is approved, the area must be ripped or tilled to a depth of 12 inches, moisture conditioned, root-picked, and compacted in-place prior to the placement of engineered fill or crushed aggregate base for pavement. Exposed subgrade soils should be evaluated by the geotechnical engineer. 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, over-excavated and replaced with engineered fill (as described below), or stabilized with rock prior to placement of engineered fill. The depth of overexcavation, if required, should be evaluated by the geotechnical engineer at the time of construction.

Excavating Conditions and Utility Trenches

We anticipate that on-site soils can be excavated using conventional heavy equipment such as scrapers and trackhoes. Highly weathered basalt bedrock was encountered in test pits TP-1 through TP-3 below depths of 5 to 10 feet. In test pit TP-4, practical refusal on medium hard (R3) basalt boulders up to 24 inches diameter within the residual soil was achieved at a depth of 7.5 feet. Our test pit explorations indicate the basalt bedrock is moderately weathered and excavation depths of 12.5 feet should be obtainable with conventional heavy equipment; however, large, hard boulders can commonly be encountered during construction activities. Excavations may encounter harder rock and boulders. The selected contractor for site development should be prepared for encountering boulders and hard rock.

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. 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.

Saturated soils and groundwater may be encountered in utility trenches, particularly during the wet season. We anticipate that dewatering systems consisting of ditches, sumps and pumps would be adequate for control of perched groundwater. 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.

PVC pipe should be installed in accordance with the procedures specified in ASTM D2321. We recommend that trench backfill be compacted to at least 95% of the maximum dry density obtained by Modified Proctor ASTM D1557 or equivalent. Initial backfill lift thickness 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.

Engineered Fill

All grading for the proposed development should be performed as engineered grading in accordance with the applicable building code at time of construction with the exceptions and additions noted herein. Proper test frequency and earthwork documentation usually requires daily observation and testing during stripping, rough grading, and placement of engineered fill. 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 95% of the maximum dry density determined by ASTM D698 (Standard Proctor) or equivalent. Field density testing should conform to ASTM D2922 and D3017, or D1556. All engineered fill should be observed and tested by the project geotechnical engineer or his representative. Rocky fill may need to be evaluated by proofrolling and should be placed wet of optimum moisture content. Typically, one density test is performed for at least every 2 vertical feet of fill placed or every 500 yd^3, whichever requires more testing. Because testing is performed on an on-call basis, we recommend that the earthwork contractor be held contractually responsible for test scheduling and frequency. Site earthwork will be impacted by soil moisture and shallow groundwater conditions. Earthwork in wet weather would likely require extensive use of cement or lime treatment, or other special measures, at considerable additional cost compared to earthwork performed under dry-weather conditions.

Wet Weather Earthwork

Soils underlying the site are likely to be 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 5 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
- Geotextile silt fences, straw wattles, and fiber rolls should be strategically located to control erosion.

If cement or lime treatment is used to facilitate wet weather construction, GeoPacific should be contacted to provide additional recommendations and field monitoring.

Erosion Control Considerations

During our field exploration program, we did not observe soil types that would be considered highly susceptible to erosion. In our opinion, the primary concern regarding erosion potential will occur during construction, in areas that have been stripped of vegetation. Erosion at the site during construction can be minimized by implementing the project erosion control plan, which should include judicious use of straw bales and silt fences. If used, these erosion control devices should be in place and remain in place throughout site preparation and construction.

Erosion and sedimentation of exposed soils can also be minimized by quickly re-vegetating exposed areas of soil, and by staging construction such that large areas of the project site are not denuded and exposed at the same time. Areas of exposed soil requiring immediate and/or temporary protection against exposure should be covered with either mulch or erosion control netting/blankets. Areas of exposed soil requiring permanent stabilization should be seeded with an approved grass seed mixture, or hydroseeded with an approved seed-mulch-fertilizer mixture.

Pavement Design

For design purposes, we used an estimated resilient modulus of 9,000 for compacted native soil. Table 4 presents our recommended minimum pavement section for dry weather construction.

Table 4. Recommended Minimum Dry-Weather Pavement Section

Material Layer	Light-duty Public Streets	Compaction Standard
Asphaltic Concrete (AC)	3 in.	92% of Rice Density AASHTO T-209
Crushed Aggregate Base ¾"-0 (leveling course)	2 in.	95% of Modified Proctor AASHTO T-180
Crushed Aggregate Base 1½"-0	8 in.	95% of Modified Proctor AASHTO T-180
Subgrade	12 in.	95% of Standard Proctor AASHTO T-99 or equivalent

Any pockets of organic debris or loose fill encountered during ripping or tilling should be removed and replaced with engineered fill (see *Site Preparation* Section). In order to verify subgrade strength, we recommend proof-rolling directly on subgrade with a loaded dump truck during dry weather and on top of base course in wet weather. Soft areas that pump, rut, or weave should be stabilized prior to paving. If pavement areas are to be constructed during wet weather, the subgrade and construction plan should be reviewed by the project geotechnical engineer at the time of construction so that condition specific recommendations can be provided. The moisture sensitive subgrade soils make the site a difficult wet weather construction project.

During placement of pavement section materials, density testing should be performed to verify compliance with project specifications. Generally, one subgrade, one base course, and one asphalt compaction test is performed for every 100 to 200 linear feet of paving.

Spread Foundations

The proposed residential structures may be supported on shallow foundations bearing on competent undisturbed, native soils and/or engineered fill, appropriately designed and constructed as recommended in this report. Foundation design, construction, and setback requirements should conform to the applicable building code at the time of construction. For maximization of bearing strength and protection against frost heave, spread footings should be embedded at a minimum depth of 18 inches below exterior grade. The recommended minimum widths for continuous footings supporting wood-framed walls without masonry are 12 inches for single-story, 15 inches for two-story, and 18 inches for three-story structures. Minimum foundation reinforcement should consist of a No. 4 bar at the top of stem walls, and a No. 4 bar at the bottom of the footings.

The anticipated allowable soil bearing pressure is 1,500 lbs/ft^2 for footings bearing on competent, native soil and/or engineered fill. A maximum chimney and column load of 30 kips is recommended for the site. The recommended maximum allowable bearing pressure may be increased by 1/3 for short-term transient conditions such as wind and seismic loading. For heavier loads, the geotechnical engineer should be consulted. The coefficient of friction between on-site soil and poured-in-place concrete may be taken as 0.42, which includes no factor of safety. The maximum anticipated total and differential footing movements (generally from soil expansion and/or settlement) are 1 inch and ¾ inch over a span of 20 feet, respectively. We anticipate that the majority of the estimated settlement will occur during construction, as loads are applied. Excavations near structural footings should not extend within a 1H:1V plane projected downward from the bottom edge of footings.

Footing excavations should penetrate through topsoil and any loose soil to competent subgrade that is suitable for bearing support. All footing excavations should be trimmed neat, and all loose or softened soil should be removed from the excavation bottom prior to placing reinforcing steel bars. Due to the moisture sensitivity of on-site native soils, foundations constructed during the wet weather season may require overexcavation of footings and backfill with compacted, crushed aggregate.

Our recommendations are for house construction incorporating raised wood floors and conventional spread footing foundations. If living space of the structures will incorporate basements, a geotechnical engineer should be consulted to make additional recommendations for retaining walls, water-proofing, underslab drainage and wall subdrains. After site development, a Final Soil Engineer's Report should either confirm or modify the above recommendations.

Seismic Design

The Oregon Department of Geology and Mineral Industries (Dogami), Oregon HazVu: 2017 Statewide GeoHazards Viewer indicates that the site is in an area where *very strong* ground shaking is anticipated during an earthquake (Dogami HazVu, 2017). Structures should be designed to resist earthquake loading in accordance with the methodology described in the 2015 International Building Code (IBC) with applicable Oregon Structural Specialty Code (OSSC) revisions (current 2014). We recommend Site Class D be used for design per the OSSC, Table 1613.5.2 and as defined in ASCE 7, Chapter 20, Table 20.3-1. Design values determined for the

site using the USGS (United States Geological Survey) 2017 Seismic Design Maps Summary Report are summarized in Table 5, and are based upon existing soil conditions.

Table 5. Recommended Earthquake Ground Motion Parameters (2010 ASCE-7)

Parameter	Value
Location (Lat, Long), degrees	45.321, -122.609
Mapped Spectral Acceleration Values (MCE):	
Peak Ground Acceleration PGA_M	0.438
Short Period, S_s	0.911 g
1.0 Sec Period, S_1	0.396 g
Soil Factors for Site Class D:	
F_a	1.136
F_v	1.609
Residential Site Value = 2/3 x F_a x S_s	0.690 g
Residential Seismic Design Category	D

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. According to the Oregon HazVu: Statewide Geohazards Viewer, the subject site is regionally characterized as having a low risk of soil liquefaction (DOGAMI:HazVu, 2017).

Footing and Roof Drains

Construction should include typical measures for controlling subsurface water beneath the homes, including positive crawlspace drainage to an adequate low-point drain exiting the foundation, visqueen covering the expose ground in the crawlspace, and crawlspace ventilation (foundation vents). The homebuyers should be informed and educated that some slow flowing water in the crawlspaces is considered normal and not necessarily detrimental to the home given these other design elements incorporated into its construction. Appropriate design professionals should be consulted regarding crawlspace ventilation, building material selection and mold prevention issues, which are outside GeoPacific's area of expertise.

Down spouts and roof drains should collect roof water in a system separate from the footing drains to reduce the potential for clogging. Roof drain water should be directed to an appropriate discharge point and storm system well away from structural foundations. Grades should be sloped downward and away from buildings to reduce the potential for ponded water near structures.

If the proposed structures will have a raised floor, and no concrete slab-on-grade floors in living spaces are used, perimeter footing drains would not be required based on soil conditions encountered at the site and experience with standard local construction practices. Where it is desired to reduce the potential for moist crawl spaces, footing drains may be installed. If concrete slab-on-grade floors are used, perimeter footing drains should be installed as recommended below.

Where necessary, perimeter footing drains should consist of 3 or 4-inch diameter, perforated plastic pipe embedded in a minimum of 1 ft^3 per lineal foot of clean, free-draining 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. A minimum 0.5 percent fall should be maintained throughout the drain and non-perforated pipe

outlet. In our opinion, footing drains may outlet at the curb, or on the back sides of lots where sufficient fall is not available to allow drainage to meet the street.

UNCERTAINTIES AND LIMITATIONS

We have prepared this report for the owner and their consultants for use in design of this project only. This report should be provided in its entirety to prospective contractors for bidding and estimating purposes; however, the conclusions and interpretations presented in 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, GeoPacific 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. The checklist attached to this report outlines recommended geotechnical observations and testing for the project. 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, GeoPacific 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,

GEOPACIFIC ENGINEERING, INC.

exp 2/1/18

EXPIRES: 06/30/20 19

Beth K. Rapp, C.E.G.
Senior Engineering Geologist

James D. Imbrie, P.E.
Principal Engineer

Attachments: References
Figure 1 – Vicinity Map
Figure 2 – Site Plan and Exploration Locations
Test Pit Logs (TP-1 through TP-4)
Results of Laboratory Testing-Organic Content Testing

REFERENCES

Atwater, B.F., 1992, Geologic evidence for earthquakes during the past 2,000 years along the Copalis River, southern coastal Washington: Journal of Geophysical Research, v. 97, p. 1901-1919.

Carver, G.A., 1992, Late Cenozoic tectonics of coastal northern California: American Association of Petroleum Geologists-SEPM Field Trip Guidebook, May, 1992.

CH2M Hill and Tola, Beeson and Associates, 1991, Phase I geologic studies at Grant Butte Reservoir: Report prepared for the city of Gresham, Oregon.

Cornforth and Geomatrix Consultants, 1992, Seismic hazard evaluation, Bull run dam sites near Sandy, Oregon: unpublished report to City of Portland Bureau of Water Works.

Geomatrix Consultants, 1995, Seismic Design Mapping, State of Oregon: unpublished report prepared for Oregon Department of Transportation, Personal Services Contract 11688, January 1995.

Goldfinger, C., Kulm, L.D., Yeats, R.S., Appelgate, B, MacKay, M.E., and Cochrane, G.R., 1996, Active strike-slip faulting and folding of the Cascadia Subduction-Zone plate boundary and forearc in central and northern Oregon: in Assessing earthquake hazards and reducing risk in the Pacific Northwest, v. 1: U.S. Geological Survey Professional Paper 1560, P. 223-256.

Lite, K.E., Jr., 1992, Deformation in the southeast part of the Portland Basin (abs): Geological Society of America Abstracts with Programs, v. 24, no. 5, p. 64.

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.

Madin, I.P., 1992, Quaternary deformation in the Portland Basin, Damascus Quadrangle (abs): Geological Society of America Abstracts with Programs, v. 24, no. 5, p.67.

Madin, I.P., 2009, Geologic map of the Oregon City 7.5' Quadrangle, Clackamas County, Oregon: Oregon Department of Geology and Mineral Industries GMS-119, scale 1:24,000.

Oregon Department of Geology and Mineral Industries, 2017, Oregon HazVu: Statewide Geohazards Viewer (HazVu): http://www.oregongeology.org/hazvu/

Peterson, C.D., Darioenzo, M.E., Burns, S.F., and Burris, W.K., 1993, Field trip guide to Cascadia paleoseismic evidence along the northern California coast: evidence of subduction zone seismicity in the central Cascadia margin: Oregon Geology, v. 55, p. 99-144.

Schlicker, H.G. and Finlayson, C.T., 1979, Geology and Geologic Hazards of northwestern Clackamas County, Oregon: Oregon Department of Geology and Mineral Industries, Bulletin No. 99, 79 p., scale 1:24,000.

Snyder, D.T., 2008, Estimated Depth to Ground Water and Configuration of the Water Table in the Portland, Oregon Area: U.S. Geological Survey Scientific Investigations Report 2008–5059, 41 p., 3 plates.

United States Geologic Survey, 2017, U.S. Seismic Design Maps Online Tool, http://earthquake.usgs.gov/designmaps/us/application.php

Unruh, J.R., Wong, I.G., Bott, J.D., Silva, W.J., and Lettis, W.R., 1994, Seismotectonic evaluation: Scoggins Dam, Tualatin Project, Northwest Oregon: unpublished report by William Lettis and Associates and Woodward Clyde Federal Services, Oakland, CA, for U. S. Bureau of Reclamation, Denver CO (in Geomatrix Consultants, 1995).

Werner, K.S., Nabelek, J., Yeats, R.S., Malone, S., 1992, The Mount Angel fault: implications of seismic-reflection data and the Woodburn, Oregon, earthquake sequence of August, 1990: Oregon Geology, v. 54, p. 112-117.

Wong, I. Silva, W., Bott, J., Wright, D., Thomas, P., Gregor, N., Li., S., Mabey, M., Sojourner, A., and Wang, Y., 2000, Earthquake Scenario and Probabilistic Ground Shaking Maps for the Portland, Oregon, Metropolitan Area; State of Oregon Department of Geology and Mineral Industries; Interpretative Map Series IMS-16.

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, v. 1: U.S. Geological Survey Professional Paper 1560, P. 183-222, 5 plates, scale 1:100,000.

Yelin, T.S., 1992, An earthquake swarm in the north Portland Hills (Oregon): More speculations on the seismotectonics of the Portland Basin: Geological Society of America, Programs with Abstracts, v. 24, no. 5, p. 92.

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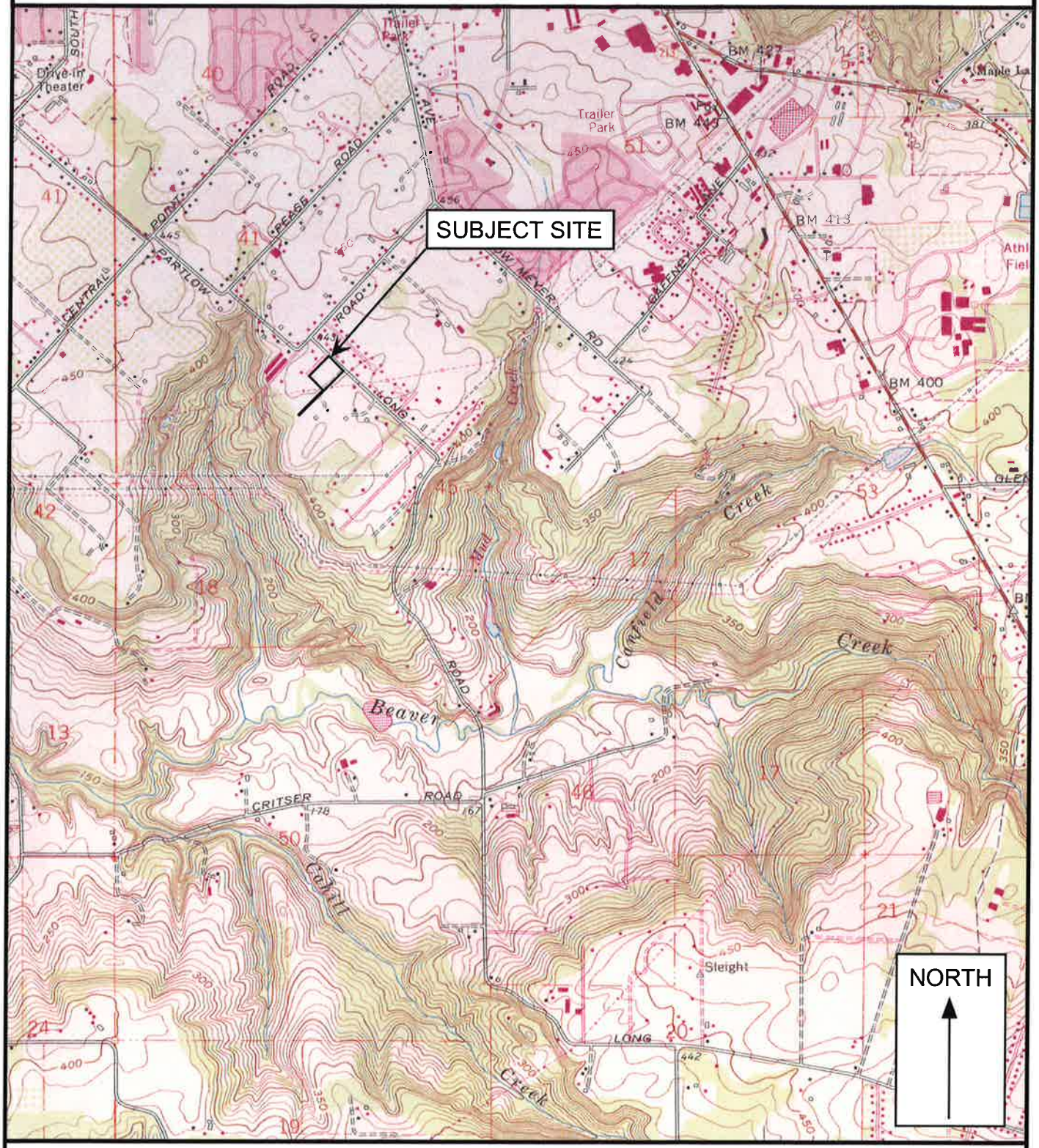
VICINITY MAP



Legend

Approximate Scale 1 in = 2,000 ft

Date: 12/14/2017
Drawn by: EKR

Base map: U.S. Geological Survey 7.5 minute Topographic Map Series, Oregon City, Oregon Quadrangle, 1961 (Photorevised 1985).

Project: Dotson Farms Subdivision Oregon City, Oregon	Project No. 17-4724	FIGURE 1

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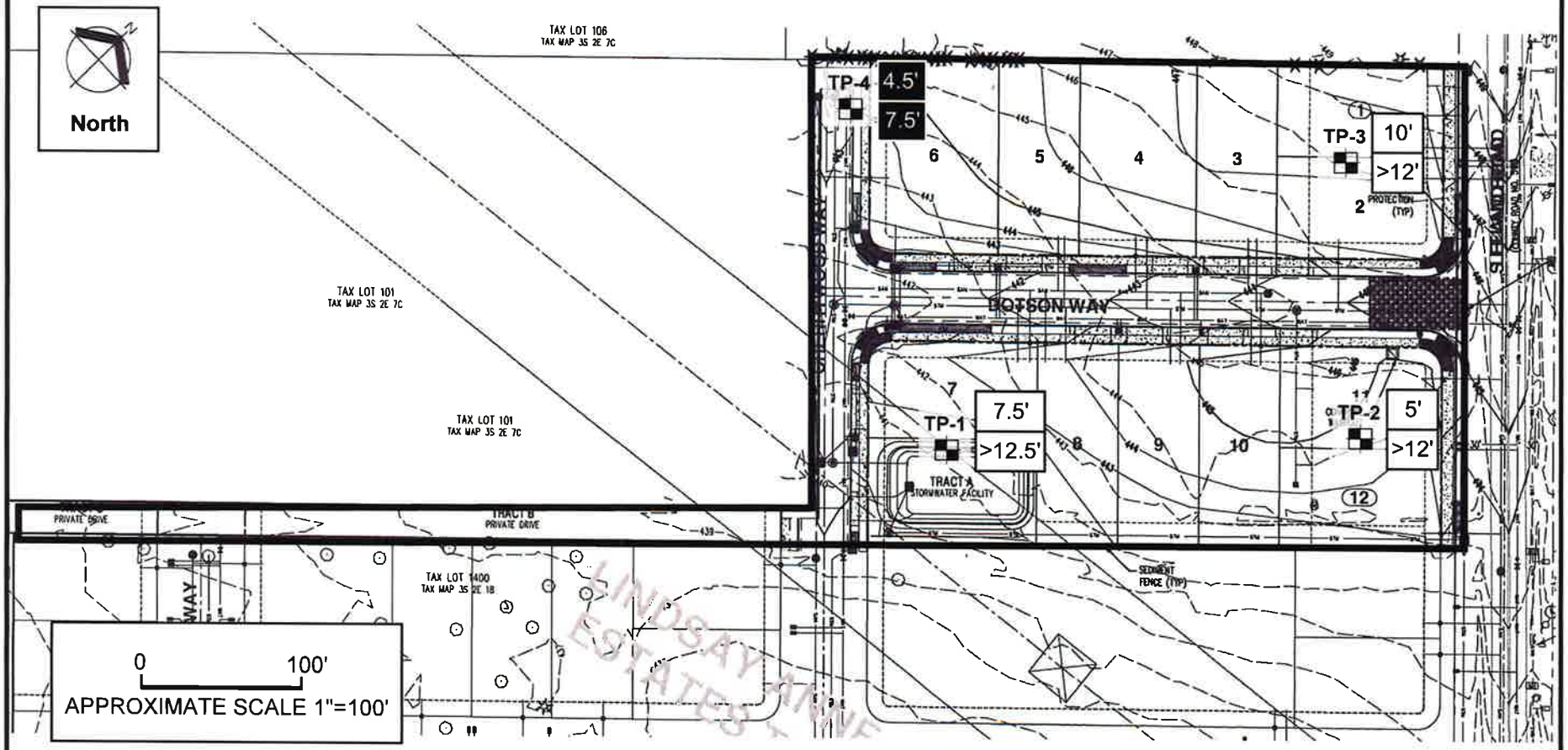
SITE PLAN AND EXPLORATION LOCATIONS



Legend

TP-1 Test Pit Designation and Approximate Location

5'	6' = Depth at Which Rock is First Encountered
12'	12' = Depth of Practical Refusal on Rock
	>12'= Depth is Beyond Maximum Exploration Depth
4.5'	4.5' = Depth at Which Boulders are First Encountered
7.5'	7.5' = Depth of Practical Refusal on Boulders

Date: 12/14/2017
Drawn by: EKR

Project: Dotson Farms Subdivision Oregon City, Oregon	Project No. 17-4724	FIGURE 2

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TEST PIT LOG

Project: Dotson Farms Subdivision
Oregon City, Oregon

Project No. 17-4724

Test Pit No. **TP-1**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	3.0					Moderately organic SILT (OL-ML), dark brown, loose, 5 inch thick root mat, trace fine roots throughout, moist (Topsoil)
2	4.5					Stiff to very stiff, clayey SILT (ML) to silty CLAY (CL), light reddish brown, trace fine roots to 3 feet, trace black staining, moist (Residual Soil)
3	4.5					
4	4.5					
5						
6						
7						
8						Extremely soft (R0), highly weathered BASALT, trace light reddish brown silty clay to clayey silt matrix, grayish brown, trace black staining, trace secondary mineralization, vesicular, moist (Boring Lava Formation)
9						
10						
11						
12						Test Pit Terminated at 12.5 Feet.
						Note: No seepage or groundwater encountered.

LEGEND

Bag Sample

Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 10/17/2017
Logged By: B. Rapp
Surface Elevation:

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Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Dotson Farms Subdivision
Oregon City, Oregon

Project No. 17-4724

Test Pit No. **TP-2**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	2.0					Moderately organic SILT (OL-ML), brown, loose, trace fine roots throughout, damp to moist (Topsoil)
2	4.0					Stiff to very stiff, clayey SILT (ML) to silty CLAY (CL), trace weathered basalt fragments below 3.5 feet, light reddish brown, trace fine roots to 3 feet, trace black staining, damp to moist (Residual Soil)
3	4.5					
4	4.5					
5						
6						Extremely soft (R0), highly weathered BASALT, trace light reddish brown silty clay to clayey silt matrix, grayish brown, trace black staining, trace secondary mineralization, vesicular, moist (Boring Lava Formation)
7						
8						
9						
10						
11						
12						Test Pit Terminated at 12 Feet.
						Note: No seepage or groundwater encountered.

LEGEND

Bag Sample

Bucket Sample


Shelby Tube Sample


Seepage


Water Bearing Zone


Water Level at Abandonment

Date Excavated: 10/17/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Dotson Farms Subdivision
Oregon City, Oregon

Project No. 17-4724

Test Pit No. **TP-3**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	4.0					Moderately organic SILT (OL-ML), brown, loose, trace fine roots throughout, damp to moist (Topsoil)
2	4.5					Stiff to very stiff, clayey SILT (ML) to silty CLAY (CL), light reddish brown, trace fine roots to 4 feet, trace black staining, damp to moist (Residual Soil)
3	4.5					
4	4.5					
5						
6						
7						
8						
9						
10						Extremely soft (R0), highly weathered BASALT, trace light reddish brown silty clay to clayey silt matrix, grayish brown, trace black staining, vesicular, moist (Boring Lava Formation)
11						
12						Test Pit Terminated at 12 Feet.
						Note: No seepage or groundwater encountered.

LEGEND

Bag Sample (100 to 1,000 g) | Bucket Sample (5 Gal. Bucket) | Shelby Tube Sample | Seepage | Water Bearing Zone | Water Level at Abandonment

Date Excavated: 10/17/2017
Logged By: B. Rapp
Surface Elevation:

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TEST PIT LOG

Project: Dotson Farms Subdivision
Oregon City, Oregon

Project No. 17-4724

Test Pit No. **TP-4**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	2.5					Highly organic SILT (OL-ML), dark brown, loose, trace fine roots throughout, damp to moist (Topsoil)
2	4.5					Stiff to very stiff, clayey SILT (ML) to silty CLAY (CL), with soft (R2) to medium hard (R3) basalt fragments up to 12 inches diameter below 4.5 feet, light reddish brown, trace fine roots to 3 feet, trace black staining, damp to moist (Residual Soil)
3	4.5					
4	4.5					
5						
6						With medium hard (R3) basalt fragments up to 24 inches diameter below 6 feet
7						
8						Practical Refusal on Medium Hard (R3) Basalt Boulder at 7.5 Feet.
9						Note: No seepage or groundwater encountered.
10						
11						
12						

LEGEND

Bag Sample | Bucket Sample | Shelby Tube Sample | Seepage | Water Bearing Zone | Water Level at Abandonment

Date Excavated: 10/17/2017
Logged By: B. Rapp
Surface Elevation:

GeoPacific Engineering, Inc.

Project Name: Dotson Farms Subdivision Project No.: 17-4724 Sampled By: EKR
Sample ID: S17-293 Depth: 6"-9" Sample Date: 10/17/2017
Location: TP-1 Tested By: SJC
Material Type: Top Soil Tested Date: 10/25/2017

Moisture

Tare Number:	19
Tare Wt.:	261
Tare + Wet Soil:	528
Tare + Dry Soil:	475.4
Percent Moisture:	24.5

Organic Content ASTM D 2974 at 440°F

Tare Number:	8	7
Tare Wt.:	22.66	24.98
Tare + Pre-Oven:	61.41	64.57
Tare + Post-Oven:	58.9	61.83
Percent Organic:	6.5	6.9
	Average:	6.7

No. 200 Wash Data

Tare Number	
Tare Wt:	
Tare+Pre-Wash:	
Tare+Post-Wash:	
-#200 From Wash:	
Pre-Wash Mass:	
% Passing No. 200	

Grain Size Data

Sieve Size (max wt individually retained)	Individual Weight Retained	Individual Weight Retained
3"		
1.5"		
1"		
3/4 / 900		
1/2 / 570		
3/8 / 550		
1/4		
#4 / 325		
#8		
#10 / 180		
#16		
#30		
#40 / 75		
#50		
#100 / 40		
#200 / 20		
Pan		

Atterberg Analysis LI

	Point 1	Point 2	Point 3	Point 4	Point 5
Tare #					
Tare Wt.					
Wet Wt					
Dry Wt					
# of Blows					

Atterberg Analysis PI

	Point 1	Point 2	Point 3
Tare #			
Tare Wt.			
Wet Wt			
Dry Wt			
# of Blows			

GeoPacific Engineering, Inc.

Project Name: Dotson Farms Subdivision Project No.: 17-4724 Sampled By: EKR
Sample ID: S17-294 Depth: 6"-9" Sample Date: 10/17/2017
Location: TP-2 Tested By: SJC
Material Type: Top Soil Tested Date: 10/25/2017

Moisture

Tare Number:	6
Tare Wt.:	258.1
Tare + Wet Soil:	466
Tare + Dry Soil:	424.6
Percent Moisture:	24.9

Organic Content ASTM D 2974 at 440°F

Tare Number:	6	5
Tare Wt.:	26.27	25.8
Tare + Pre-Oven:	62.96	59.47
Tare + Post-Oven:	60.13	56.84
Percent Organic:	7.7	7.8
	Average:	7.8

No. 200 Wash Data

Tare Number	
Tare Wt:	
Tare+Pre-Wash:	
Tare+Post-Wash:	
-#200 From Wash:	
Pre-Wash Mass:	
% Passing No. 200	

Grain Size Data

Sieve Size (max wt individually retained)	Individual Weight Retained	Individual Weight Retained
3"		
1.5"		
1"		
3/4 / 900		
1/2 / 570		
3/8 / 550		
1/4		
#4 / 325		
#8		
#10 / 180		
#16		
#30		
#40 / 75		
#50		
#100 / 40		
#200 / 20		
Pan		

Atterberg Analysis LI

	Point 1	Point 2	Point 3	Point 4	Point 5
Tare #					
Tare Wt.					
Wet Wt					
Dry Wt					
# of Blows					

Atterberg Analysis PI

	Point 1	Point 2	Point 3
Tare #			
Tare Wt.			
Wet Wt			
Dry Wt			
# of Blows			

GeoPacific Engineering, Inc.

Project Name: Dotson Farms Subdivision Project No.: 17-4724
Sample ID: S17-295 Depth: 6"-9"
Location: TP-4
Material Type: Top Soil

Sampled By: EKR
Sample Date: 10/17/2017
Tested By: SJC
Tested Date: 10/26/2017

Moisture

Tare Number:	24
Tare Wt.:	262
Tare + Wet Soil:	480.3
Tare + Dry Soil:	436.4
Percent Moisture:	25.2

Organic Content

ASTM D 2974 at 440°F

Tare Number:	5	7
Tare Wt.:	25.8	24.98
Tare + Pre-Oven:	60.12	64.01
Tare + Post-Oven:	56.66	60.03
Percent Organic:	10.1	10.2
	Average:	10.2

No. 200 Wash Data

Tare Number	
Tare Wt:	
Tare+Pre-Wash:	
Tare+Post-Wash:	
-#200 From Wash:	
Pre-Wash Mass:	
% Passing No. 200	

Grain Size Data

Sieve Size (max wt individually retained)	Individual Weight Retained	Individual Weight Retained
3"		
1.5"		
1"		
3/4 / 900		
1/2 / 570		
3/8 / 550		
1/4		
#4 / 325		
#8		
#10 / 180		
#16		
#30		
#40 / 75		
#50		
#100 / 40		
#200 / 20		
Pan		

Atterberg Analysis LI

	Point 1	Point 2	Point 3	Point 4	Point 5
Tare #					
Tare Wt.					
Wet Wt					
Dry Wt					
# of Blows					

Atterberg Analysis PI

Point 1	Point 2	Point 3

Exhibit L: Preliminary Stormwater Report

Dotson Farms
Oregon City, Oregon

Preliminary Stormwater Report

Date:	December 2017
Client:	Oregon Builders & Restoration
Engineering Contact:	Monty Hurley, PE, PLS Vu Nguyen, PE
Engineering Firm:	AKS Engineering & Forestry, LLC
AKS Job Number:	6141

RENEWAL DATE: 6/30/19

AKS ENGINEERING & FORESTRY

12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: (503) 563-6151
www.aks-eng.com

Table of Contents

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Appendices

Preliminary Stormwater Report
DOTSON FARMS SUBDIVISION
OREGON CITY, OREGON

1.0 Purpose of Report
This report documents the stormwater analysis for the subject site, the sources of information upon which the analysis was based, the design methodology, and the results of the analysis.

2.0 Project Location/Description
The proposed development comprises +/- 2.98 acres in Clackamas County, Oregon. The development will encompass Tax Lot 199 of Clackamas County Assessor's Map 3S 2E 7C. The project site has frontage along S Leland Road.

3.0 Regulatory Design Criteria
3.1 STORMWATER QUANTITY MANAGEMENT CRITERIA
The stormwater quantity management criteria required by the Oregon City Public Works Stormwater and Grading Design Standards (February 2015) states:

> *Flow control facilities shall be designed so that 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 percent of the 2-year peak flow rate up to the 10-year peak flow rate. […] The BMP Sizing Tool addresses these flow control requirements to size stormwater management facilities.*

The BMP Sizing Tool was used to size stormwater quantity management facilities for this project.

3.2 STORMWATER QUALITY MANAGEMENT CRITERIA
The stormwater quality management criteria required by the Oregon City Public Works Stormwater and Grading Design Standards (February 2015) states:

> *Water quality facilities shall be designed to capture and treat 80 percent of the average annual runoff volume to the MEP [maximum extent practicable] with the goal of 70 percent total suspended solids removal. The treatment volume equates to a water quality design storm of 1.0 inch over 24 hours. The BMP Sizing Tool addresses these water quality requirements to size stormwater management facilities.*

The BMP Sizing Tool was used to size stormwater quality management facilities for this project.

3.3 FLOODPLAIN
There are no floodplains present on the subject site according to the Flood Insurance Rate Map (FIRM), produced by the Federal Emergency Management Agency (FEMA).

3.4 REQUIRED PERMITS
Permits are not required from the Oregon Department of State Lands (DSL) or the U.S. Army Corps of Engineers (USACE).

4.0 Infiltration Test Result

Per the Geotechnical Engineering Report prepared by GeoPacific Engineering, Inc., dated October 31, 2017, open pit falling-head infiltration testing conducted on the planned stormwater pond location demonstrated that soils have a limited infiltration capacity at a depth of 6.0 and 10.0 feet below the ground surface. The new stormwater facilities have a filtration system without lining at the base.

5.0 Sources of Information and Design Methodology

The Santa Barbara Urban Hydrograph (SBUH) Method will be used for the stormwater conveyance system analysis of the subject site. This method uses the SCS Type 1A 24-hour storm. HydroCAD software will aid in the analysis. The BMP Sizing Tool was used to size the stormwater management facilities.

6.0 Design Parameters

6.1 DESIGN STORM

6.1.1 STORMWATER MANAGEMENT FACILITIES DESIGN

All the flow results contained in the BMP sizing report were used for the stormwater management facilities sizing and analysis.

6.1.2 INLET AND CONDUIT SIZING

The stormwater inlets (curb inlet catch basins) for the site will be placed according to the grading (at all low points and other required locations) to manage the stormwater for the site. The distance between catch basins will generally be 400 feet or less.

The on-site stormwater pipes will be sized using the SBUH method to adequately convey the 10-year (3.5 inch) storm event (gravity flow).

6.2 PRE-DEVELOPED SITE TOPOGRAPHY AND LAND USE

6.2.1 STIE TOPOGRAPHY

The site slopes to the southeast, with slopes ranging from 1% to 3%.

6.2.2 LAND USE

The site is currently a grass field.

6.2.3 PRE-DEVELOPED INPUT PARAMETERS

The input parameters for each subcatchment (basin) are shown in the appendices.

6.3 SOIL TYPE

The soils on this site consist primarily of Bornstedt silt loam, with a small portion of Jory silty clay loam. Per the U.S. Department of Agriculture (USDA) Soil Survey for Clackamas County, these soil types belong to hydrologic soil group “C.” Applicable soil information is provided in Appendix 7-1.

6.4 POST-DEVELOPED SITE TOOPOGRAPHY AND LAND USE

6.4.1 SITE TOPOGRAPHY

The post-developed site topography will be altered to construct streets and lots for the future construction of single-family detached housing. There are no substantial terrain alterations planned.

6.4.2 LAND USE

The post-developed land use will consist of 12 lots conforming to R-6 zoning standards for detached single-family homes, as well as one tract for a stormwater pond, two tracts for a private drive, and public streets.

6.4.3 FUTURE DEVELOPMENT

The project's stormwater facilities are not sized to treat any future development beyond the planned 12-lot Dotson Farms Subdivision.

6.4.4 POST DEVELOPMENT INPUT PARAMETERS

Input parameters for each subcatchment (basin) and pond are shown in the appendices. The calculation method used to determine impervious area for the site post-development included measuring all impervious area within the new rights-of-way (streets, curbs, sidewalks, and driveway approaches) and adding 2,640 square feet of impervious area per lot (total of 12 lots).

6.5 POINTS OF DISCHARGE

Stormwater discharge from the on-site stormwater facility will flow east into an existing storm line on Leland Road.

7.0 Calculation Methodology

7.1 PROPOSED STORMWATER CONDUIT SIZING AND INLET SPACING

The proposed stormwater pipes will be sized during final engineering using the SBUH method to adequately convey the 10-year storm event (gravity flow).

7.2 PROPOSED STORMWATER QUANTITY CONTROL (DETENTION) FACILITY DESIGN

The stormwater pond has been sized using the BMP Sizing Tool to provide flow control for the stormwater runoff from impervious area within the new interior rights-of-way and lots.

Stormwater quantity facility design parameters were determined using topographic survey information, aerial photos, contours, design, and analysis. The detention pond was designed to address the stormwater quantity (detention) requirements of the Oregon City Public Works Stormwater and Grading Design Standards (February 2015).

7.3 PROPOSED STORMWATER QUALITY CONTROL FACILITY DESIGN

The stormwater pond was sized using the BMP Sizing Tool to provide water quality management for the stormwater runoff from impervious areas on all of the lots.

Stormwater planters (filtration) between the curb and sidewalk of streets within the development were sized using the BMP Sizing Tool to provide water quality management for stormwater runoff from impervious area within the new rights-of-way.

Stormwater quality facility design parameters were determined using topographic survey information, aerial photos, contours, design, and analysis. The stormwater pond and stormwater planters (filtration) were designed to address the stormwater quality requirements of the Oregon City Public Works Stormwater and Grading Design Standards (February 2015).

7.4 ENERGY DISSIPATER CALCULATIONS

Riprap will be placed at the inlet of the stormwater pond to act as an energy dissipater. The riprap will be designed in accordance with information listed in Table 5-7 of the Oregon City Public Works Stormwater and Grading Design Standards (February 2015).

7.5 DOWNSTREAM ANALYSIS

The subject site is designated in the City's Drainage Master Plan as being in the Beaver Creek Basin.

Stormwater flows from the on-site stormwater pond discharge into a storm drain line in S Leland Road, which will be built with the Lindsay Anne Estates Too Subdivision (currently under review process). The downstream pipes have been analyzed and approved under Lindsay Anne Estates Subdivision, and no downstream deficiencies are predicted.

7.6 CULVERT ANALYSIS

Culverts are not proposed with this project.

8.0 BMP Sizing Tool Summary

The stormwater from the site will be routed through a series of curb inlets, pipes, and manholes prior to reaching the pond in Tract A. There will be one main inlet and one outlet in the pond. The pond bottom will be at an elevation of 438.00 feet and the top of the pond will be at an elevation of 441.00 feet. The pond outlet structure will have the following orifices per the BMP Sizing Tool model:

Table 8-1: Pond Outlet Structure Parameters

Pond Outlet	Size	Type	Invert Elevation
Orifice A	1.5" diameter	Round orifice	435.00
Orifice B	4.7" diameter	Round orifice	438.20

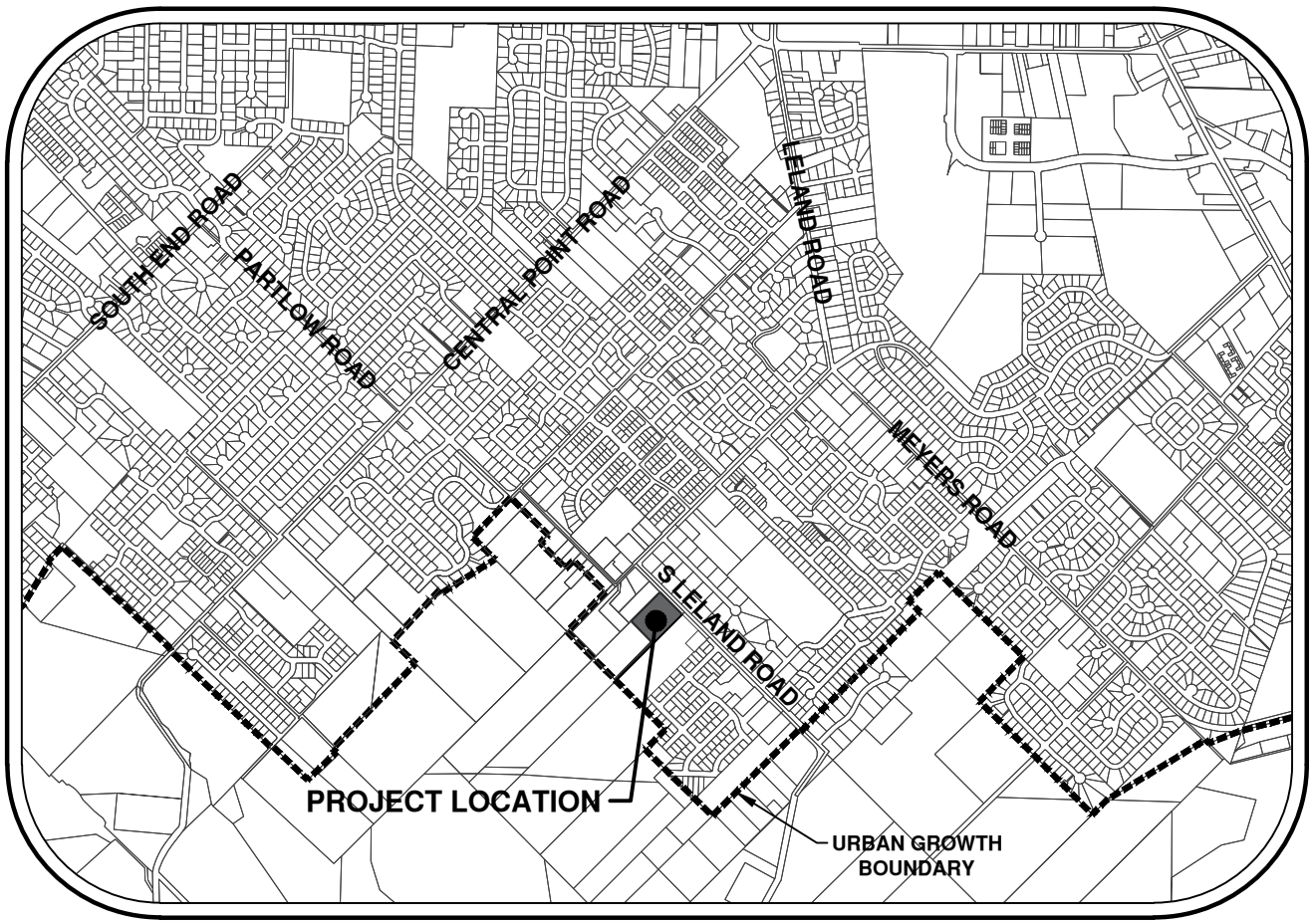
The project will adhere to the grading and compaction guidelines of the Oregon City Public Works Stormwater and Grading Design Standards (February 2015) to the maximum extent possible.

9.0 Stormwater Detention Pond Safeguards

Calculations for the 100-year storm event are included in the appendices. The stormwater pond is designed to adequately handle this storm event. If the outlet structure becomes plugged, or for some other reason cannot convey the stormwater, the stormwater will overflow through the emergency overflow (maintenance access drive), and direct overflow to the downstream conveyance system. The emergency overflows were sized to accommodate flows from the 100-year storm (assuming the outlet structure is plugged). There are no foreseen problems with this method.

APPENDIX 1-1

VICINITY MAP



VICINITY MAP

NOT TO SCALE

N

APPENDIX 2-1

PRE-DEVELOPED CATCHMENT MAP

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12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
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DOTSON FARMS SUBDIVISION

OREGON

CLACKAMAS COUNTY TAX MAP3S 2E 7C

OREGON CITY

TAX LOT 199

PRE-DEVELOPED CATCHMENT MAP

DESIGNED BY:	VHN
DRAWN BY:	AMF
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE: 12/20/2017	

REVISIONS

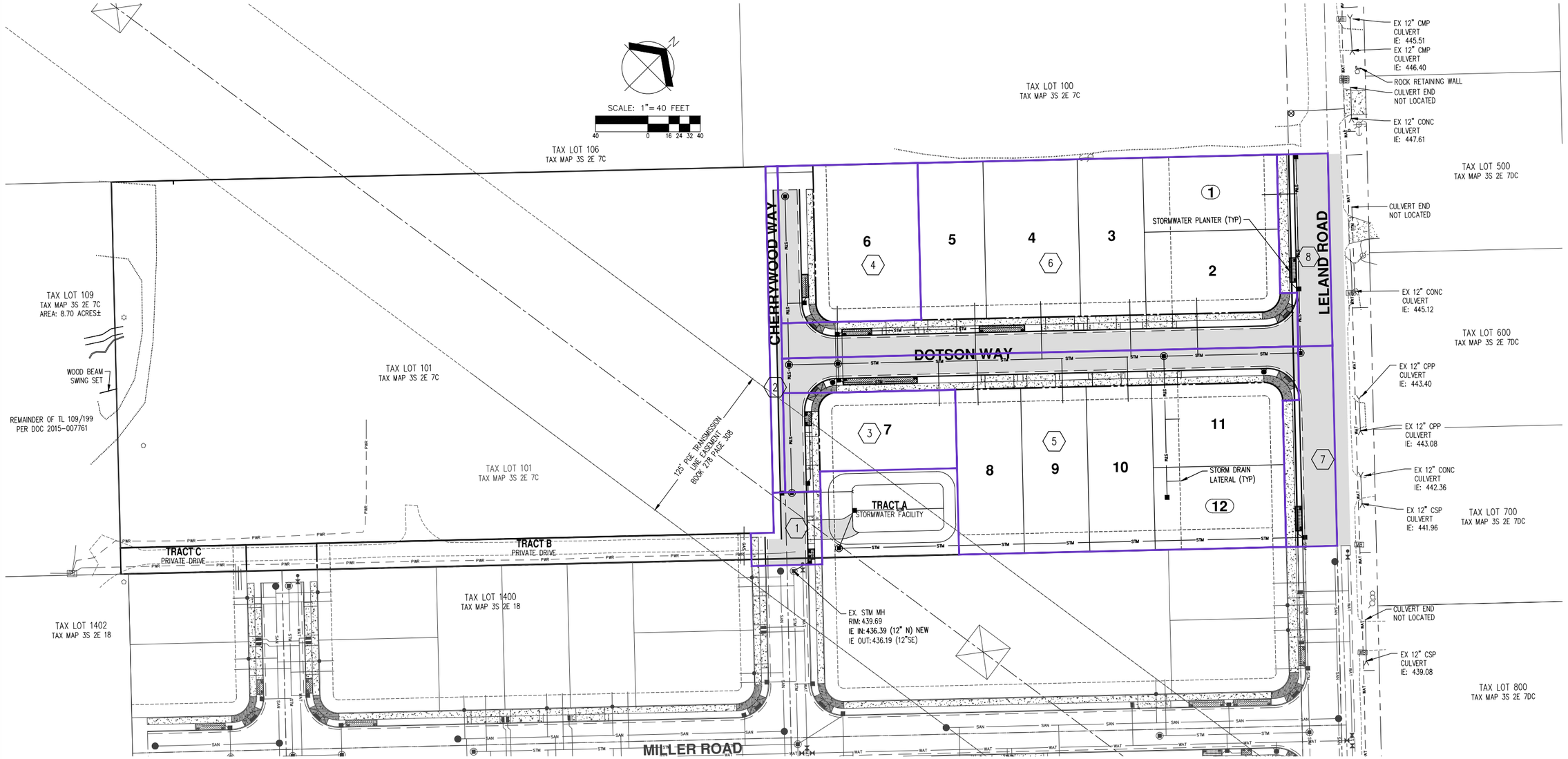
JOB NUMBER
6141

SHEET
PRE

AKS DRAWING FILE: 6141 PRE BASIN MAP.DWG | LAYOUT: PRE

APPENDIX 3-1

POST-DEVELOPED CATCHMENT MAP



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DOTSON FARMS SUBDIVISION

OREGON

CLACKAMAS COUNTY TAX MAPS 2E 7C

OREGON CITY

TAX LOT 199

POST-DEVELOPED CATCHMENT MAP

DESIGNED BY:	VHN
DRAWN BY:	AMF
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE: 12/20/2017	

REVISIONS

JOB NUMBER
6141

SHEET
POST

AKS DRAWING FILE: 6141 POST BASIN MAP.DWG | LAYOUT: POST

APPENDIX 4-1

BMP SIZING TOOL REPORT

WES BMP Sizing Software Version 1.6.0.1, August 2015

WES BMP Sizing Report

Project Information

Project Name	Dotson Farms
Project Type	Subdivision
Location	
Stormwater Management Area	3850
Project Applicant	Oregon Builders and Restoration
Jurisdiction	OutofDistrict

Drainage Management Area

Name	Area (sq-ft)	Pre-Project Cover	Post-Project Cover	DMA Soil Type	BMP
Basin 1 - Pervious	200	Forested	Grass	C	Basin 1 - Planter
Basin 1 - Impervious	1,750	Forested	ConventionalConcrete	C	Basin 1 - Planter
Basin 7 - Impervious	4,950	Forested	ConventionalConcrete	C	Basin 7 - Planter
Basin 7 - Pervious	550	Forested	Grass	C	Basin 7 - Planter
Basin 8 - Impervious	4,670	Forested	ConventionalConcrete	C	Basin 8 - Planter
Basin 8 - Pervious	530	Forested	Grass	C	Basin 8 - Planter
Basin 6 - Roof	13,200	Forested	Roofs	C	Pond
Basin 6 - Impervious	9,750	Forested	ConventionalConcrete	C	Basin 6 - Planter
Basin 6 - Pervious	22,950	Forested	Grass	C	Basin 6 - Planter
Basin 4 - Roof	2,640	Forested	Roofs	C	Pond
Basin 4 - Impervious	2,680	Forested	ConventionalConcrete	C	Basin 4 - Planter
Basin 4 - Pervious	7,520	Forested	Grass	C	Basin 4 - Planter
Basin 3 - Roof	2,640	Forested	Roofs	C	Pond
Basin 3 - Impervious	1,500	Forested	ConventionalConcrete	C	Basin 3 - Planter
Basin 3 - Pervious	3,770	Forested	Grass	C	Basin 3 - Planter

Basin 2 - Impervious	1,000	Forested	ConventionalConcrete	C	Pond
Basin 2 - Pervious	1,200	Forested	Grass	C	Pond
Basin 5 - Roof	13,200	Forested	Roofs	C	Pond
Basin 5 - Impervious	9,750	Forested	ConventionalConcrete	C	Basin 5 - Planter
Basin 5 - Pervious	20,850	Forested	Grass	C	Basin 5 - Planter

LID Facility Sizing Details

LID ID	Design Criteria	BMP Type	Facility Soil Type	Minimum Area (sq-ft)	Planned Areas (sq-ft)	Orifice Diameter (in)
Basin 1 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	27.1	30.0	0.2
Basin 7 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	76.6	80.0	0.4
Basin 8 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	72.4	80.0	0.4
Basin 6 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	246.1	250.0	0.7
Basin 5 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	236.9	250.0	0.7
Basin 4 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	72.9	75.0	0.4
Basin 3 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	38.9	40.0	0.3

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	4.75	3,850.0	3	11,172.3	7,865.8	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

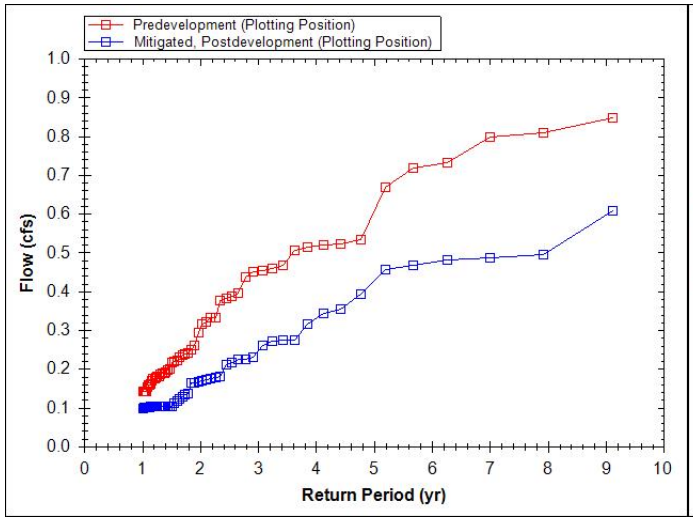
Shape Curve

Depth (ft)	Area (sq ft)
4.8	3,850.0

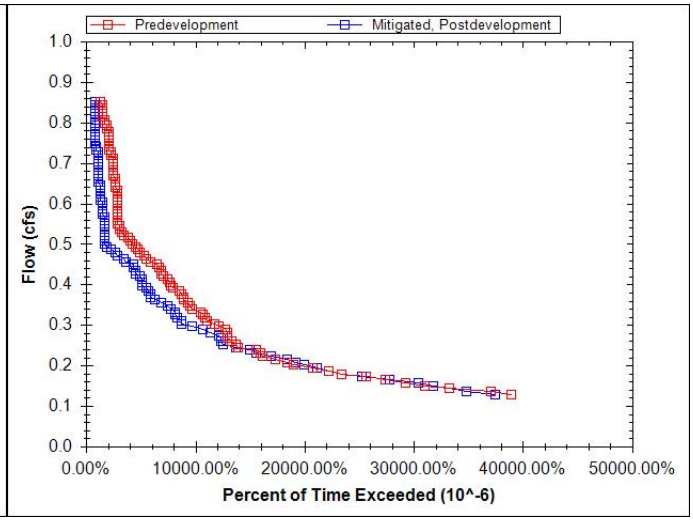
Outlet Structure Details

Lower Orifice Invert (ft)	0.0
Lower Orifice Dia (in)	1.5
Upper Orifice Invert(ft)	3.2
Upper Orifice Dia (in)	4.7
Overflow Weir Invert(ft)	3.8
Overflow Weir Length (ft)	6.3

Flow Frequency Chart



Flow Duration Chart



APPENDIX 5-1

STORMWATER FACILITIES LOCATION AND DETAIL

SCALE: 1"=40 FEET
40 0 16 24 32 40

TAX LOT 105
TAX MAP 3S 2E 7C

TAX LOT 100
TAX MAP 3S 2E 7C

TAX LOT 106
TAX MAP 3S 2E 7C

TAX LOT 109
TAX MAP 3S 2E 7C
AREA: 8.70 ACRES±

WOOD BEAM SWING SET

ER OF TL 109/199
OC 2015-007761

TAX LOT 101
TAX MAP 3S 2E 7C

125' PGE TRANSMISSION LINE EASEMENT BOOK 278 PAGE 308

CHERRYWOOD WAY

LELAND ROAD

DOTSON WAY

STORMWATER PLANTER (TYP)

1 2 3 4 5 6 7 8 9 10 11 12

TRACT A
STORMWATER FACILITY

TRACT B
PRIVATE DRIVE

TRACT C
PRIVATE DRIVE

TAX LOT 1400
TAX MAP 3S 2E 18

TAX LOT 1402
TAX MAP 3S 2E 18

MILLER ROAD

TAX LOT 400
TAX MAP 3S 2E 7DC

TAX LOT 500
TAX MAP 3S 2E 7DC

TAX LOT 600
TAX MAP 3S 2E 7DC

TAX LOT 700
TAX MAP 3S 2E 7DC

TAX LOT 800
TAX MAP 3S 2E 7DC

CULVERT END
NOT LOCATED

EX 12" CMP
CULVERT
IE: 445.51

EX 12" CMP
CULVERT
IE: 446.40

ROCK RETAINING WALL

CULVERT END
NOT LOCATED

EX 12" CONC
CULVERT
IE: 447.61

CULVERT END
NOT LOCATED

EX 12" CONC
CULVERT
IE: 445.12

EX 12" CPP
CULVERT
IE: 443.40

EX 12" CPP
CULVERT
IE: 443.08

EX 12" CONC
CULVERT
IE: 442.36

EX 12" CSP
CULVERT
IE: 441.96

CULVERT END
NOT LOCATED

EX 12" CSP
CULVERT
IE: 439.08

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
aks-eng.com

AKS
ENGINEERING - SURVEYING - NATURAL RESOURCES
FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

DOTSON FARMS SUBDIVISION
OREGON CITY OREGON
TAX LOT 199
CLACKAMAS COUNTY TAX MAP 3S 2E 7C

STORMWATER FACILITIES LOCATION PLAN

DESIGNED BY:	VHN
DRAWN BY:	AMF
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE: 12/20/2017	

REVISIONS

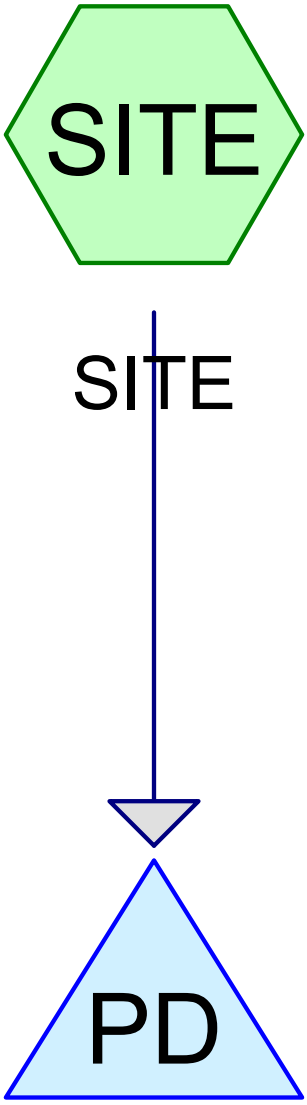
JOB NUMBER
6141

SHEET

AKS DRAWING FILE: 6141 POST BASIN MAP-FACILITIES.DWG | LAYOUT: POST

APPENDIX 6-1

EMERGENCY OVERFLOW CALCULATIONS



Detention Pond

Subcat Reach Pond Link

Routing Diagram for 6141 Overflow HydroCad
Prepared by AKS Engineering and Forestry, LLC, Printed 12/14/2017

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.580	98	Impervious (SITE)
1.400	86	Pervious (SITE)
2.980	**92**	**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.15 hrs, 161 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment SITE: SITE Runoff Area=2.980 ac 53.02% Impervious Runoff Depth>3.66"
Tc=10.0 min CN=86/98 Runoff=2.54 cfs 0.908 af

Pond PD: Detention Pond Peak Elev=440.44' Storage=11,768 cf Inflow=2.54 cfs 0.908 af
Outflow=2.22 cfs 0.653 af

Total Runoff Area = 2.980 ac Runoff Volume = 0.908 af Average Runoff Depth = 3.66"
46.98% Pervious = 1.400 ac 53.02% Impervious = 1.580 ac

Summary for Subcatchment SITE: SITE

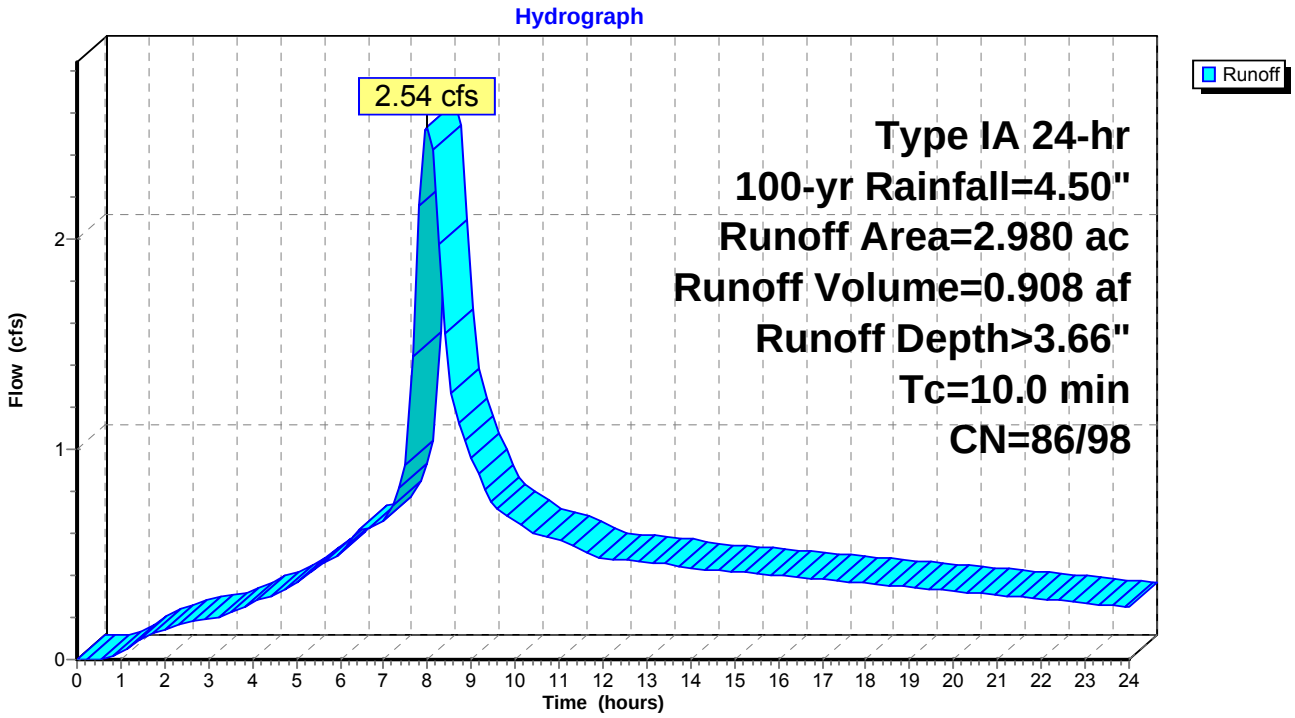
Runoff = 2.54 cfs @ 7.99 hrs, Volume= 0.908 af, Depth> 3.66"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
Type IA 24-hr 100-yr Rainfall=4.50"

	Area (ac)	CN	Description
*	1.400	86	Pervious
*	1.580	98	Impervious
	2.980	92	Weighted Average
	1.400		46.98% Pervious Area
	1.580		53.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment SITE: SITE



Summary for Pond PD: Detention Pond

Inflow Area = 2.980 ac, 53.02% Impervious, Inflow Depth > 3.66" for 100-yr event
Inflow = 2.54 cfs @ 7.99 hrs, Volume= 0.908 af
Outflow = 2.22 cfs @ 8.22 hrs, Volume= 0.653 af, Atten= 13%, Lag= 13.3 min
Primary = 2.22 cfs @ 8.22 hrs, Volume= 0.653 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.15 hrs
Peak Elev= 440.44' @ 8.22 hrs Surf.Area= 4,581 sf Storage= 11,768 cf

Plug-Flow detention time= 308.5 min calculated for 0.653 af (72% of inflow)
Center-of-Mass det. time= 135.8 min (834.9 - 699.1)

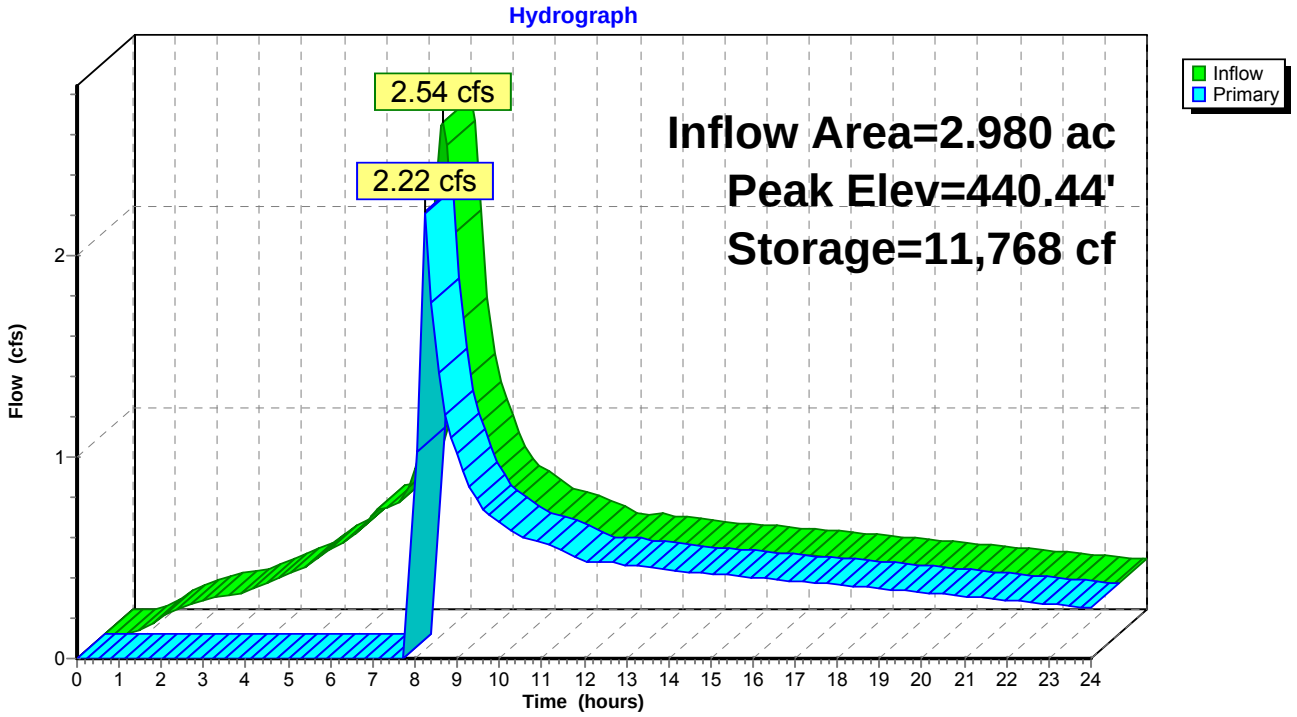
Volume	Invert	Avail.Storage	Storage Description
#1	435.00'	14,467 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
435.00	2,491	0.0	0	0
437.90	2,491	40.0	2,890	2,890
438.00	2,491	100.0	249	3,139
441.00	5,061	100.0	11,328	14,467

Device	Routing	Invert	Outlet Devices
#1	Primary	440.25'	**10.0' long x 15.0' breadth Driveway Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=2.17 cfs @ 8.22 hrs HW=440.44' (Free Discharge)
1=Driveway Weir (Weir Controls 2.17 cfs @ 1.16 fps)

Pond PD: Detention Pond



APPENDIX 7-1

SOIL INFORMATION FROM THE USDA SOIL SURVEY OF CLACKAMAS COUNTY, OREGON

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Clackamas County Area, Oregon

December 14, 2017

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,770 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

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 12, Sep 19, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 26, 2014—Sep 5, 2014

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8B	Bornstedt silt loam, 0 to 8 percent slopes	3.2	93.5%
45B	Jory silty clay loam, 2 to 8 percent slopes	0.2	6.5%
Totals for Area of Interest		**3.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Clackamas County Area, Oregon

8B—Bornstedt silt loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 227t
Elevation: 300 to 650 feet
Mean annual precipitation: 48 to 65 inches
Mean annual air temperature: 50 to 52 degrees F
Frost-free period: 140 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Bornstedt and similar soils: 85 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bornstedt

Setting

Landform: Terraces, hillslopes
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Interfluve, tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed old alluvium

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 33 inches: silty clay loam
H3 - 33 to 71 inches: silty clay

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Other vegetative classification: Moderately Well Drained < 15% Slopes (G002XY004OR)
Hydric soil rating: No

Minor Components

Borges

Percent of map unit: 5 percent
Landform: Depressions on terraces, hillslopes

Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

Aquults

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

45B—Jory silty clay loam, 2 to 8 percent slopes

Map Unit Setting

National map unit symbol: 224x
Elevation: 250 to 1,200 feet
Mean annual precipitation: 50 to 60 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Jory and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jory

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Base slope, interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium

Typical profile

H1 - 0 to 13 inches: silty clay loam
H2 - 13 to 60 inches: silty clay

Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Other vegetative classification: Well drained < 15% Slopes (G002XY002OR)
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

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.

Custom Soil Resource Report
Map—Hydrologic Soil Group

Map Scale: 1:1,770 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

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 12, Sep 19, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 26, 2014—Sep 5, 2014

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.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
8B	Bornstedt silt loam, 0 to 8 percent slopes	C	3.2	93.5%
45B	Jory silty clay loam, 2 to 8 percent slopes	C	0.2	6.5%
Totals for Area of Interest			**3.5**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX 8-1

RELEVANT INFORMATION

TABLE 3.5.2B SCS WESTERN WASHINGTON RUNOFF CURVE NUMBERS

SCS WESTERN WASHINGTON RUNOFF CURVE NUMBERS (Published by SCS in 1982)					
Runoff curve numbers for selected agricultural, suburban and urban land use for Type 1A rainfall distribution, 24-hour storm duration.					
LAND USE DESCRIPTION		CURVE NUMBERS BY HYDROLOGIC SOIL GROUP A	B	C	D
Cultivated land(1):	winter condition	86	91	94	95
Mountain open areas:	low growing brush and grasslands	74	82	89	92
Meadow or pasture:		65	78	85	89
Wood or forest land:	undisturbed or older second growth	42	64	76	81
Wood or forest land:	young second growth or brush	55	72	81	86
Orchard:	with cover crop	81	88	92	94
Open spaces, lawns, parks, golf courses, cemeteries, landscaping.					
good condition:	grass cover on 75% or more of the area	68	80	86	90
fair condition:	grass cover on 50% to 75% of the area	77	85	90	92
Gravel roads and parking lots		76	85	89	91
Dirt roads and parking lots		72	82	87	89
Impervious surfaces, pavement, roofs, etc.		98	98	98	98
Open water bodies:	lakes, wetlands, ponds, etc.	100	100	100	100
Single Family Residential (2)					
Dwelling Unit/Gross Acre	% Impervious (3)				
1.0 DU/GA	15	Separate curve number shall be selected for pervious and impervious portion of the site or basin			
1.5 DU/GA	20				
2.0 DU/GA	25				
2.5 DU/GA	30				
3.0 DU/GA	34				
3.5 DU/GA	38				
4.0 DU/GA	42				
4.5 DU/GA	46				
5.0 DU/GA	48				
5.5 DU/GA	50				
6.0 DU/GA	52				
6.5 DU/GA	54				
7.0 DU/GA	56				
Planned unit developments, condominiums, apartments, commercial business and industrial areas.	% impervious must be computed				

(1) For a more detailed description of agricultural land use curve numbers refer to National Engineering Handbook, Section 4, Hydrology, Chapter 9, August 1972.
(2) Assumes roof and driveway runoff is directed into street/storm system.
(3) The remaining pervious areas (lawn) are considered to be in good condition for these curve numbers.

Exhibit M: Public Facilities Memorandum

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December 15, 2017

Wendy L. Marshall, PE
City of Oregon City
Development Projects Manager
625 Center Street
Oregon City, OR 97045

RE: Sanitary Sewer Analysis
Dotson Farms Subdivision – 12 Lot Subdivision
Clackamas County Assessor's Information: Map 32E07C, Tax Lot 199
± 2.98 Acres

Wendy:

The purpose of this sanitary sewer analysis is to demonstrate the actual design wastewater flow from this development has the same (or less than) the predicted future wastewater flow (per the City of Oregon City Sanitary Sewer Master Plan dated November 2014).

Per the City of Oregon City Sanitary Sewer Master Plan dated November 2014, the wastewater flow calculation is based on the following:

- Gross area: 2.98 acres
- Net area: 2.38 acres (assuming 20% of the gross site area would be used for streets, easements, and other utilities)
- Number of lots: 12 (LDR = 5 dwellings per net acre)
- Total wastewater flow: 6.66 gpm (see attached Exhibit A-1)

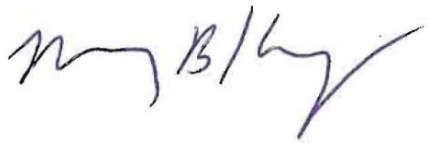
Per the actual designed development, the wastewater flow calculation should be based on the following:

- Gross area: 2.98 acres
- Net area: 1.82 acres (actual net area after subtracting the streets, stormwater facility, and the area of the PGE transmission line easement – see attached Exhibit B)
- Number of lots: 12
- Total wastewater flow: 6.26 gpm (see attached Exhibit A-1)

The actual design wastewater flow for Dotson Farms Subdivision is 6.26 gpm, which is less than the predicted future wastewater flow per the City of Oregon City Sanitary Sewer Master Plan dated November 2014.

Sincerely,

AKS ENGINEERING & FORESTRY, LLC



Montgomery B. Hurley – PE, PLS, Principal

Sanitary Sewer Flow Calculation

		Dotson Farms Subdivision (Per Sanitary Sewer Master Plan)	Dotson Farms Subdivision (Actual Design Scenario)
Gross area (acre):		2.98	
Net area - 80% of Gross area[a] (acre):		2.38	
No. of lots[a] (5 lot per acre):		12	
Actual net area[b] (acre):			1.82
Actual No. of lots:			12
People per lot[a]:	2.5		
Unit flow[a] (gpcd):	80		
Peaking Factor[a]:	3		
I/I[c] (gpad):	1000		
Domestic Flow (gpm):		5.00	5.00
I/I Flow (gpm):		1.66	1.26
Total Wastewater Flow (gpm):		**6.66**	**6.26**

[a] Per Section 3.5.1 Future Base Flows in the City of Oregon City Sanitary Sewer Master Plan dated November 2014

[b] Per Attachment A - Future Development Flow Method - Analysis Step 21 in the City of Oregon City Sanitary Sewer Master Plan dated November 2014

[c] Per Section 3.5.2 Future Wet Weather Flows in the City of Oregon City Sanitary Sewer Master Plan dated November 2014

EXHIBIT A

Net Area Calculation

Lot	Area (sf)
1	5,854
2	6,428
3	6,000
4	8,640
5	6,000
6	9,558
7	6,240
8	6,300
9	6,300
10	6,300
11	6,258
12	6,300

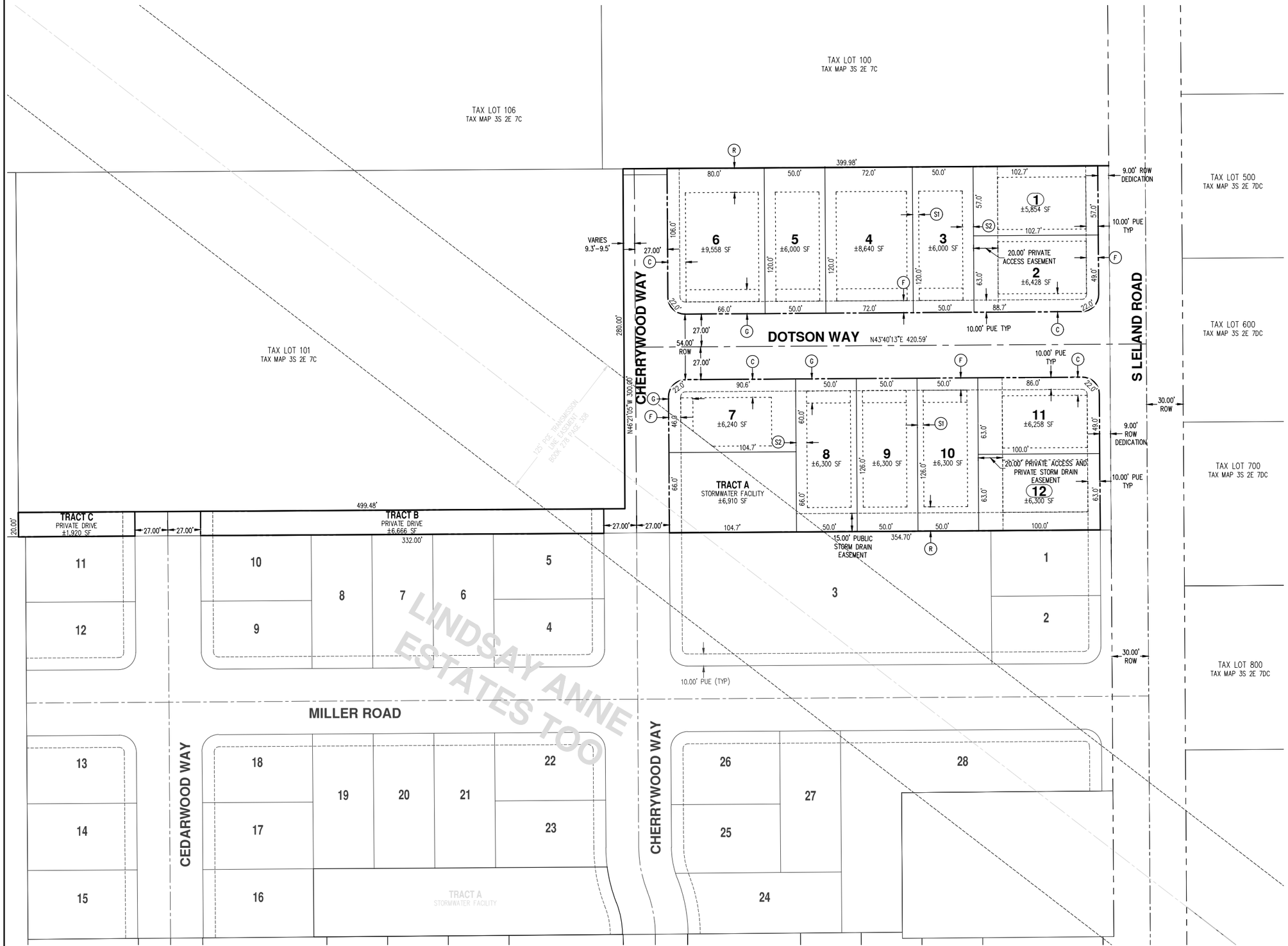
Total Lot Area: 80,178 sf

Total PGE Easement Area: 895 sf

Total Net Area: **79,283** sf

1.82 acres

EXHIBIT B



SETBACK LEGEND

- (F) 10' MINIMUM FRONT YARD SETBACK
- (G) 20' MINIMUM GARAGE SETBACK
- (S1) *5' MINIMUM SIDE YARD SETBACK (ONE SIDE)
- (S2) *9' MINIMUM SIDE YARD SETBACK (ONE SIDE)
- (C) 15' CORNER SIDE YARD SETBACK
- (R) 20' REAR YARD SETBACK

*5' AND 9' INTERIOR SIDE YARD SETBACKS CAN BE SWAPPED (TYPICAL). ONE SIDE YARD HAS TO BE A MINIMUM OF 5', THE OTHER SIDE YARD SETBACK HAS TO BE A MINIMUM OF 9'.

PRELIMINARY SUBDIVISION PLAT NOTE:

THE PURPOSE OF THIS PRELIMINARY PLAT IS TO SHOW THE LOT DIMENSIONS FOR PLANNING PURPOSES. THIS IS NOT A FINAL PLAT AND IS NOT TO BE USED FOR SURVEYING PURPOSES.

ZONE R-6

NET AREA: 80,178 SQUARE FEET ±
AVERAGE LOT AREA: 6,682 SQUARE FEET ±

SCALE: 1"= 40 FEET

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DOTSON FARMS SUBDIVISION

OREGON
CLACKAMAS COUNTY TAX MAP 3S 2E 7C
OREGON CITY
TAX LOT 199

PRELIMINARY SUBDIVISION PLAT WITH BUILDING SETBACKS

DESIGNED BY:	VHN
DRAWN BY:	AMF
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	12/14/2017

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 9, 2002
MONTGOMERY B. HURLEY
PRELIMINARY NOT FOR CONSTRUCTION
RENEWAL DATE: 6/30/19

REVISIONS

JOB NUMBER
6141

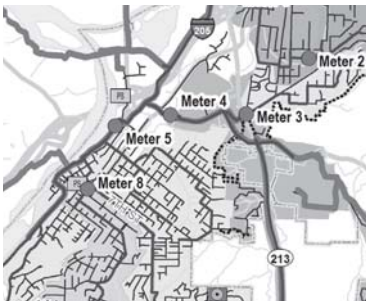
SHEET
P-03

AKS DRAWING FILE: 6141 PLAT.DWG | LAYOUT: P-03

Prepared for
City of Oregon City

Sanitary Sewer Master Plan

November 2014



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3.5 Future Flows

Base flows and RDII from future developments were estimated and routed through the model to estimate future capacity deficiencies in the trunk sewer system. Three types of future development areas were included in the analysis:

- Large future development areas at the boundaries of the City's urban growth area: South End Road, Park Place, and Beavercreek Road.
- Expected development areas within the city limits. This category includes all parcels identified by the City excluding those considered to be un-developable (e.g., existing parks) and lots considered not to have future development potential (e.g., small single residential lots with existing connections to the sewer system).
- Individual land parcels within the city limits with redevelopment potential. These consist of both vacant parcels and parcels where the existing land use is less dense than the parcel zoning. This category also includes individual parcels in unincorporated areas (within the urban growth area) with single family residential land use. It was assumed these parcels are currently serviced by onsite septic systems and will connect to the sanitary sewer system in the future.

3.5.1 Future Base Flows

Future average daily base flows were estimated from industry standard rates for each land use designation. For the large development areas, the proposed gross acreage for each land use designation was provided by the City. For parcels with areas greater than 1 acre, the net acreage was calculated assuming that 20 percent of the gross acreage would be used for local roads, easements, and other utilities. Table 3-2 lists the rates used to develop future base flows.

Table 3-2. Future Sewer Base Flow Unit Rates

Land use	Unit type	Unit flow
Residential[a,b]	Gallons per capita per day	80
Commercial[c]	Gallons per acre per day (gpad)	1,000
Industrial[c]	gpad	2,000

[a] *An average of 2.5 people per household was assumed.*

[b] *Development densities specified in the 2004 Oregon City Comprehensive Plan were used to determine the number of dwellings per acre. LDR = 5 dwellings per acre, MDR = 10 dwellings per acre, HDR = 22 dwellings per acre.*

[c] *Unit flow rates for commercial and industrial areas were based on industry standard.*

3.5.2 Future Wet Weather Flows

RDII from future areas was calculated by estimating the amount of future sewered areas and applying an infiltration/inflow (I/I) rate of 1,000 gpad. I/I was not applied to parcels within the city limits that are already developed, because it was assumed the I/I contribution from these parcels already would be accounted for in the existing conditions model.

16. ID those parcels located in concept plan areas
    a. Add field, type string, named “CONCEPT”
    b. Select by location parcels in “taxlot_model” with their centroid within any of the 3 concept plan polygons provided by the City.
    c. Field calculate “CONCEPT”=”YES”
17. Determine area of constrained land on each parcel
    a. Union “taxlot_model” and selection of “All_Constraints” that intersects “BASE_UGB_Fill”
        i. Resulting fc is named “taxlot_constrained_union”
        ii. Note: Set definition query on “All_Constraints” of "Building" = 'N'. This omits buildings from the constrained layer.
    b. Union “taxlot_constrained_union” and selection of “Vacant_Lands” that intersects “BASE_UGB_Fill”
        i. Resulting fc is named “taxlot_cnstrnd_vacant_union”
    c. Calculate vacant area slices
        i. Add field, type double, named “AREA_CONSTR”
        ii. Select features in “FID_All_Constraints” <> -1. This is all the constrained features.
        iii. Calculate geometry of “AREA_CONSTR” attribute, which represents “constrained land” area
        iv. Add field, type double, named “AREA_CONSTR_PRTL”
        v. Select features in “FID_All_Constraints” = -1 AND “FID_Vacant_Lands”<> ”-1”. This is vacant land that is also constrained (i.e. vacant and constrained land overlap).
        vi. Calculate geometry of “AREA_CONSTR_PRTL” attribute, which represents “constrained vacant land” area
    d. Dissolve “taxlot_cnstrnd_vacant_union” based on “TLID” attribute
        i. During dissolve, calculate sum of “AREA_CONSTR” and “AREA_CONSTR_PRTL” attributes.
        ii. Resulting fc is named “taxlot_cnstrnd_vcnt_union_dissolv”
    e. Transfer constrained land information to the “taxlot_model” fc
        i. Add field to “taxlot_model” fc named “CONSTR_AREA” – type Double.
        ii. Add field to “taxlot_model” fc named “CONSTR_VAC_AREA” – type Double.
        iii. Join “taxlot_constrained_union_Dissolv” fc to “taxlot_model” fc based on “TLID” attribute
        iv. Calculate “CONSTR_AREA” = “AREA_CONSTR”
            1. Select null values and set to 0
        v. Calculate “CONSTR_VAC_AREA” = “AREA_CONSTR_PRTL”
            1. Select null values and set to 0
18. Estimate net developable acres
    a. Add field to “taxlot_model”, type double, named “NET_DEV_ACRES”
    b. Select those parcels where only the vacant portion will be developed. Select features from “taxlot_model” where “DEV_MOD” = “YES_PARTIAL”
    c. Field calculate “NET_DEV_ACRES” = (“AREA”* “PRCNT_VACANT”- “CONSTR_VAC_AREA”) /43560
    d. Switch the selection
    e. Field calculate “NET_DEV_ACRES” = ([AREA]- [“CONSTR_AREA”])/43560
19. Identify Model Junction where development drains
    a. Add field to “taxlot_model”, type long, named “MANHOLE”
    b. Use “Tax_parcel_redevelopment_5” as a start – join this fc based on Tlid
20. Flow assumptions
    a. MFR is 5 units
21. Estimate ex and future flow

a. Add fields to “taxlot model”
    i. LU_UNIT_Q, type long
    ii. LU_UNIT_Q_TYPE, type text
    iii. EX_Q, type double
    iv. ZONE_UNIT_Q, type long
    v. ZONE_UNIT_Q_TYPE, type text
    vi. FUT_Q, type double
    vii. “AREA_RED”, type double
b. Create lookup tables
c. Join tables
d. Estimate flow by following logic
    i. Existing
        1. If gpd, then same
        2. if gpad, then unit q by area
    ii. Future
        1. Select features with “NET_DEV_ACRES” > 1
        2. Field calc “AREA_RED” = 0.8
        3. Switch selection
        4. Field calc “AREA_RED” = 1.0
        5. if gpd, then unit q x (“NET_DEV_ACRES” x “AREA_RED” x 43560) / “ZONE_MINLOTSF”
        6. if gpad, then unit q x (“NET_DEV_ACRES” x “AREA_RED”)
e. Identify areas where additional I/I could be expected (i.e. currently unsewered areas)
    i. Add field named “II_GPD”, type double
    ii. Select “SEPTIC” = “SEPTIC” and “VACANT_ID”=”VACANT” and “LANDUSE_COMPILE” = “RUR” and “LANDUSE_COMPILE” = “FOR” and “LANDUSE_COMPILE” = “AGR”
    iii. Field calc “II_GPD” = 1000 x “NET_DEV_ACRES”
        1. Assume 1,000 acre/day I/I
    iv. Switch selection, and calculate “II_GPD”= 0

22. Estimate additional flow
    a. Add field named “ADD_FLOW_GPD”, type double
        i. Select “SEPTIC” = “SEPTIC” and "DVLPMNT_MOD" = 'YES_PARTIAL'
        ii. Calc “ADD_FLOW_GPD” = “FUT_Q”
        iii. Select all features with no value for “ADD_FLOW_GPD”
        iv. Calc “ADD_FLOW_GPD” --

```
dim flow
if ([FUT_Q] + [II_GPD])  < [EX_FLOW] then
flow = 0
elseif ([FUT_Q]  - [EX_FLOW]) < 0 then
flow = 0
else
flow = [FUT_Q]  - [EX_FLOW]
end if
```

Exhibit N: Neighborhood Meeting Materials

Jacki Herb

From: Roy and Anna Harris <royandanna@centurylink.net>
Sent: Monday, November 27, 2017 5:45 PM
To: Jacki Herb
Cc: william@smallflags.com; Joyce Gifford
Subject: Re: Neighborhood Association Meeting

Jacki,

I have you on the agenda for our Dec 5th meeting. It will be our normal steering committee meeting and will be at 7:00 at Cafe Ixtapa in the Hilltop shopping center.

Roy Harris

On 11/27/2017 8:15 AM, Jacki Herb wrote:

> Roy,
>
> I assume we are still on to meet with your association on the 5th? Did you determine which location the meeting would be held?
>
> Thanks,
>
> **Jacki Herb**
>
> AKS
> **AKS ENGINEERING & FORESTRY, LLC**
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> P: 503.563.6151 ext. 279 | F: 503.563.6152 | www.aks-eng.com | herbj@aks-eng.com
> Offices in: Bend, OR | Keizer, OR | Tualatin, OR | Vancouver, WA
>
>
>
> ---
>
> **From:** Jacki Herb
> **Sent:** Tuesday, November 14, 2017 9:26 AM
> **To:** 'Roy and Anna Harris' <royandanna@centurylink.net>
> **Cc:** william@smallflags.com; Joyce Gifford <Joyce@smALLFLAGs.com>
> **Subject:** RE: Neighborhood Association Meeting
>
> Roy,
>
> Thank you for your response. We would appreciate being able to speak at your next meeting on December 5th. We are fine with meeting the group at either the restaurant or the church, whatever you think will work best.

Thanks,

Jacki Herb

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Offices in: Bend, OR | Keizer, OR | Tualatin, OR | Vancouver, WA

From: Roy and Anna Harris [mailto:royandanna@centurylink.net]
Sent: Saturday, November 11, 2017 11:47 AM
To: Jacki Herb <herbj@aks-eng.com>
Cc: william@smallflags.com; Joyce Gifford <Joyce@smALLFLAGs.com>
Subject: Re: Neighborhood Association Meeting

Jacki,

Our next scheduled meeting is on Dec 5th at 7 PM. It will be our steering committee meeting, which we normally hold at a local restaurant., however if you need to give a presentation I will see if I can get access to Living Hope Church.

Roy Harris

On 11/9/2017 8:51 AM, Jacki Herb wrote:

> Dear Hillendale Neighborhood Association Chairs,
>
> We are preparing an application for annexation, zone change, and subdivision for a property located on S. Leland Road. The City indicated that the parcel is within the Hillendale Neighborhood Association Boundaries. Prior to submitting the application to the City of Oregon City, we are requesting a meeting with your neighborhood association to discuss the project.
>
> Please confirm if email correspondence is an acceptable form of communication with your association.
>
> Regards,
>
> **Jacki Herb**
>
> **AKS ENGINEERING & FORESTRY, LLC**
> 12965 SW Herman Road, Suite 100 | Tualatin, OR 97062

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December 6, 2017

Neighborhood Meeting Minutes: Dotson Farms Annexation, Zone Change & Subdivision

Meeting Date: December 5, 2017
Time: 7:00 PM
Location: Casa Ixtapa, 407 Beavercreek Road, Oregon City, OR

In preparation for the submission of a land use application for annexation, zone change, and residential subdivision, the applicant attended a Hillendale Neighborhood Association steering committee meeting to present details, answer questions, and hear comments. Zach Gustafson, with AKS Engineering & Forestry, was present. The presentation included an overview of the project location, current and future zoning, lot sizes, lot configuration, public utilities, and public streets. The planned application and a general process and timeframe for the land use review and opportunities for public input were described. Sign-in sheets and business cards were provided.

Throughout the meeting, attendees asked questions and/or provided general comments about the project. The following topics were discussed:

- Anticipated timelines for land use approvals
- Questions about future house designs, lot dimensions, and setbacks
- Questions about emergency vehicle access to existing properties located southeast of the subject site currently served by the existing 20' asphalt driveway
- Questions regarding the traffic impact to S Leland Road
- Questions about pedestrian access to Wesley Lynn Park, and safety while walking along S Leland Road, and crossing S Leland Road at the intersection with S Jessie Avenue
- Specific questions about the design and layout of the sanitary sewer system
- Potential tree removal and preservation
- Questions regarding street light design and location
- Questions regarding stormwater management
- Questions about direct impact and cumulative impact to school capacity, nature and timing of involvement of school district in the land use review process, and what data the school district is sharing with the planning commission
- Other opportunities for public input

The meeting concluded at approximately 8:15 p.m.

Sincerely,
AKS ENGINEERING & FORESTRY, LLC

Zach Gustafson, Planner

AKS ENGINEERING & FORESTRY, LLC
12965 SW Herman Road, Suite 100, Tualatin, OR 97062
P: (503) 563-6151 F: (503) 563-6152

OFFICES IN: TUALATIN, OR - VANCOUVER, WA - KEIZER, OR - BEND, OR

Dotson Farms	Hillendale Neighborhood Association Meeting
December 5, 2017	Casa Ixtapa
7:00 p.m.	407 Beavercreek Road, Oregon City, OR

PLEASE PRINT CLEARLY

Printed Name	Full Mailing Address	Email Address	Zip Code	Phone #
Joyce Gifford	1324 Beaver Ln Oregon City 97045	Joyce@smALL FLAGs.com	97045	503 7233456
WILLIAM GIFFORD		William@ smALLFLAGS.com		
Roy Abrams	1304 Beaver ln oregon city	Royandanna@ centurylink.net	97045	503 656-4472
Vern Johnson	12473 Rogue River Hwy	VERN DONNA JOHNSON@ YAHOO.COM	97045	503-650-4685
Zach Gustafson	AKS	gustafsonz@aks-eng.com		503 -563-6151

TUALATIN · VANCOUVER · SALEM-KEIZER
12965 SW HERMAN RD., SUITE 100 · TUALATIN, OR 97062
AKS ENGINEERING & FORESTRY
WWW.AKS-ENG.COM
P: (503) 563-6151 F: (503) 563-6152

December 5, 2017

To whom it may concern:

Zach Gustafson with AKS Engineering & Forestry attended a Hillendale Neighborhood Association meeting and provided a project summary of a planned annexation, zone change and subdivision for property located south of the intersection of S. Leland Road and S. McCord Road.

Meeting Date: December 5, 2017
Time: 7:00 PM
Location: Casa Ixtapa, 407 Beavercreek Road, Oregon City, OR

Sincerely,

Roy [illegible] 12/5/17

Hillendale Neighborhood Association — Date

Exhibit O: City Pre-Application Conference Summary

OREGON CITY
Community Development Department
221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

PRE-APPLICATION MEETING NOTES
Date of Meeting: September 5th, 2017

File Number:	**PA 17-46** – Annexation / Zone Change / Subdivision
Address:	N/A (To be assigned)
Tax Assessor Map:	3-2E-07C -00199
Total Acres:	2.92 acres
Project Name:	Annexation, Zone Change to R-6, Subdivision
Staff Present:	Pete Walter, AICP, Associate Planner Email: pwalter@orcity.org Ph: (503) 496-1568 Mario De La Rosa, PE, Development Project Engineer, Email: mdelarosa@orcity.org Ph: (503) 974-5518

Approval Criteria

City Code Chapter 14

- OCMC 14.04.050.(E).(1-9). The required narrative statement in response to items 7(a) through (g) must be included:

  7. A narrative statement explaining the conditions surrounding the proposal and addressing the factors contained in the ordinance codified in this chapter, as relevant, including:

  a. *Statement of availability, capacity and status of existing water, sewer, drainage, transportation, park and school facilities;*
  b. *Statement of increased demand for such facilities to be generated by the proposed development, if any, at this time;*
  c. *Statement of additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand;*
  d. *Statement outlining method and source of financing required to provide additional facilities, if any;*
  e. *Statement of overall development concept and methods by which the physical and related social environment of the site, surrounding area and community will be enhanced;*
  f. *Statement of potential physical, aesthetic, and related social effects of the proposed, or potential development on the community as a whole and on the small subcommunity or neighborhood of which it will become a part; and proposed actions to mitigate such negative effects, if any;*
  g. *Statement indicating the type and nature of any comprehensive plan text or map amendments, or zoning text or map amendments that may be required to complete the proposed development;*

- OCMC 14.04.060 – Annexation Factors. Narrative shall address each of the required Annexation Factors (1) through (7). *When reviewing a proposed annexation, the commission shall consider the following factors, as relevant:*

  1. Adequacy of access to the site;
  Comment: Address how current and future access to the site is adequate.

  2. Conformity of the proposal with the city's comprehensive plan;
  Comment: The applicant's narrative should the applicable goals and policies. Staff will include the applicable goals and policies with the Code Response Template.

  3. Adequacy and availability of public facilities and services to service potential development;
  Comment: The applicant's narrative should the current Oregon City public facilities plans for Water, Sewer, Stormwater and Transportation and the respective demand placed on these services by the potential development of the site.

  4. Compliance with applicable sections of ORS Ch. 222, and Metro Code Section 3.09;
  Comment: The applicant's narrative should these criteria.

  5. Natural hazards identified by the city, such as wetlands, floodplains and steep slopes;
  Comment: The applicant's narrative should address any natural hazards present on site.

  6. Any significant adverse effects on specially designated open space, scenic, historic or natural resource areas by urbanization of the subject property at time of annexation;
  Comment: The applicant's narrative should address any specially designated open space, scenic, historic or natural resource areas on the site. Staff is not aware of any, although there are constraints on building in a powerline easement. We recommend contacting the County Historic Preservation staff for any cultural or historic records for the site.

  7. Lack of any significant adverse effects on the economic, social and physical environment of the community by the overall impact of the annexation.
  Comment: The applicant's narrative should address any significant adverse effects on the economic, social and physical environment of the community by the overall impact of the annexation.

Metro Code 3.09.045.A-D (Boundary Change Criteria)

- Whether the proposed boundary change will promote the timely, orderly and economic provision of public facilities and services.
- Whether the proposed boundary change will affect the quality and quantity of urban services
- Whether the proposed boundary change would eliminate or avoid unnecessary duplication of facilities or services.
- **Comment**: See comments from Public Works.
- Water - Please see attached comments from CRW regarding water services along Leland Road.
  Schools - Oregon City School District representative indicated verbally at the pre-application that school capacity at Gardiner Elementary and Oregon City High School should have sufficient capacity to serve development of the proposed annexation area.

Oregon City Comprehensive Plan – Applicable Goals and Policies

- Goal 14.3 - Orderly Provision of Services to Growth Areas
- Goal 14.4 – Annexation of Lands to the city

Concept Plan Goals and Policies

- This area was not within any Concept Plan study area boundary regulated under Metro Title 11.

Zone Change

- The Zone Change request to R-6 may be submitted concurrently with the annexation request or submitted separately and is a discretionary zone change processed pursuant to the criteria in OCMC 17.68.
- Non-discretionary default zoning is R-10 based on the designation of Low Density Residential, pursuant to OCMC 17.68.025.
- Discretionary re-zoning to R-6 must comply with the criteria in 17.68.020 - Criteria. These include:
  A. The proposal shall be consistent with the goals and policies of the comprehensive plan.
  B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed by the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.
  C. The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.
  D. Statewide planning goals shall be addressed if the comprehensive plan does not contain specific policies or provisions which control the amendment.
- A separate zone change application is required for both R-10 and R-6 rezoning.
- Applicant is advised to review and consider the City's decision on the current applications AN-16-0003 (OC Golf Course, 113 acres), and AN-16-0004 / ZC-16-0001 (Serres Property, 35 acres). Staff can provide this information.

Subdivision

- Pursuant to ORS 227.175, any applicant may elect to consolidate applications for two or more related permits needed for a single development project. Any grading activity associated with development shall be subject to preliminary review as part of the review process for the underlying development. It is the express policy of the city that development review not be segmented into discrete parts in a manner that precludes a comprehensive review of the entire development and its cumulative impacts.
- Review of a concurrent subdivision application may be submitted either concurrently with or separate from the annexation and zone change, however, the subdivision cannot be approved until the zone change is effective. The applicant should discuss and propose appropriate conditions of approval with staff and the City attorney if the applicant intends to submit the application for subdivision as a Type II.
- It appears that the subdivision could meet the requirements of the R-6 zone district and land division requirements
- Per OCMC 16.12.070 - Building site—Setbacks and building location. Lots 1, 2, 11 and 12 shall orient the front setback and the most architecturally significant elevation toward Leland Road. The applicant may propose access to the aforementioned lots by utilizing a shared driveway at the rear of the lots.

Transportation

Traffic Impact Analysis is required. Fees for review of the traffic impact analysis will be required pursuant to the TIA fee structure. The City's transportation consultant John Replinger has reviewed the pre-application and has the following comments;

The applicant will need to have a traffic engineer conduct a transportation study in conformance with the City's Guidelines for Transportation Impact Analyses available on the Oregon City website.

Based on the information provided by the applicant, it appears the transportation analysis associated with this development proposal can be satisfied by submittal of a Transportation Analysis Letter (TAL). This option is available when specific criteria are met. These include a determination that the development generates 24 or fewer AM and PM peak hour trips and fewer than 250 daily trips. Details for a TAL can be found in Section 3.1 of the Guidelines. It is the applicant's responsibility to verify the trip generation characteristics of the proposed development.

If the proposal includes a zone change, the applicant will also need to address the requirements of Oregon's Transportation Planning Rule. Specifically, the applicant shall address the provisions of 660-12-0060 Plan and Land Use Regulation Amendments. When a zone change is proposed, a future year analysis is required assessing the impact associated with the planning horizon specified in the city's adopted Transportation System Plan.

The applicant's traffic engineer is welcome to contact the city's traffic engineering consultant, John Replinger, at Replinger-Associates@comcast.net or at 503-719-3383.

To summarize, zone changes must comply with the Transportation Planning Rule, and development will not be permitted until compliance with the TPR is shown. ODOT staff will likely be involved with the scoping analysis for the TIA / TPR. A copy of the recent Staff Report with proposed Condition of Approval for transportation mitigation, developed in collaboration with ODOT staff, for the zone change and annexation of 35 acres north of Holcomb Boulevard (AN-16-0004/ZC-16-0001) may be used for reference in preparing the application.

Annexation Election

It appears that this annexation may not be currently exempt from the voter approval requirements of OCMC 14.04, pursuant to SB 1573, due to contiguity requirements. A recommendation to the City Commission will be drafted as a Condition of Approval to address the timing of the annexation.

Review Fees (2017 Fee Schedule)

Annexation:	$4,342.00
Zone Change:	$2,798.00
Traffic Impact Analysis:	
TIA Base Fee (<50 units):	$1,092.00
- Zone Change / Comp Plan Amendment	$2,046.00
Mailing Labels:	$15.00
Metro Mapping Fees:	$300.00
Subdivision:	$4,136.00 + $344 per lot

Neighborhood Association Meeting Required

Per OCMC 17.50.055 - Neighborhood association meeting. Documentation of the meeting with the applicable Neighborhood Association is required for a complete application. Staff will confirm which N.A. the annexation would be included within upon annexation. The annexation property is within the Hillendale Neighborhood Association boundary. See Web page http://www.orcity.org/community/neighborhood-associations for contact and meeting information.

Miscellaneous Comments
Staff will provide you a Code Response template similar to a Staff Report and electronic versions of the applicable plans, policies and approval criteria above to assist in the preparation of your application.

These pre-application conference notes were prepared in accordance with OCMC 17.50.050 - Preapplication conference.

A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.

B. A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the city will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

OREGON CITY

Public Works – Development Services

625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7829

DEVELOPMENT SERVICES

PRE-APPLICATION MEETING NOTES

Date: 09-05-2017

Planning Project Number:	PA 17-46
Address:	Adjacent to 19701 S Leland Road – Tax Lot 199
Map Number(s):	3S 2E 7 C
Tax Lot(s):	1400
Project Name:	Adjacent to 19701 S Leland Road Annexation/Subdivision
Meeting Date:	September 5, 2017
Reviewer(s):	Mario de la Rosa, PE

ENGINEERING - UTILITIES

Stormwater

1. The City Stormwater and Grading Design Standards dated 2015 must be adhered to for this development. The Standards can be found online here:**http://www.orcity.org/sites/default/files/final_manual_0.pdf**

2. A downstream analysis per the requirements of the Stormwater and Grading Design Standards will be required to document existing conditions and demonstrate adequate conveyance capacity of the natural and constructed drainage system downstream of the project site.

3. Based on review of City GIS System, the project site is mostly located within a high water table area. A Geotechnical Report will be required for this project and should identify elevation of ground water.

Water

1. The City of Oregon City has 12-inch water main located nearby within Leland Road. The water main would need to be extended to and through to the west property boundary along Leland Road.

2. Water service extension to adjacent property owners along Leland Road property frontage will be required for following addresses off of S Leland Road, 19600, 19622, 19681, 19691, and 19695.

3. An existing 6-inch water main owned by Clackamas River Water is located along the property frontage within S Leland Road.

4. The proposed annexation area is within the Upper Zone water system pressure zone.

5. The 2012 Water Distribution System Master Plan was adopted in February 2012. A PDF version of the adopted master plan is available on our City website.

6. The Water Master Plan currently indicates a 6" water main proposed for S Leland Road along the project frontage. However, the minimum water main size is 8-inches. The City will reimburse the Applicant for the cost difference between a 12-inch and 8-inch water main.

Sanitary Sewer

1. The 2014 Sanitary Sewer Master Plan Update was adopted in November 2014. A PDF version of the adopted master plan is available on our City website.

2. The 2014 Sanitary Sewer Master Plan identifies a proposed 8-inch, sanitary sewer main to be constructed along Leland Road in the vicinity of the proposed project.

3. An existing 8-inch PVC sanitary sewer main is located east of the proposed site along S Leland Road, which will need to be extended to the west end of the project frontage to serve the site.

4. An existing sanitary sewer manholes currently exists down Leland Road adjacent to the property line between 19717 and 19727 S Leland Road and is able to serve the site. (Existing Sewer Manhole 15133; Rim: 435.94, IE Out: 425.56)

5. Two-way cleanouts will be required for each lot located at Right-of-Way.

Transportation

1. No development of this property will occur as result of annexation. The transportation analysis will be deferred until the time a future zone change is approved.

2. Primary access to the subject property will be from the north along Leland Road. Leland Road is a minor arterial street owned by Clackamas County. Street improvements and permitting for Leland Road will need to be coordinated with Clackamas County.

3. SDC credits for construction of S Leland Road will be available similar to Lindsay Anne Estates.

Questions

<u>Access / Transportation / Circulation</u>

10. Please confirm if the City or County has jurisdiction of Leland Road, which jurisdiction standards apply, who will be reviewing plans, issuing permits, etc. RESPONSE: Leland Road is a Clackamas County owned roadway. Plans associated with road improvements will be reviewed/issued a permit by Clackamas County. All utilities within S Leland Road are owned by City of Oregon City and will be reviewed/issued a permit by City of Oregon City excluding the 6-inch water main owned by Clackamas River Water.

11. Please confirm access spacing requirements and if the planned spacing of the new street is acceptable. RESPONSE: Spacing between local streets is 150-feet.

12. Please discuss requirements for access to Leland Road for Lots 1 and 2. RESPONSE: Access for Lots 1 and 2 will need to be coordinated with Clackamas County. We believe it will need to be a shared driveway off of S Leland Road or access will be required from internal street.

13. Please confirm required right-of-way dedication for S. Leland Road, and the new internal street. RESPONSE: Right-of-Way dedication for S. Leland Road should meet the right-of-way required for a minor arterial and should match the right-of-way required for Lindsay Anne Estates. A 9-foot dedication was required for Lindsay Anne Estates for a half-street right-of-way width of 39-feet. Right-of-way dedication for the new internal street should meet the right-of-way required for a local street, which is 54-feet.

14. Please discuss requirements for frontage improvements along S. Leland Road. RESPONSE: Frontage improvements for S. Leland Road will need to be coordinated with Clackamas County.

15. Will a traffic study be required? If so, please describe the required scope. RESPONSE: See Planning Notes.

16. Please confirm if there are any known transportation issues in the area that may affect the annexation/zone change or subdivision applications. RESPONSE: See Planning Comments

Service and Utilities

17. Please confirm the stormwater requirements (water quality, detention, etc.) for this site/project. RESPONSE: Yes, per above, the City Stormwater and Grading Design Standards dated 2015 must be adhered to for this development.

18. Are the stormwater planters, rain gardens, or vegetated swales required to treat and detain stormwater runoff from the public right-of-way area? Can these facilities be located in the planter strip in between the curb and sidewalk? Does the City have any standard details yet? RESPONSE: Per the City's Stormwater and Grading Design Standards, low-impact development (LID) facilities such as planters, swales, rain gardens, ponds, and other vegetated facilities are best management practices and are the preferred strategy to meet the stormwater management requirements for water quality treatment, and flow control. Yes, facilities can be located in planter strip.

19. Please confirm access, side slope, and other requirements for the stormwater facility? RESPONSE: See Appendix C of Stormwater and Grading Standards for specific stormwater facility design.

20. Are there any known stormwater capacity issues with the site or surrounding areas? RESPONSE: To the best of our knowledge there are no known stormwater capacity issues within the project vicinity.

21. Are there any known water supply (capacity or pressure issues)? RESPONSE: No, per the Water Master Plan there are no known capacity or pressure issues.

22. Are there any known sanitary sewer capacity issues? RESPONSE: No, per the Sanitary Sewer Master Plan there are no known capacity issues. The master plan indicates the extension of 8-inch sanitary sewer lines in the vicinity.

23. Are there any other known utility issues that we should be made aware of? RESPONSE: No, not to the best of my knowledge.

Other

24. Please discuss the status of new City requirements for performance bonding and what items are planned to be included in the required performance bond. RESPONSE: Currently in progress, will have by time construction will start for this project. Everything in existing right-of-way plus erosion control, vegetation to button up site in event Contractor walks away from project.

25. How is this affected by Clackamas County's jurisdiction of Leland Road? RESPONSE: Applicant will need to coordinate with Clackamas County.

26. Please discuss the status of the City's new stormwater facility maintenance option program. Please describe the methodology for the City fee option and how it is calculated? RESPONSE: The stormwater facility maintenance option program is being implemented. Fee is calculated per SF of pond.

27. Please confirm that if the fee is paid to the City that the City will be responsible for replanting required vegetation that does not survive. RESPONSE: Yes, this is correct.

28. Please let us know of any issues or concerns with the layout and future development of any surrounding properties. RESPONSE: 1) A TPR Analysis will be required for the annexation; 2) PGE Review/Approval will be required for improvements within their easement. Potential height restrictions for trees etc.; 3) If unable to obtain permission to construct improvements along "pole" driveway, Applicant to pay fee-in-lieu; 4) If unable to dedicate R/W along "pole" land can be placed in Tract with provision to dedicate in the future if adjacent property develops.

OREGON CITY
Public Works – Development Services
625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7829

DRAFT

DEVELOPMENT SERVICES

PRE-APPLICATION MEETING NOTES

Date: 09-05-2017

Planning Project Number:	PA 17-46
Address:	Adjacent to 19701 S Leland Road – Tax Lot 199
Map Number(s):	3S 2E 7 C
Tax Lot(s):	1400
Project Name:	Adjacent to 19701 S Leland Road Annexation/Subdivision
Meeting Date:	September 5, 2017
Reviewer(s):	Mario de la Rosa, PE

ENGINEERING - UTILITIES

Stormwater

1. The City Stormwater and Grading Design Standards dated 2015 must be adhered to for this development. The Standards can be found online here:**http://www.orcity.org/sites/default/files/final_manual_0.pdf**

2. A downstream analysis per the requirements of the Stormwater and Grading Design Standards will be required to document existing conditions and demonstrate adequate conveyance capacity of the natural and constructed drainage system downstream of the project site.

3. Based on review of City GIS System, the project site is mostly located within a high water table area. A Geotechnical Report will be required for this project and should identify elevation of ground water.

4. ~~Applicant indicates stormwater outfall from proposed stormwater facility will be discharged to Leland Road or Unnamed Way and is still to be determined.~~

Water – SEE CRW LETTER DATED 9/5/17

1. The City of Oregon City has 12-inch water main located nearby within Leland Road. The water main would need to be extended to and through to the west property boundary along Leland Road.

2. Water service extension to adjacent property owners along Leland Road property frontage will be required for following addresses off of S Leland Road, 19600, 19622, and 19681.

3. An existing 6-inch water main owned by Clackamas River Water is located along the property frontage within S Leland Road.

4. The proposed annexation area is within the Upper Zone water system pressure zone.

5. The 2012 Water Distribution System Master Plan was adopted in February 2012. A PDF version of the adopted master plan is available on our City website.

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Sanitary Sewer

1. The 2014 Sanitary Sewer Master Plan Update was adopted in November 2014. A PDF version of the adopted master plan is available on our City website.

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3. An existing 8-inch PVC sanitary sewer main is located east of the proposed site along S Leland Road, which will need to be extended to the west end of the project frontage to serve the site.

4. An existing sanitary sewer manholes currently exists down Leland Road adjacent to the property line between 19717 and 19727 S Leland Road and is able to serve the site. (Existing Sewer Manhole 15133; Rim: 435.94, IE Out: 425.56)

5. Two-way cleanouts will be required for each lot located at Right-of-Way.

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1. No development of this property will occur as result of annexation. The transportation analysis will be deferred until the time a future zone change is approved.

2. Primary access to the subject property will be from the north along Leland Road. Leland Road is a minor arterial street owned by Clackamas County. Street improvements and permitting for Leland Road will need to be coordinated with Clackamas County.

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<u>Access / Transportation / Circulation</u>

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by City of Oregon City and will be reviewed/issued a permit by City of Oregon City excluding the 6-inch water main owned by Clackamas River Water.

11. Please confirm access spacing requirements and if the planned spacing of the new street is acceptable. RESPONSE: Spacing between local streets is 150-feet.

12. Please discuss requirements for access to Leland Road for Lots 1 and 2. RESPONSE: Access for Lots 1 and 2 will need to be coordinated with Clackamas County. We believe it will need to be a shared driveway off of S Leland Road or access will be required from internal street.

13. Please confirm required right-of-way dedication for S. Leland Road, Cherrywood Way, Cedarwood Way, and the new internal street. RESPONSE: Right-of-Way dedication for S. Leland Road should meet the right-of-way required for a minor arterial and should match the right-of-way required for Lindsay Anne Estates. A 9-foot dedication was required for Lindsay Anne Estates for a half-street right-of-way width of 39-feet. Right-of-way dedication for the new internal street should meet the right-of-way required for a local street, which is 54-feet.

14. Please discuss requirements for frontage improvements along S. Leland Road. RESPONSE: Frontage improvements for S. Leland Road will need to be coordinated with Clackamas County.

15. Will a traffic study be required? If so, please describe the required scope. RESPONSE: See Planning Notes.

16. Please confirm if there are any known transportation issues in the area that may affect the annexation/zone change or subdivision applications. RESPONSE: See Planning Comments

Service and Utilities

17. Please confirm the stormwater requirements (water quality, detention, etc.) for this site/project. RESPONSE: Yes, per above, the City Stormwater and Grading Design Standards dated 2015 must be adhered to for this development.

18. Are the stormwater planters, rain gardens, or vegetated swales required to treat and detain stormwater runoff from the public right-of-way area? Can these facilities be located in the planter strip in between the curb and sidewalk? Does the City have any standard details yet? RESPONSE: Per the City's Stormwater and Grading Design Standards, low-impact development (LID) facilities such as planters, swales, rain gardens, ponds, and other vegetated facilities are best management practices and are the preferred strategy to meet the stormwater management requirements for water quality treatment, and flow control. Yes, facilities can be located in planter strip.

19. Please confirm access, side slope, and other requirements for the stormwater facility? RESPONSE: See Appendix C of Stormwater and Grading Standards for specific stormwater facility design.

20. Are there any known stormwater capacity issues with the site or surrounding areas? RESPONSE: To the best of our knowledge there are no known stormwater capacity issues within the project vicinity.

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22. Are there any known sanitary sewer capacity issues? RESPONSE: No, per the Sanitary Sewer Master Plan there are no known capacity issues. The master plan indicates the extension of 8-inch sanitary sewer lines in the vicinity.

23. Are there any other known utility issues that we should be made aware of? RESPONSE: No, not to the best of my knowledge.

Service and Utilities

24. Please discuss the status of new City requirements for performance bonding and what items are planned to be included in the required performance bond. RESPONSE: Currently in progress, will have by time construction will start for this project. Everything in existing right-of-way plus erosion control, vegetation to button up site in event Contractor walks away from project.

25. How is this affected by Clackamas County's jurisdiction of Leland Road? RESPONSE: Applicant will need to coordinate with Clackamas County.

26. Please discuss the status of the City's new stormwater facility maintenance option program. Please describe the methodology for the City fee option and how it is calculated? RESPONSE: The stormwater facility maintenance option program is being implemented. Fee is calculated per SF of pond.

27. Please confirm that if the fee is paid to the City that the City will be responsible for replanting required vegetation that does not survive. RESPONSE: Yes, this is correct.

28. Please let us know of any issues or concerns with the layout and future development of any surrounding properties. RESPONSE: A TPR Analysis will be required for the annexation. PGE Review/Approval will be required for improvements within their easement. Potential height restrictions for trees etc;

Clackamas River Water

Date:	September 5, 2017	**SENT VIA EMAIL**
To:	Pete Walter, Associate Planning City of Oregon City	
From:	Betty Johnson, Engineering Associate Clackamas River Water	
Subject:	Development Pre-Application Conference:	**File #PA 17-46**
Applicant:	Rick Dotson Chris Goodell, AKS Engineering & Forestry	
Site Address:	No Situs, Oregon City, Or 97045	
Legal Description:	32E07C 00199	

Comments:

1. Clackamas River Water (CRW) has the following infrastructure within the S Leland Road public right-of-way:
   a. 1960 era 6-inch steel waterline located within S Leland Rd Road.

2. CRW does not serve the parcel with domestic service.

3. It is anticipated as the Leland Road area develops, water service will be through the Oregon City system. CRW is requesting the following service modifications to minimize future impacts:
   a. Developer to install a 1-inch service connection for future ¾" water meter at:
      i. 19695 S Leland Road – locate in future Tract B.
      ii. 19691 S Leland Road – locate in future Tract B.
      iii. 19681 S Leland Road – locate at or near existing service.
      iv. 19701 S Leland Road – locate at or near existing service.
      v. 19717 S Leland Road – locate at or near existing service.
      vi. 19658 S Leland Road – locate at or near existing service.
      vii. 19646 S Leland Road – locate at or near existing service.
      viii. 19634 S Leland Road – locate at or near existing service.
      ix. 19622 S Leland Road – locate at or near existing service.
      x. 19600 S Leland Road – locate at or near existing service.
   b. CRW will be financially responsible for those services not impacted by the development and located outside the City limits.
   c. CRW and Oregon City will negotiate at a later date a Joint User Agreement as the Oregon City area annexes and develops within the Urban Growth Area.

4. The applicant shall provide on the final subdivision plat any access or utility easements for the benefit of 19681, 19691 and 19695 S Leland Rd.

5. CRW will initiate the withdrawal process of this property from the District's Boundary.

16770 SE 82nd Drive
Clackamas, OR 97015-2539
503.722.9240
www.crwater.com

6. CRW will coordinate with the City of Oregon City on the S Leland Rd construction plan review regarding the transferring or abandonment of water services.

CRW has no objections to this application, however these comments are introductory and may change based on the preliminary/final design.

For further information regarding application please contact Betty Johnson, 503-723-2571.

cc: Clackamas Fire
Applicant
file

SCALE: 1"=40 FEET

40 0 16 24 32 40

ON 34" X 22" PAPER

NOTES:
1. INFORMATION SHOWN IS BASED ON A VARIETY OF SOURCES, INCLUDING GEOGRAPHIC INFORMATION SYSTEMS (GIS), AERIAL PHOTOGRAPHS, AS-BUILT INFORMATION, AND TAX ASSESSOR MAP INFORMATION.
2. DIMENSIONS SHOWN ARE APPROXIMATE.

TAX LOT 102
TAX MAP 3S 2E 7C

TAX LOT 192
TAX MAP 3S 2E 7C

TAX LOT 104
TAX MAP 3S 2E 7C

TAX LOT 106
TAX MAP 3S 2E 7C

TAX LOT 107
TAX MAP 3S 2E 7C

TAX LOT 105
TAX MAP 3S 2E 7C

TAX LOT 100
TAX MAP 3S 2E 7C

TAX LOT 400
TAX MAP 3S 2E 7DC

TAX LOT 500
TAX MAP 3S 2E 7DC

ON CRWD

TAX LOT 109
TAX MAP 3S 2E 7C

UGB

TAX LOT 101
TAX MAP 3S 2E 7C

62.5'

62.5'

	80.0'	72.0'	50.0'	50.0'	102.7'	
36.5'±	6 ±9,558 SF	5 ±8,640 SF	4 ±6,000 SF	3 ±6,000 SF	1 ±6,162 SF	60.0'
106.0'		120.0'	120.0'	120.0'	102.7' 9.0'	
					2 ±6,120 SF	60.0'
	66.0'	72.0'	50.0'	50.0'	88.7'	46.0'
22.0'			54.0'			22.0'

	90.7'	50.0'	50.0'	50.0'	86.0'	
46.0'	7 ±6,240 SF	8 ±6,297 SF	9 ±6,296 SF	10 ±6,296 SF	11 ±6,048 SF	46.9'
	104.7'		125.9'	125.9'	100.0'	
66.0'	TRACT A STORMWATER FACILITY ±6,905 SF	65.9'	TAX LOT 199 TAX MAP 3S 2E 7C		12 ±6,500 SF	65.0'
	104.7'	50.0'	50.0'	50.0'	100.0'	

22.0' 22.0'

TRACT C
±2,885 SF

TRACT B
±6,640 SF

144.2'

332.0'

ASPHALT DRIVEWAY

20.0' 90.2' 20.0' 54.0' 20.0' 332.0' 20.0'

ASPHALT DRIVEWAY

PGE POWER LINE TOWER

EXISTING 20.0' ROADWAY EASEMENT

125' PGE TRANSMISSION LINE EASEMENT BOOK 278 PAGE 308

TAX LOT 1400
TAX MAP 3S 2E 18

TAX LOT 1402
TAX MAP 3S 2E 18

TAX LOT 1401

S LELAND ROAD

30' 30'

10803

TAX LOT 600
TAX MAP 3S 2E 7DC

10750

DRIVEWAY

10745

10744

10739

TAX LOT 700
TAX MAP 3S 2E 7DC

DRIVEWAY

TAX LOT 800
TAX MAP 3S 2E 7DC

GRAVEL DRIVE

10634

TAX LOT 900
TAX MAP 3S 2E 7DC

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LELAND ROAD

OREGON

CLACKAMAS COUNTY TAX MAP 3-2E-7C

OREGON CITY

TAX LOT 199

PRELIMINARY SUBDIVISION LAYOUT

DESIGNED BY:	VHN
DRAWN BY:	VHN
CHECKED BY:	MBH
SCALE:	AS NOTED

DATE: 08/07/2017

PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS

JOB NUMBER
6141

SHEET
2

AKS DRAWING FILE: 6141 SITE.DWG | LAYOUT: LAYOUT

Oregon
Kate Brown, Governor

Parks and Recreation Department
State Historic Preservation Office
725 Summer St NE Ste C
Salem, OR 97301-1266
Phone (503) 986-0690
Fax (503) 986-0793
www.oregonheritage.org

September 7, 2017

Ms. Diliana Vassileva
City of Oregon City Planning
221 Molalla Ave
Ste 200
Oregon City, OR 97045

RE: SHPO Case No. 17-1445
City of Oregon City, PA 17-46, Subdivision
Subdivision construction
Leland Road (3S 2E 7 TL199), Oregon City, Clackamas County

Dear Ms. Vassileva:

Our office recently received a request to review your application for the project referenced above. In checking our statewide archaeological database, it appears that there have been no previous surveys completed near the proposed project area. However, the project area lies within an area generally perceived to have a high probability for possessing archaeological sites and/or buried human remains. In the absence of sufficient knowledge to predict the location of cultural resources within the project area, extreme caution is recommended during project related ground disturbing activities. Under state law (ORS 358.905 and ORS 97.74) archaeological sites, objects and human remains are protected on both state public and private lands in Oregon. If archaeological objects or sites are discovered during construction, all activities should cease immediately until a professional archaeologist can evaluate the discovery. If you have not already done so, be sure to consult with all appropriate Indian tribes regarding your proposed project. If the project has a federal nexus (i.e., federal funding, permitting, or oversight) please coordinate with the appropriate lead federal agency representative regarding compliance with Section 106 of the National Historic Preservation Act (NHPA). If you have any questions about the above comments or would like additional information, please feel free to contact our office at your convenience. In order to help us track your project accurately, please reference the SHPO case number above in all correspondence.

Sincerely,

Dennis Griffin, Ph.D., RPA
State Archaeologist
(503) 986-0674
dennis.griffin@oregon.gov

The Confederated Tribes of the Grand Ronde Community of Oregon

Historic Preservation Department
Phone (503) 879-2185
1-800 422-0232
Fax (503) 879-2126

8720 Grand Ronde Rd
Grand Ronde, OR 97347

August 31, 2017

Diliana Vassileva
Assistant Planner, Planning Division
City of Oregon City
PO Box 3040
221 Molalla Avenue, Suite 200
Oregon City, Oregon 97045

RE: Development Review in Oregon City -- Multiple Properties

Greetings Dilianna,

The Confederated Tribes of Grand Ronde have reviewed Oregon City Projects PA 17-43, PA 17-44, PA 17-45, and PA 17-46. The Oregon City area is a place of significance to the Tribes and these areas in particular haven't been investigated for existing archaeological resources. Therefore, we recommend that subsurface archaeological investigations be done at each location prior to any construction. We also request that an inadvertent discovery plan (IDP) be in place for each project.

Should you have any questions, please contact me at (503) 879-1675.

Respectfully,

Christopher Bailey
Cultural Protection Specialist
Cultural Protection
Historic Preservation
Confederated Tribes of the Grand Ronde Community of Oregon

chris.bailey@grandronde.org
503-879-1665

Exhibit P: Site Assessment and Planning Checklist

SITE ASSESSMENT AND PLANNING CHECKLIST

✓	Information needed	Attach supporting materials as needed
2.2.1 Site Information		
	Applicant contact information	Applicant name: Rick Dotson Business name: Oregon Builders and Restoration Contact address, phone number, and e-mail: 19695 Leland Road Oregon City, OR 97045
	Project location	Site address: No Address Site description: The property is located north of Lindsay Anne Estates Too Subdivision and west of S Leland Road. Major drainage basin: Beaver Basin Is the project site located with the WQRA as defined in OCMC 17.49? No (Y/N) *Include a vicinity map of the site (including location of property in relation to adjacent properties, roads, and pedestrian/bike facilities).*
	Project type	Identify types of development planned for the site such as commercial, industrial, single-family residential, multi-family residential, or other (describe): 12 single-family residential lots.
	Size of site	Size of site: 2.98± (acres) Number of existing/proposed tax lots: 1/12 Amount of new and replaced impervious area: 67,730 (SF)
2.2.2 Site Assessment *Note: Site assessment information may be available from the OCMaps online tool available through the City's website.*		
	Site Assessment Map	*Attach engineered scale Site Assessment Map, showing items below.*
	Topography Evaluate site and map slopes: *Flat: 0-10%* *Moderate: 10-25%* *Steep: 25% and greater*	*Surveyed or aerial-based mapping with 2-foot intervals for slopes 0-25% slope and 10-foot intervals for steeper. Indicate Geologic Hazard Areas as defined by OCMC 17.04.510 and Geologic Hazards Overlay Zone as defined by OCMC 17.04.515.*
	Soils and Groundwater Research and map site soil hydrologic group, depth to groundwater	NRCS Hydrologic Soil Type (show on map if more than one type present): C *Attach seasonal groundwater depth evaluation if available or required (site has floodplain and/or wetland). Groundwater depth information is available from the City.*
	Infiltration Assessment Determine soil capacity for onsite infiltration	If an infiltration test is performed, attach the documentation. Report the test type (Basic/Professional) performed and results. See **Appendix D** for the approved infiltration testing methods. Test type: Open Pit Falling Head 0 (inches/hour)

SITE ASSESSMENT AND PLANNING CHECKLIST		
	Hydrology – Conditions and Natural Features Map site floodplains, wetlands, streams, and location of outfalls	Clearly label on map all intermittent and perennial creeks/streams/rivers and wetlands, FEMA floodplains, and existing drainage systems (pipes, ditches, outfalls). Check here if present on site: _____ Sensitive area(s) _____ Floodplain _____
	Downstream Conveyance	Indicate the proposed point of discharge on the site plan. *Prepare and attach a Downstream Analysis as required by **Chapter 5**.* Check here to verify that adequate downstream capacity is available: X
	Existing Vegetation Map trees and vegetation	Using aerial photos or survey, map all trees and vegetation. Note all existing trees 6-inch caliper and greater (DBH) on map. Delineate and identify other areas and types of existing vegetation. The local planning authority may require a formal tree survey.
	Required Vegetated Buffers and Setbacks Assess and map buffers	Identify required vegetated buffer areas and other setback limits as defined by OCMC Title 17.
	Land Use and Zoning	Existing Land Use Zoning designation(s): R-6
	Access and Parking	Delineate proposed access points for all transportation modes on map. Indicate amount and area of required parking onsite if applicable, *attach documentation as needed.*
	Utilities to Site and Surrounding Area	Map existing utilities including stormwater facilities, storm conveyance, sewer, water, electricity, phone/cable, gas, and any public storm system/facility downstream.
2.2.3 Site Planning Design Objectives *(attach engineered scale Preliminary Site Plan)*		
	1. Preserve existing resources	**Required:** Show sensitive areas and buffers on site plan. Denote buffer areas that require enhancement. Show any proposed areas of encroachment and associated buffer mitigation areas.
	2. Minimize site disturbance	**Required:** Delineate protection areas on site plan for areas to remain undisturbed during construction.
	3. Minimize soil compaction	**Required:** Delineate and note temporary fencing on site plan for proposed infiltration facilities, vegetated stormwater management facilities, and re-vegetation areas.
	4. Minimize imperviousness	**Required:** Delineate proposed impervious areas and proposed impervious area reduction methods on the site plan. A. Total proposed new/replaced impervious area: 67,730 (SF) B. Area of proposed Green Roofs: 0 (SF) C. Area of proposed pervious pavements: 0 (SF) D. Describe type of pavers or pavement proposed: _____ E. Impervious area requiring management [A-(B+C)]: 67,730 (SF)

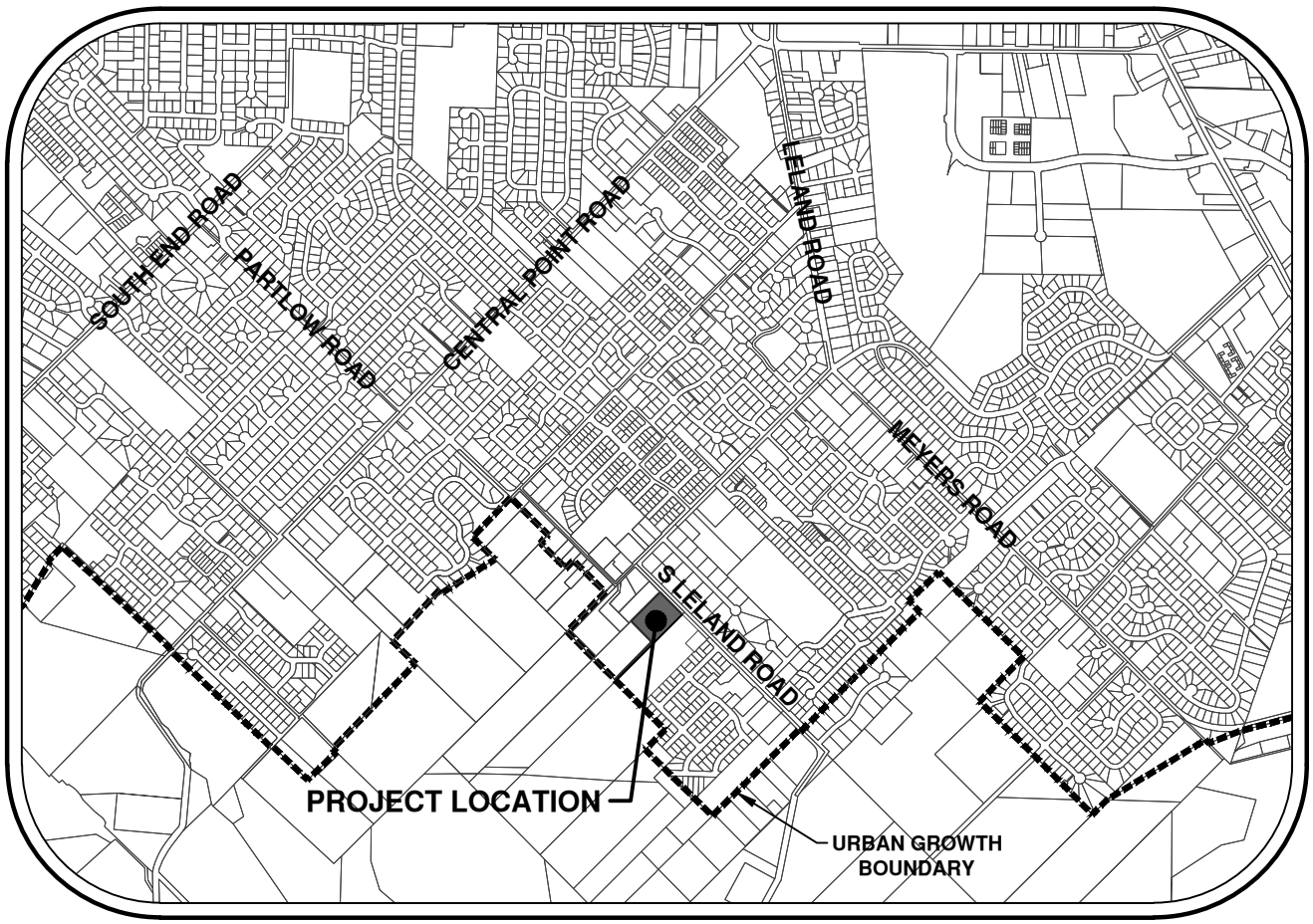
SITE ASSESSMENT AND PLANNING CHECKLIST

2.2.4 Proposed Stormwater Management Strategy

	Proposed Stormwater Management Strategy	_____ Infiltration facilities _____ Surface Infiltration facilities to the MEP _____ Full onsite retention/infiltration up to the 10-year storm event X Infiltration facilities are limited by the following conditions *(include documentation to demonstrate the limiting condition and choose an alternate strategy below):* _____ Stormwater management facility to be located on fill _____ Steep slopes X High groundwater See Geotechnical Report _____ Contaminated soils _____ Conflict with required Source Controls (**Chapter 6**) _____ Onsite Stormwater management facilities (indicate below) _____ Offsite stormwater management facilities/regional facilities _____ Fee in Lieu, as determined by the City
	Preliminary Facility Selection/Sizing	Check all that apply, *attach output from BMP Sizing Tool*, and show proposed Stormwater Management Facilities on Preliminary Site Plan. LID facilities: _____ Infiltration Stormwater Planter X Filtration Stormwater Planter _____ Infiltration Rain Garden _____ Filtration Rain Garden _____ Vegetated Swale X Detention Pond _____ Infiltration Trench _____ Manufactured Treatment Technology _____ Other: _____
	Verify Minimum Facility Size	A. Required surface area of onsite surface infiltration facilities: As determined by BMP sizing tool or engineered method: 4,620 (SF) B. Calculate MEP surface area of surface infiltration facilities for sites with limiting conditions: Total new/replaced impervious area (SF) x 0.10 = 6,773 (SF) C. Calculate required surface area of onsite LID facilities: Smaller of [A] or [B]: 4,620 (SF) D. Proposed surface infiltration facility size(s): From site plan: 4,655 (SF) *must be larger than [C]*

SITE ASSESSMENT AND PLANNING CHECKLIST		
2.2.5 Other Project Requirements		
	Grading Permit	Review OCMC 15.48 to determine whether a grading permit will be required. Grading permit required? Y (Y/N) Type of Grading Plan proposed (see **Chapter 3**): Engineered Grading Plan
	Erosion Prevention and Sediment Control	Identify the required permits: _____ ESC Permit from the City *(sites that include 1,000+ SF new or replaced impervious area)* X 1200-C Permit from DEQ *(sites that disturb 1 acre or more land surface)*
	Source Control for High Use Sites	Identify whether the proposed development will include any of the following: _____ Fuel Dispensing Facilities and Surrounding Traffic Areas _____ Above-Ground Storage of Liquid Materials _____ Solid Waste Storage Areas, Containers, and Trash Compactors _____ Exterior Storage of Bulk Materials _____ Material Transfer Areas/Loading Docks _____ Equipment and/or Vehicle Washing Facilities _____ Development on Land With Suspected or Known Contamination _____ Covered Vehicle Parking Areas _____ Industrial and Commercial High Traffic Areas _____ Other land uses subject to the ODEQ 1200-Z Industrial Stormwater Permit
	Other Permits	Identify other natural resources related permits from local, state, or federal agencies that may be required as part of the proposed development activity. It is the responsibility of the applicant to identify and obtain required permits prior to project approval. List other anticipated permits: N/A

VICINITY MAP



VICINITY MAP

NOT TO SCALE

N

SITE ASSESSMENT MAP

NOTES:

- NRCS HYDROLOGICAL SOIL TYPE: BORNSTEDL SILT LOAM AND JORY SILTY CLAY LOAM
- INFILTRATION ASSESSMENT: INFILTRATION RATE IS 0 INCH/HR AND NOT RECOMMENDED PER GEOTECH ENGINEERING
- LAND USE AND ZONING: R-6

N

SCALE: 1" = 40 FEET

40 0 16 24 32 40

TAX LOT 107
TAX MAP 3S 2E 7C

TAX LOT 105
TAX MAP 3S 2E 7C

TAX LOT 300
TAX MAP 3S 2E 7DC

TAX LOT 400
TAX MAP 3S 2E 7DC

TAX LOT 500
TAX MAP 3S 2E 7DC

TAX LOT 600
TAX MAP 3S 2E 7DC

TAX LOT 700
TAX MAP 3S 2E 7DC

TAX LOT 800
TAX MAP 3S 2E 7DC

TAX LOT 900
TAX MAP 3S 2E 7DC

TAX LOT 100
TAX MAP 3S 2E 7C

TAX LOT 106
TAX MAP 3S 2E 7C

TAX LOT 109
TAX MAP 3S 2E 7C
AREA: 8.70 ACRES±

TAX LOT 101
TAX MAP 3S 2E 7C

TAX LOT 199
TAX MAP 3S 2E 7C
AREA: 2.98 ACRES±

TAX LOT 1400
TAX MAP 3S 2E 18

TAX LOT 1402
TAX MAP 3S 2E 18

TAX LOT 1401

DRIVEWAY
EX 8" DIP CULVERT IE: 443.54
CULVERT END NOT LOCATED
EX 12" CMP CULVERT IE: 445.51
EX 12" CMP CULVERT IE: 446.40
ROCK RETAINING WALL
CULVERT END NOT LOCATED
EX 12" CONC CULVERT IE: 447.61
GRAVEL DRIVE
CULVERT END NOT LOCATED
EX 12" CONC CULVERT IE: 445.12
EX 12" CPP CULVERT IE: 443.40
EX 12" CPP CULVERT IE: 443.08
EX 12" CONC CULVERT IE: 442.36
EX 12" CSP CULVERT IE: 441.96
STORMWATER DISCHARGE CONNECTION POINT
EX 12" CONC CULVERT IE: 441.36
CULVERT END NOT LOCATED
EX 12" CSP CULVERT IE: 439.08
EX 12" CONC CULVERT IE: 437.09
EX 8" STEEL CULVERT IE: 436.29
EX 6" PVC CULVERT IE: 434.51
EX 16" CONC CULVERT IE: 433.62
EX 12" CONC CULVERT IE: 441.35

GRAVEL PATH
STONE RETAINING WALL
WOOD BEAM SWING SET
GRAVEL DRIVE
END OF POWER LOCATES
ASPHALT DRIVEWAY
END OF UTILITY LOCATES
125' PGE TRANSMISSION LINE EASEMENT BOOK 278 PAGE 308
20.00' ACCESS EASEMENT PER DOC. NO. 89-42884
ASPHALT DRIVEWAY
GRAVEL DRIVE
PGE POWER LINE TOWER
OUTHOUSE
EX BASKETBALL HOOP
BARN
CARPORT
STONE PATIO
CHICKEN COOP
POLE WITH LIGHT AND DROP
COVERED PORCH
HOUSE
GRAVEL DRIVE
EX STM MH
EX SAN MH
DEER CROSSING SIGN

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
aks-eng.com

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DOTSON FARMS SUBDIVISION

OREGON CITY OREGON
CLACKAMAS COUNTY TAX MAP 3S 2E 7C
TAX LOT 199

SITE ASSESSMENT MAP

DESIGNED BY:	VHN
DRAWN BY:	AMF
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE: 12/15/2017	

REVISIONS

JOB NUMBER
6141

SHEET
1

PRELIMINARY SITE PLAN

AKS DRAWING FILE: 6141 POST BASIN MAP-FACILITIES.DWG | LAYOUT: POST

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DOTSON FARMS SUBDIVISION

OREGON

CLACKAMAS COUNTY TAX MAP3S 2E 7C

OREGON CITY

TAX LOT 199

STORMWATER FACILITIES LOCATION PLAN

DESIGNED BY:	VHN
DRAWN BY:	AMF
CHECKED BY:	MBH
SCALE:	AS NOTED
DATE:	12/14/2017

REVISIONS

JOB NUMBER
6141

SHEET

BMP SIZING TOOL REPORT

WES BMP Sizing Software Version 1.6.0.1, August 2015

WES BMP Sizing Report

Project Information

Project Name	Dotson Farms
Project Type	Subdivision
Location	
Stormwater Management Area	3850
Project Applicant	Oregon Builders and Restoration
Jurisdiction	OutofDistrict

Drainage Management Area

Name	Area (sq-ft)	Pre-Project Cover	Post-Project Cover	DMA Soil Type	BMP
Basin 1 - Pervious	200	Forested	Grass	C	Basin 1 - Planter
Basin 1 - Impervious	1,750	Forested	ConventionalConcrete	C	Basin 1 - Planter
Basin 7 - Impervious	4,950	Forested	ConventionalConcrete	C	Basin 7 - Planter
Basin 7 - Pervious	550	Forested	Grass	C	Basin 7 - Planter
Basin 8 - Impervious	4,670	Forested	ConventionalConcrete	C	Basin 8 - Planter
Basin 8 - Pervious	530	Forested	Grass	C	Basin 8 - Planter
Basin 6 - Roof	13,200	Forested	Roofs	C	Pond
Basin 6 - Impervious	9,750	Forested	ConventionalConcrete	C	Basin 6 - Planter
Basin 6 - Pervious	22,950	Forested	Grass	C	Basin 6 - Planter
Basin 4 - Roof	2,640	Forested	Roofs	C	Pond
Basin 4 - Impervious	2,680	Forested	ConventionalConcrete	C	Basin 4 - Planter
Basin 4 - Pervious	7,520	Forested	Grass	C	Basin 4 - Planter
Basin 3 - Roof	2,640	Forested	Roofs	C	Pond
Basin 3 - Impervious	1,500	Forested	ConventionalConcrete	C	Basin 3 - Planter
Basin 3 - Pervious	3,770	Forested	Grass	C	Basin 3 - Planter

Basin 2 - Impervious	1,000	Forested	ConventionalConcrete	C	Pond
Basin 2 - Pervious	1,200	Forested	Grass	C	Pond
Basin 5 - Roof	13,200	Forested	Roofs	C	Pond
Basin 5 - Impervious	9,750	Forested	ConventionalConcrete	C	Basin 5 - Planter
Basin 5 - Pervious	20,850	Forested	Grass	C	Basin 5 - Planter

LID Facility Sizing Details

LID ID	Design Criteria	BMP Type	Facility Soil Type	Minimum Area (sq-ft)	Planned Areas (sq-ft)	Orifice Diameter (in)
Basin 1 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	27.1	30.0	0.2
Basin 7 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	76.6	80.0	0.4
Basin 8 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	72.4	80.0	0.4
Basin 6 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	246.1	250.0	0.7
Basin 5 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	236.9	250.0	0.7
Basin 4 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	72.9	75.0	0.4
Basin 3 - Planter	WaterQuality	Stormwater Planter - Filtration	Lined	38.9	40.0	0.3

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	4.75	3,850.0	3	11,172.3	7,865.8	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

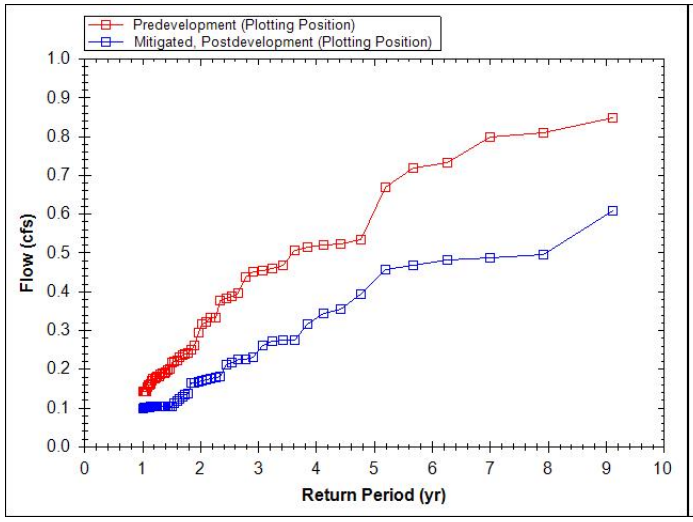
Shape Curve

Depth (ft)	Area (sq ft)
4.8	3,850.0

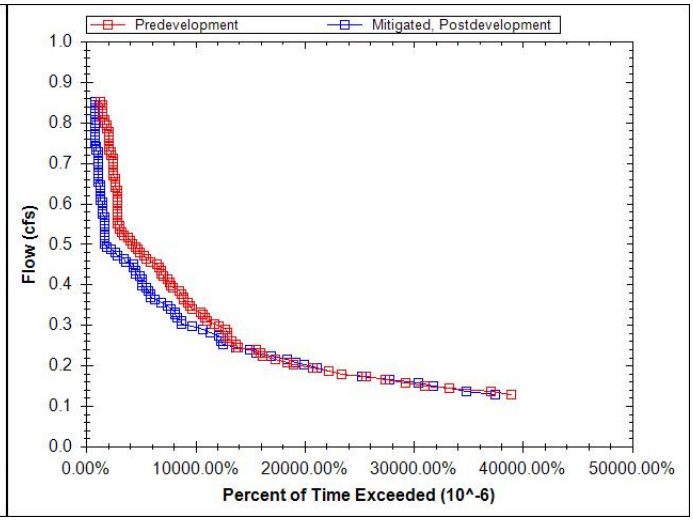
Outlet Structure Details

Lower Orifice Invert (ft)	0.0
Lower Orifice Dia (in)	1.5
Upper Orifice Invert(ft)	3.2
Upper Orifice Dia (in)	4.7
Overflow Weir Invert(ft)	3.8
Overflow Weir Length (ft)	6.3

Flow Frequency Chart



Flow Duration Chart



LINDSAY ANNE ESTATES
STORMWATER REPORT AND
DOWNSTREAM ANALYSIS

Lindsay Anne Estates

Stormwater Report

Date:	March, 2014
Client:	Rian Park Development, Inc. 15239 S Lakeridge Way Oregon City, OR 97045
Engineering Contact:	Monty Hurley, PE, PLS
Engineering Firm:	AKS Engineering & Forestry, LLC.
AKS Job No.:	3589

RENEWAL DATE: 6/30/15

AKS Engineering & Forestry

13910 SW Galbreath Drive, Suite 100
Sherwood, OR 97140
P: (503) 925-8799
www.aks-eng.com

TABLE OF CONTENTS

PRELIMINARY STORMWATER REPORT

PROJECT: LINDSAY ANNE ESTATES

1.0 PURPOSE OF REPORT

The purpose of this report is to document the criteria for which the stormwater for this site was designed to meet, the sources of information upon which the analysis is based, the design methodology, and the results of the analysis.

2.0 PROJECT LOCATION/DESCRIPTION

The proposed development is on approximately 6.77 acres in the northeast one-quarter and northwest one-quarter of section 18, township 3 South, Range 2 East, Willamette Meridian, City of Oregon City, Clackamas County, Oregon. It is also identified as Tax Lot 1300, Clackamas County Assessor's Map No. 3S-2E-18. The project site has frontage along Leland Road.

Stormwater from the site is proposed to be routed to a stormwater facility that will be constructed on Tract A.

3.0 REGULATORY DESIGN CRITERIA

3.1 STORMWATER QUANTITY MANAGEMENT CRITERIA

The required stormwater quantity management criteria are summarized below.

The post-development peak stormwater discharge rate from the site for the two-year, 24-hour duration design storm event shall at no time exceed half the pre-development peak stormwater runoff rate for the same design storm event.

The post-development peak stormwater discharge rate from the site for the five-year, 24-hour duration design storm event shall at no time exceed the pre-development peak stormwater runoff rate for the same design storm event.

The post-development peak stormwater discharge rate from the site for the 25-year, 24-hour duration design storm event shall at no time exceed the pre-development peak stormwater runoff rate for the ten-year, 24-hour duration design storm event.

The design storms are based on the standard SCS Type 1A rainfall distribution with a 24-hour distribution and a total depth of 2.6" (2-year), 3.1" (5-year), 3.4" (10-year), 4.0" (25-year), and 4.5" (100-year).

3.2 STORMWATER QUALITY MANAGEMENT CRITERIA

The required stormwater quality management criteria are summarized below:

The water quality design storm is 1/3 of the SCS 2-year / 24-hour design storm (0.87").

The water quality treatment will be achieved with an extended wet pond. Permanent pool volume shall be no less than 50% of the design water quality storm.

The remainder of the volume shall be released through an orifice sized to release the stormwater in no less than 12 hours.

3.3 FLOOD PLAIN
There are no flood plains shown on the Flood Insurance Rate Map (FIRM) produced by the Federal Emergency Management Agency (FEMA).

3.4 REQUIRED PERMITS
No permits are needed from DSL or USACE for this project.

4.0 SUMMARY OF ON-SITE STORMWATER DETENTION RESULTS

See Stormwater Summary Table at the end.

5.0 SOURCES OF INFORMATION AND DESIGN METHODOLOGY

The Santa Barbara Urban Hydrograph (SBUH) Method was used for the stormwater analysis. This method utilizes the SCS Type 1A 24-hour storm. HydroCAD software aided in the analysis. References are cited at the end of the report.

6.0 DESIGN PARAMETERS

6.1 DESIGN STORM

6.1.1 STORMWATER DETENTION FACILITY DESIGN

All of the flow results in stormwater summary table are incorporated in the detention pond sizing and analysis. The flow results stated in the table reflect the maximum flows released from the pond.

6.1.2 INLET AND CONDUIT SIZING

The stormwater inlets (catch basins) for the site are placed according to the grading (at all low points in grade and other necessary locations) and will adequately handle the stormwater for the site. Oversized catch basin curb inlets (4A) will be placed at all low points. The distance between catch basins is generally 400 feet or less.

The stormwater pipes will be sized from the SBUH method to adequately convey the 25-year storm event (gravity flow).

6.2 PRE-DEVELOPED SITE TOPOGRAPHY AND LAND USE

6.2.1 SITE TOPOGRAPHY

The site slopes to the east with slopes generally less than 5%.

6.2.2 LAND USE

There are existing homes and outbuildings with pastures, orchards, and scattered trees on the site.

6.2.3 PRE-DEVELOPED INPUT PARAMETERS

The input parameters are shown for each subcatchment (basin) in the appendices.

6.3 SOIL TYPE

The soils for this site consist of Bornstedt silt loam and Jory silty clay loam. Per the City of Oregon City Stormwater and Grading Design Standards, these soils belong to hydrologic soil group "C". The applicable soils information is provided in the appendices.

6.4 POST-DEVELOPED SITE TOPOGRAPHY AND LAND USE

6.4.1 SITE TOPOGRAPHY

The post-developed site topography will be altered from the pre-developed site topography to allow for the construction of streets and attached housing. There are no substantial terrain alterations.

6.4.2 LAND USE

The post-developed land use consists of 35 lots conforming to R6 standards for detached single family homes, one tract for a stormwater facility, and three public streets.

6.4.3 POST-DEVELOPED INPUT PARAMETERS

The input parameters are shown for each subcatchment (basin) and pond in the appendices. The calculation method for determination of impervious area includes measuring all the area within the right-of-way as impervious and adding 2,500 square feet impervious per lot.

6.5 DESCRIPTION OF OFF-SITE CONTRIBUTORY BASINS

There are two upstream basins, one is adjacent properties to the west and the other is along Leland Road. Only the upstream basin to the west is contribute to the proposed pond after this development. This basin is generally pastureland with a few structures.

The basin along Leland Road consists of pavement and grass land.

7.0 CALCULATION METHODOLOGY

7.1 PROPOSED STORMWATER CONDUIT SIZING AND INLET SPACING

The proposed stormwater pipes will be sized during final engineering from the SBUH method and will adequately convey the 25-year storm event (gravity flow).

7.2 PROPOSED STORMWATER QUANTITY CONTROL (DETENTION) FACILITY DESIGN

The input parameters are shown for each subcatchment (basin) and the pond in the appendices. They are determined by topographic survey information, aerial photos and contours, design, and analysis. The hydrographs were created with HydroCAD software. Pond is utilized to adequately address stormwater quantity (detention) requirements from

the *City of Oregon City Public Works Stormwater and Grading Design Standards (November 17, 1999).*

7.3 PROPOSED STORMWATER QUALITY CONTROL FACILITY DESIGN
The input parameters are shown for each subcatchment (basin) and the pond in the appendices. They are determined by topographic survey information, aerial photos, contours, design, and analysis. The hydrographs were created with HydroCAD software. Pond is utilized to adequately address the stormwater quality requirements from the *City of Oregon City Public Works Stormwater and Grading Design Standards (November 17, 1999).* Half of the water quality design storm (1/3 of the 2-year storm) is detained as the permanent pool, and the remaining half is released over 12 hours.

7.4 ENERGY DISSIPATER CALCULATIONS
Rip-rap will be placed at the inlet and outlet of the pond to act as an energy dissipater. The required rip-rap size shall be a minimum of Class 100.

7.5 DOWNSTREAM ANALYSIS
This site is located in the Beaver Basin (designated in the City's Drainage Master Plan). Per *City of Oregon City Public Works Stormwater and Grading Design Standards (November 17, 1999),* the 10-year storm event is use for downstream analysis when the contributing drainage area is less than 40 acres.

Stormwater flows from the on-site detention pond discharge off-site into an existing drainage channel on tax lot 1204 that has been noted as possibly being a jurisdictional stream. The well-defined drainage channel is approximately 3-5 feet wide and 1 feet deep and free from any obstruction. Beyond the drainage channel, there are two existing 12-inch culverts under driveways on tax lots 1282 and 1205. Stormwater peak flow will pass through these existing culverts under surcharged conditions. These head waters / flows will overtop the driveways and continue to flow downstream without impact any building structures.

Downstream of the culvert, stormwater flows continue into an existing well-defined drainage channel as they have historically. The existing drainage channel eventually runs easterly and then continues southerly along the Leland Road public right-of-way.

Any peak storm events that are greater than the 10-year storm event, may result in flows that overtop area drains and driveways but will not impact existing building structures.

7.6 CULVERT ANALYSIS
No culverts are proposed on the site.

8.0 STORMWATER QUANTITY CONTROL FACILITY OPERATION
The stormwater from the site will be routed through a series of curb inlets, pipes, and manholes prior to reaching the pond in Tract A. There are two main inlets, one lateral, and one outlet in the pond. Rip-rap will be placed at each of these. The pond bottom is at elevation *428.00*. There is a permanent pool volume of *approximately 5,249* cubic feet

(~1.10 feet deep). Stormwater is conveyed from the pond to outfall through the following orifices:

Pond Outlet	Size	Type	Invert Elevation	Purpose
Orifice A	8.3" diameter	Round Orifice	429.10	Water Quality
Orifice B	11.5" diameter	Round Orifice	430.37	Detention
Weir C	8' long Sharp-Crested	Rectangular Weir	431.50	Emergency Overflow

The grading and compaction guidelines from the *City of Oregon City Public Works Stormwater and Grading Design Standards (November 17, 1999)* shall be adhered to the maximum extent possible.

9.0 STORMWATER QUALITY CONTROL FACILITY OPERATION

The stormwater for the site will be routed through a series of catch basins, pipes, and manholes. The catch basins will be sumped. Water quality is provided in the extended wet pond (with permanent dead storage) through gravitational settling, biological processes, and hydraulic residence time. As stated above, the pond has a bottom elevation of *428.00*. There is a permanent pool volume of *approximately 5,249* cubic feet (~1.10 feet deep). The remaining water quality volume is conveyed to outfall via Orifice A, which was sized to release the volume over 12 hours. These were sized from the design criteria for an Extended Wet Pond (with detention storage above) described in the *City of Oregon City Public Works Stormwater and Grading Design Standards (November 17, 1999).*

10.0 STORMWATER DETENTION POND SAFEGUARDS

Calculations for the 100-year storm event are included. The stormwater pond is designed to adequately handle this storm event. If the outlet structure becomes plugged or for some other reason cannot convey the stormwater, then the stormwater will overflow through the emergency overflow. A channel lined with rip-rap will serve as a overflow to release stormwater in the event that the outlet structure is plugged. The emergency overflows are sized to accommodate the flows from the 100-year storm (assuming the outlet structure is plugged). There are no foreseen problems with this.

STORMWATER SUMMARY

The table below shows a summary of the peak flows for each storm event.

STORMWATER SUMMARY TABLE

	PRE-DEVELOPED PEAK FLOWS (CFS)			
CATCHMENT	2-YR (2.6")	5-YR (3.1")	10-YR (3.4")	25-YR (4.0")
10-i Impervious Area	0.17	0.21	0.23	0.28
11-P Pervious Area (Orchard)	1.27	1.63	1.84	2.27
12-P Pervious Area (Pasture)	0.71	0.99	1.16	1.52
13-S Offsite Contribute Basin West	0.44	0.62	0.73	0.96
14-S Offsite Contribute Basin Leland	0.55	0.73	0.83	1.05

	POST-DEVELOPED PEAK FLOWS (CFS)		
	2-YR (2.6")	5-YR (3.1")	25-YR (4.0")
***ALLOWABLE RELEASE RATE**	2.07	4.18	5.24
POND RELEASE RATE	2.04	3.32	5.15

*The allowable release rate for the post-developed 2-year storm event is equal to HALF of the sum of the pre-developed peak runoff rate for the 2-year storm from Catchments 10-i, 11-P, and 12-P plus the sum of the pre-developed peak runoff rates for the 2-year storm from Catchments 13-S, and 14-S.

*The allowable release rate for the post-developed 5-year storm event is equal to the sum of the pre-developed peak flows for the 5-year storm from Catchments 10-i, 11-P, and 12-P plus the sum of the pre-developed peak runoff rates for the 5-year storm from Catchments 13-S, and 14-S.

*The allowable release rate for the post-developed 25-year storm event is equal to the sum of the pre-developed peak runoff rate for the 10-year storm from Catchments 10-i, 11-P, and 12-P plus the sum of the pre-developed peak runoff rates for the 25-year storm from Catchments 13-S, and 14-S.

TIME OF CONCENTRATION SUMMARY

The table below shows a summary of the time of concentration.

TIME OF CONCENTRATION SUMMARY TABLE

EXISTING CONDITION BASIN CONTRIBUTE TO PROPOSED POND

CATCHMENT	TIME (minute)
10-i Impervious Area	5.0
11-P Pervious Area (Orchard)	27.2
12-P Pervious Area (Pasture)	11.9
13-S Offsite Contribute Basin West	30.3

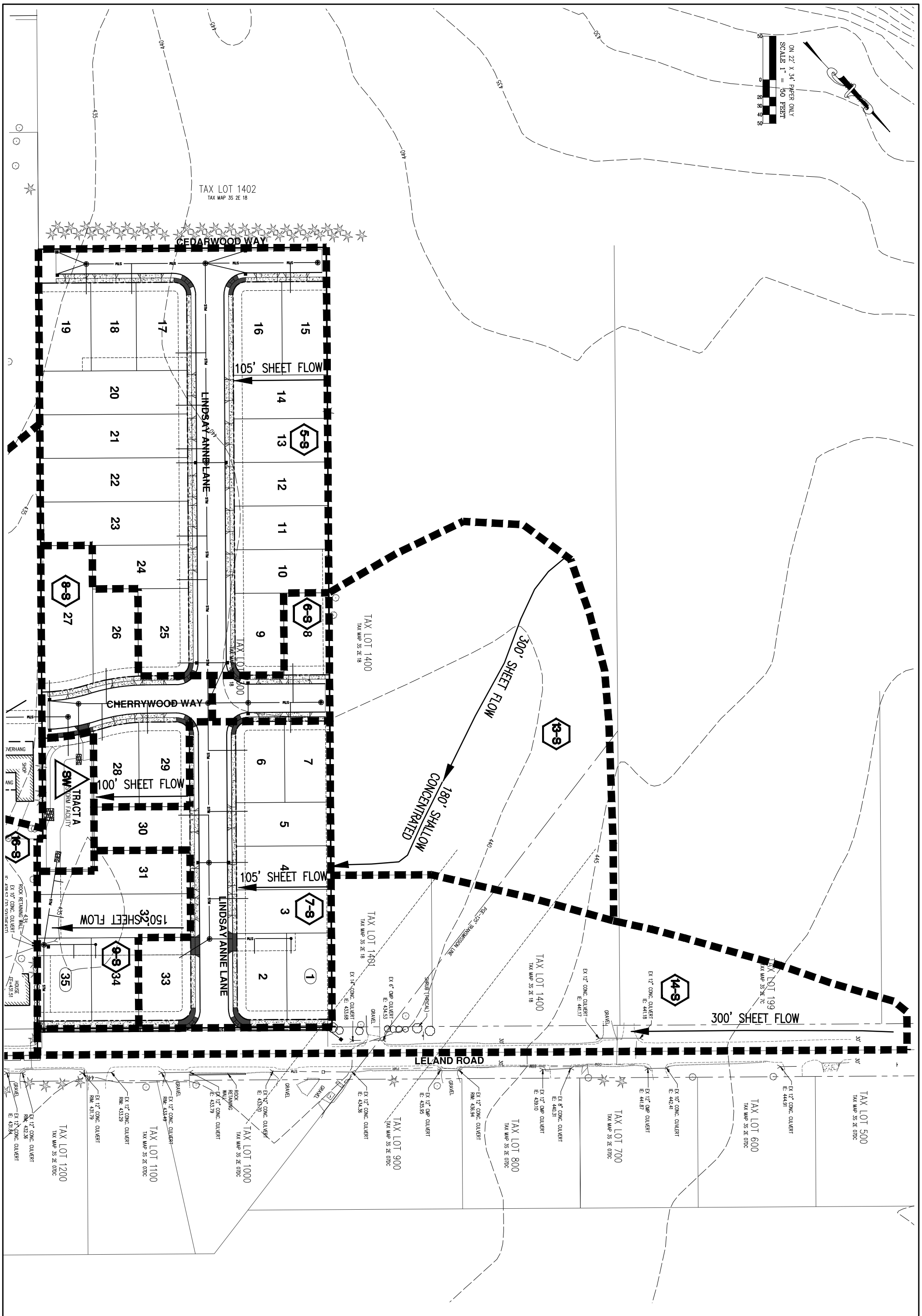
POST-DEVELOPED CONDITION

CATCHMENT	TIME (minute)
5-S West MH 23 Basin	11.3
6-S North MH 23 Basin	5.0
7-S East MH 23 Basin	14.9
8-S South MH 23 Basin	9.2
9-S East Pond Basin	15.0
13-S Offsite Contribute Basin West	53.3
14-S Offsite Contribute Basin Leland	42.8

DOWNSTREAM STUDY

CATCHMENT	TIME (minute)
5-S West MH 23 Basin	11.3
6-S North MH 23 Basin	5.0
7-S East MH 23 Basin	14.9
8-S South MH 23 Basin	9.2
9-S East Pond Basin	15.0
13-S Offsite Contribute Basin West	53.3
14-S Offsite Contribute Basin Leland	42.8
15-S Offsite Contribute Basin South	28.3
16-S Offsite Contribute Basin Leland South	14.3

APPENDIX 6-1
DOWNSTREAM ANALYSIS



ENGINEERING · PLANNING
SURVEYING · FORESTRY

13910 SW GALBREATH DR.,
SUITE 100
SHERWOOD, OR 97140
PHONE: (503) 925-8799
FAX: (503) 925-8969

AKS ENGINEERING & FORESTRY

LINDSAY ANNE ESTATES

OREGON CITY OREGON

TAX LOT 1300 CLACKAMAS COUNTY TAX MAP 3S 2E 18

DOWNSTREAM STUDY MAP

DESIGNED BY: VN
DRAWN BY: VN, BLF
CHECKED BY: MBH, CG
DRAWING NO.: 3589 BASIN MAP
SCALE: AS NOTED

PREPARED FOR:
RIAN PARK DEVELOPMENT, INC.
15239 S LAKERIDGE WAY
OREGON CITY, OR 97045

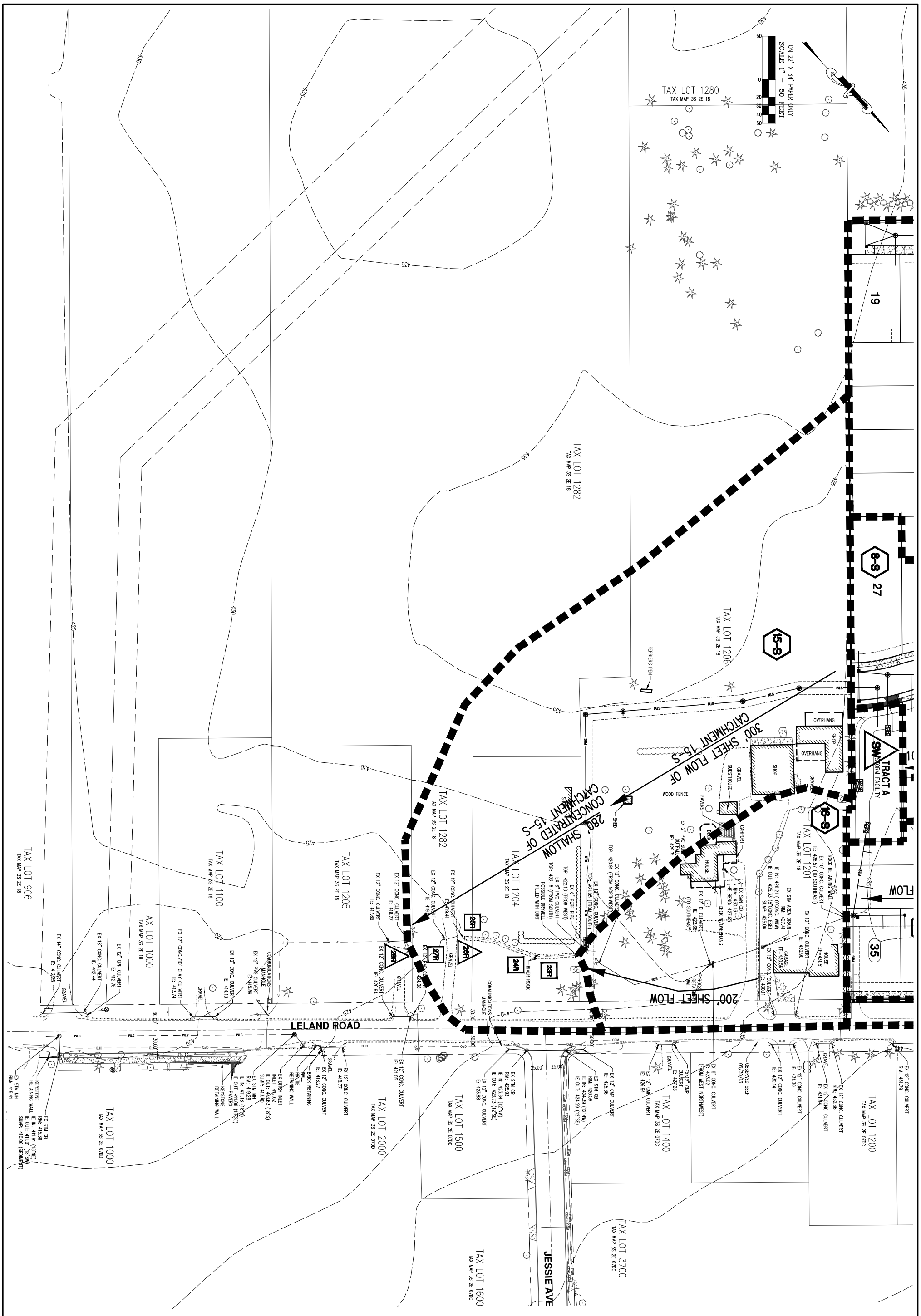
DATE: 03/14/2014

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 9, 2001
MONTGOMERY B. HURLEY
RENEWAL DATE: 6/30/15

PRELIMINARY NOT FOR CONSTRUCTION

JOB NUMBER 3589

SHEET 1



ENGINEERING · PLANNING
SURVEYING · FORESTRY

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SUITE 100
SHERWOOD, OR 97140
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FAX: (503) 925-8969

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TAX LOT 1300 CLACKAMAS COUNTY TAX MAP 3S 2E 18

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RIAN PARK DEVELOPMENT, INC.
15239 S LAKERIDGE WAY
OREGON CITY, OR 97045

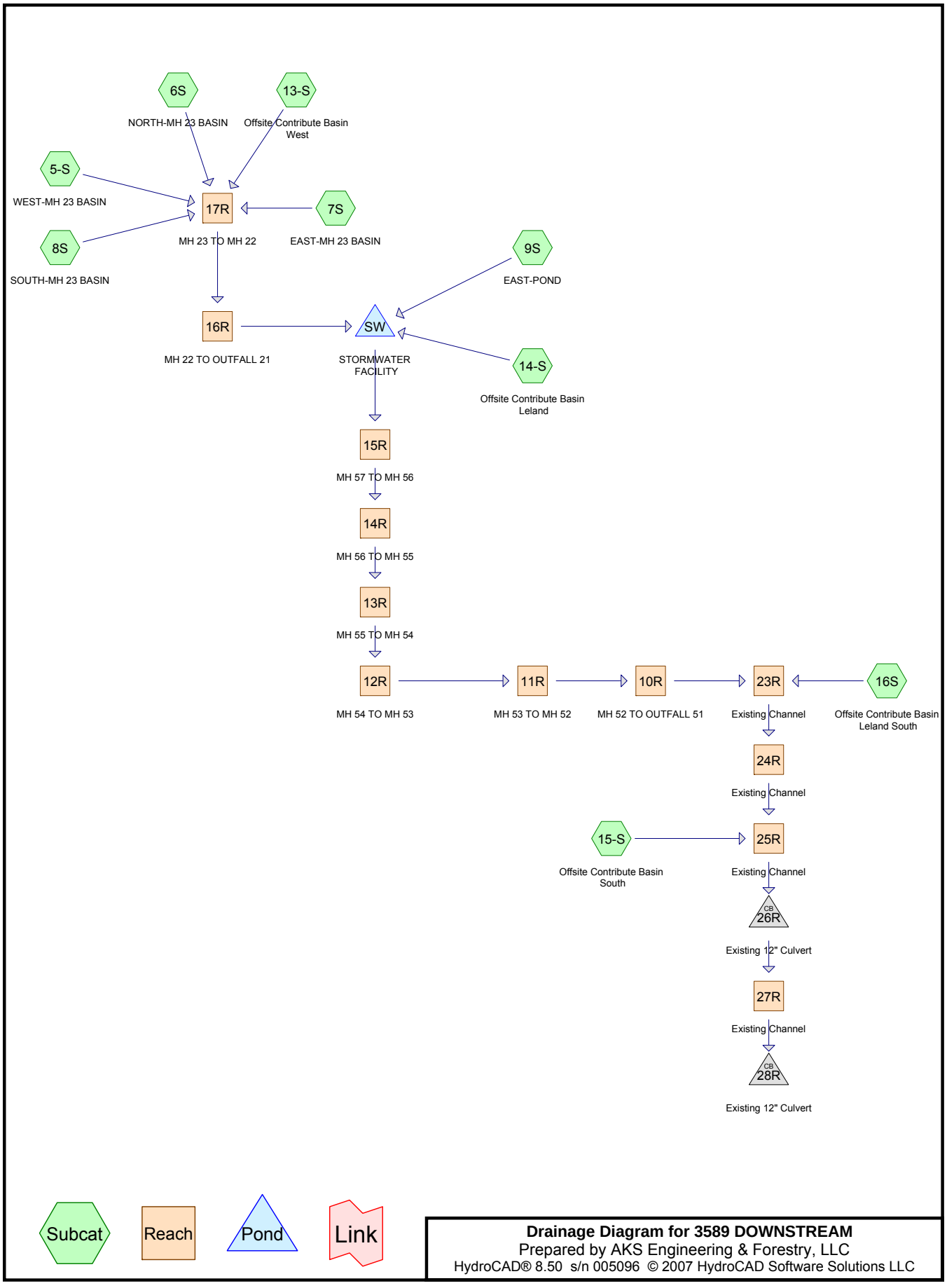
DATE: 03/14/2014

REGISTERED PROFESSIONAL ENGINEER
OREGON JULY 10, 2002
GREGORY B. HURLEY
RENEWAL DATE: 6/30/15

PRELIMINARY NOT FOR CONSTRUCTION

JOB NUMBER 3589

SHEET 2



Drainage Diagram for 3589 DOWNSTREAM
Prepared by AKS Engineering & Forestry, LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
8.808	85	Meadow and Pasture (13-S,14-S,15-S)
2.883	86	Grass Cover >= 75% (5-S,6S,7S,8S,9S)
1.204	90	Grass Cover On 50%-75% of Area (16S)
0.057	98	1 lot x 2,500 s.f. (6S)
0.976	98	17 lot x 2,500 s.f. (5-S)
0.459	98	4 lot x 2,500 s.f. (8S,9S)
0.517	98	9 lot x 2,500 s.f. (7S)
1.700	98	Area Within ROW (5-S,6S,7S,8S)
1.224	98	Impervious Area (13-S,14-S,15-S,16S)
17.827		**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Goup	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
17.827	Other	5-S, 6S, 7S, 8S, 9S, 13-S, 14-S, 15-S, 16S
17.827		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 5-S: WEST-MH 23 BASIN Runoff Area=142,726 sf 55.69% Impervious Runoff Depth>2.64"
Flow Length=105' Slope=0.0200 '/' Tc=11.3 min CN=86/98 Runoff=2.02 cfs 0.722 af

Subcatchment 6S: NORTH-MH 23 BASIN Runoff Area=12,007 sf 80.19% Impervious Runoff Depth>2.93"
Tc=5.0 min CN=86/98 Runoff=0.20 cfs 0.067 af

Subcatchment 7S: EAST-MH 23 BASIN Runoff Area=68,337 sf 61.34% Impervious Runoff Depth>2.70"
Flow Length=105' Slope=0.0100 '/' Tc=14.9 min CN=86/98 Runoff=0.95 cfs 0.354 af

Subcatchment 8S: SOUTH-MH 23 BASIN Runoff Area=35,974 sf 57.04% Impervious Runoff Depth>2.66"
Flow Length=100' Slope=0.0300 '/' Tc=9.2 min CN=86/98 Runoff=0.53 cfs 0.183 af

Subcatchment 9S: EAST-POND Runoff Area=28,100 sf 35.59% Impervious Runoff Depth>2.41"
Flow Length=150' Slope=0.0200 '/' Tc=15.0 min CN=86/98 Runoff=0.34 cfs 0.129 af

Subcatchment 13-S: Offsite Contribute Basin West Runoff Area=123,035 sf 2.03% Impervious Runoff Depth>1.90"
Flow Length=480' Slope=0.0100 '/' Tc=53.3 min CN=85/98 Runoff=0.73 cfs 0.448 af

Subcatchment 14-S: Offsite Contribute Basin Leland Runoff Area=105,140 sf 28.53% Impervious Runoff Depth>2.24"
Flow Length=300' Slope=0.0150 '/' Tc=42.8 min CN=85/98 Runoff=0.83 cfs 0.450 af

Subcatchment 15-S: Offsite Contribute Basin South Runoff Area=197,900 sf 5.00% Impervious Runoff Depth>1.96"
Flow Length=580' Tc=28.3 min CN=85/98 Runoff=1.58 cfs 0.744 af

Subcatchment 16S: Offsite Contribute Basin Leland South Runoff Area=63,329 sf 17.21% Impervious Runoff Depth>2.48"
Flow Length=200' Slope=0.0400 '/' Tc=14.3 min CN=90/98 Runoff=0.83 cfs 0.300 af

Reach 10R: MH 52 TO OUTFALL 51 Avg. Depth=0.92' Max Vel=2.95 fps Inflow=4.17 cfs 2.204 af
D=24.0" n=0.011 L=131.6' S=0.0013 '/' Capacity=9.61 cfs Outflow=4.16 cfs 2.202 af

Reach 11R: MH 53 TO MH 52 Avg. Depth=0.86' Max Vel=4.65 fps Inflow=4.17 cfs 2.205 af
D=15.0" n=0.011 L=124.3' S=0.0045 '/' Capacity=5.12 cfs Outflow=4.17 cfs 2.204 af

Reach 12R: MH 54 TO MH 53 Avg. Depth=0.86' Max Vel=4.61 fps Inflow=4.17 cfs 2.206 af
D=15.0" n=0.011 L=43.2' S=0.0044 '/' Capacity=5.06 cfs Outflow=4.17 cfs 2.205 af

Reach 13R: MH 55 TO MH 54 Avg. Depth=0.60' Max Vel=7.21 fps Inflow=4.17 cfs 2.206 af
D=15.0" n=0.011 L=137.9' S=0.0140 '/' Capacity=9.03 cfs Outflow=4.17 cfs 2.206 af

Reach 14R: MH 56 TO MH 55 Avg. Depth=0.50' Max Vel=9.07 fps Inflow=4.17 cfs 2.207 af
D=15.0" n=0.011 L=66.3' S=0.0261 '/' Capacity=12.33 cfs Outflow=4.17 cfs 2.206 af

Reach 15R: MH 57 TO MH 56 Avg. Depth=0.50' Max Vel=9.07 fps Inflow=4.17 cfs 2.207 af
D=15.0" n=0.011 L=89.7' S=0.0261 '/' Capacity=12.33 cfs Outflow=4.17 cfs 2.207 af

Reach 16R: MH 22 TO OUTFALL 21 Avg. Depth=0.89' Max Vel=4.69 fps Inflow=4.39 cfs 1.772 af
D=15.0" n=0.011 L=57.8' S=0.0045 '/' Capacity=5.12 cfs Outflow=4.39 cfs 1.772 af

Reach 17R: MH 23 TO MH 22 Avg. Depth=0.89' Max Vel=4.70 fps Inflow=4.40 cfs 1.773 af
D=15.0" n=0.011 L=148.5' S=0.0045 '/' Capacity=5.13 cfs Outflow=4.39 cfs 1.772 af

Reach 23R: Existing Channel Avg. Depth=0.44' Max Vel=2.80 fps Inflow=4.71 cfs 2.502 af
n=0.030 L=50.0' S=0.0190 '/' Capacity=40.06 cfs Outflow=4.71 cfs 2.502 af

Reach 24R: Existing Channel Avg. Depth=0.45' Max Vel=2.64 fps Inflow=4.71 cfs 2.502 af
n=0.030 L=50.0' S=0.0160 '/' Capacity=36.37 cfs Outflow=4.70 cfs 2.501 af

Reach 25R: Existing Channel Avg. Depth=0.56' Max Vel=3.24 fps Inflow=6.08 cfs 3.244 af
n=0.030 L=50.0' S=0.0200 '/' Capacity=26.01 cfs Outflow=6.08 cfs 3.243 af

Reach 27R: Existing Channel Avg. Depth=0.58' Max Vel=3.07 fps Inflow=6.08 cfs 3.243 af
n=0.030 L=30.0' S=0.0177 '/' Capacity=49.55 cfs Outflow=6.08 cfs 3.243 af

Pond 26R: Existing 12" Culvert Peak Elev=421.69' Inflow=6.08 cfs 3.243 af
12.0" x 21.5' Culvert Outflow=6.08 cfs 3.243 af

Pond 28R: Existing 12" Culvert Peak Elev=420.43' Inflow=6.08 cfs 3.243 af
12.0" x 21.6' Culvert Outflow=6.08 cfs 3.243 af

Pond SW: STORMWATERFACILITY Peak Elev=430.70' Storage=14,112 cf Inflow=5.56 cfs 2.352 af
Outflow=4.17 cfs 2.207 af

Total Runoff Area = 17.827 ac Runoff Volume = 3.397 af Average Runoff Depth = 2.29"
72.33% Pervious = 12.895 ac 27.67% Impervious = 4.932 ac

Summary for Subcatchment 5-S: WEST-MH 23 BASIN

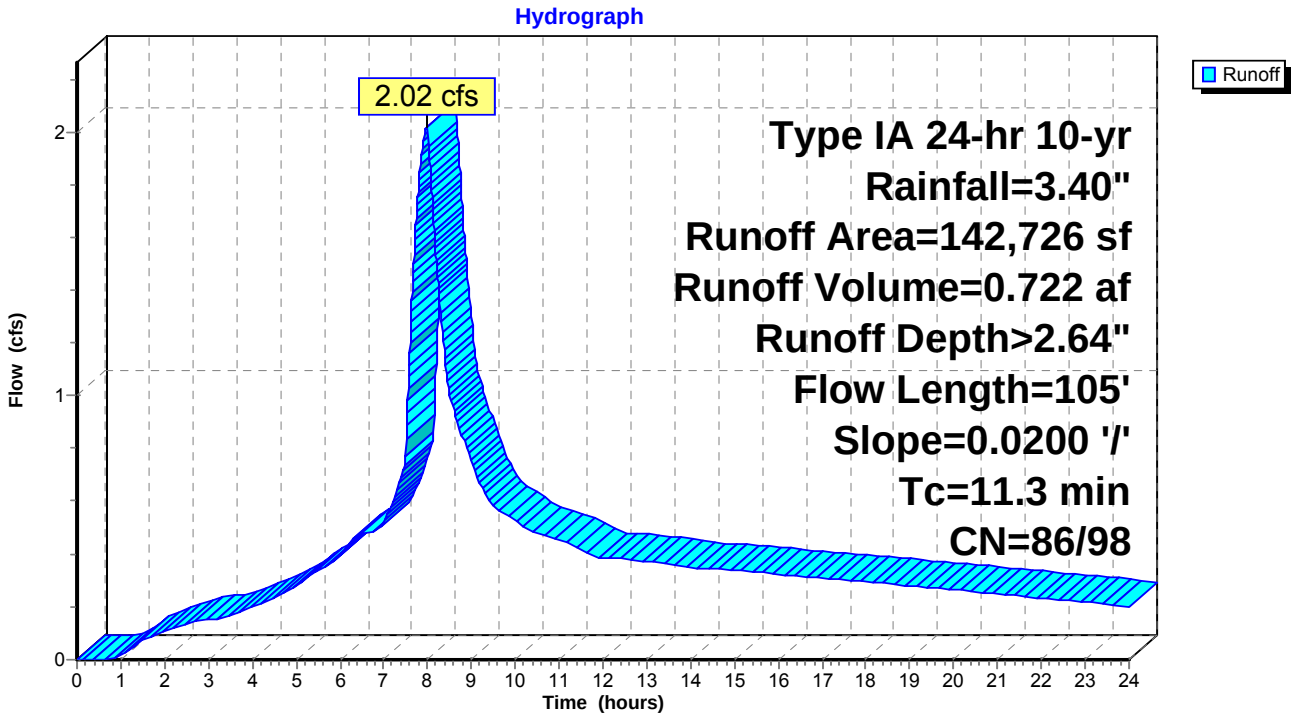
Runoff = 2.02 cfs @ 8.00 hrs, Volume= 0.722 af, Depth> 2.64"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	42,500	98	17 lot x 2,500 s.f.
*	36,978	98	Area Within ROW
*	63,248	86	Grass Cover >= 75%
	142,726	93	Weighted Average
	63,248	86	Pervious Area
	79,478	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.3	105	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.60"

Subcatchment 5-S: WEST-MH 23 BASIN



Summary for Subcatchment 6S: NORTH-MH 23 BASIN

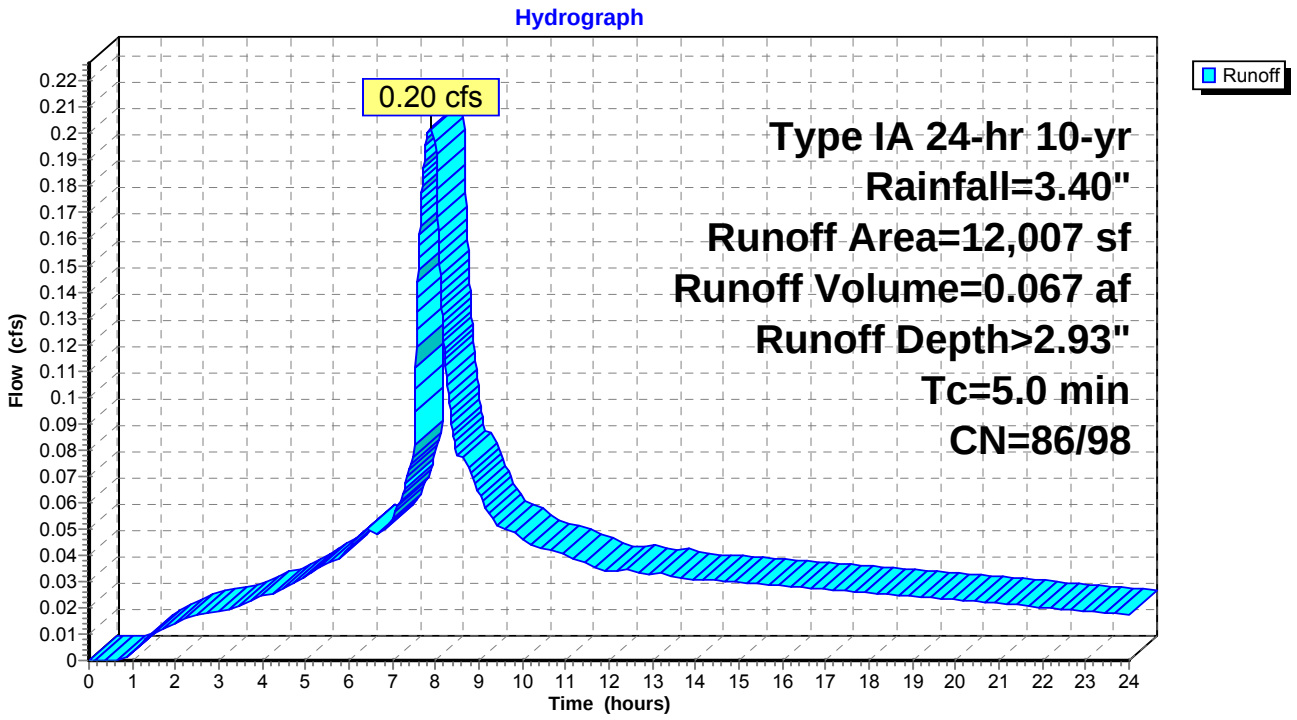
Runoff = 0.20 cfs @ 7.89 hrs, Volume= 0.067 af, Depth> 2.93"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	2,500	98	1 lot x 2,500 s.f.
*	7,128	98	Area Within ROW
*	2,379	86	Grass Cover >= 75%
	12,007	96	Weighted Average
	2,379	86	Pervious Area
	9,628	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Min.**

Subcatchment 6S: NORTH-MH 23 BASIN



Summary for Subcatchment 7S: EAST-MH 23 BASIN

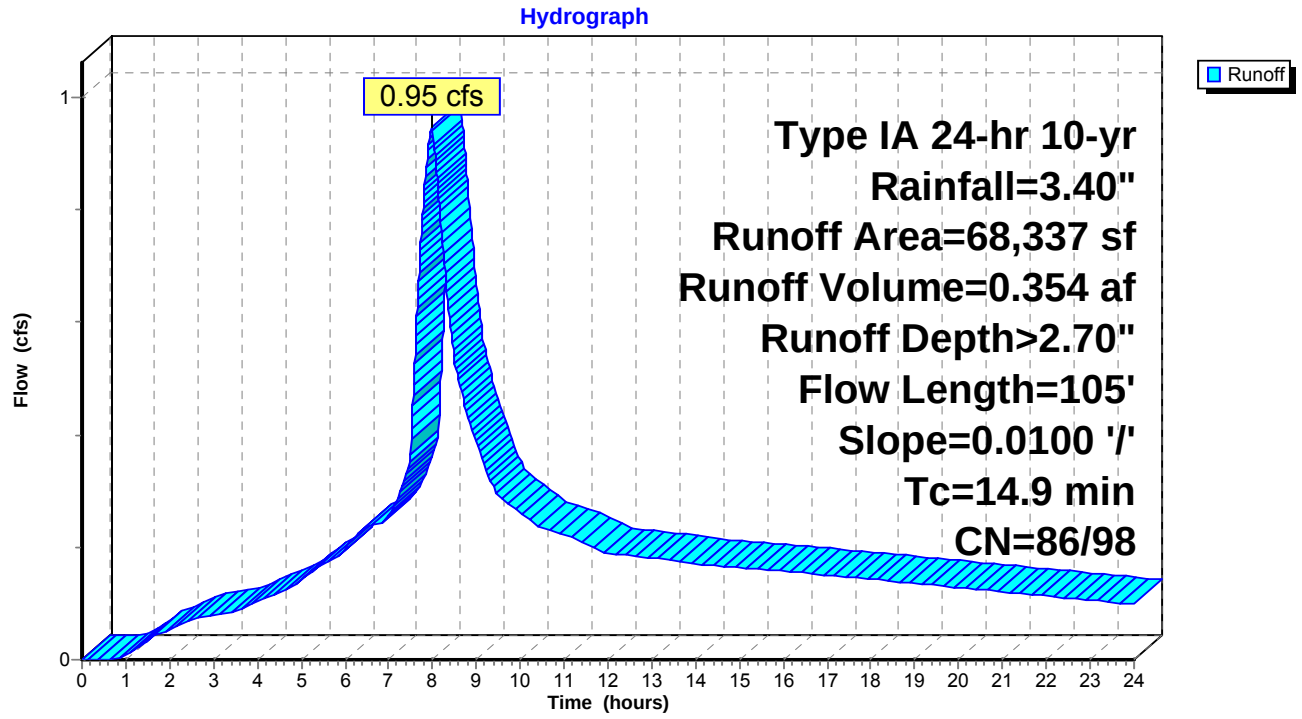
Runoff = 0.95 cfs @ 8.00 hrs, Volume= 0.354 af, Depth> 2.70"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	22,500	98	9 lot x 2,500 s.f.
*	19,420	98	Area Within ROW
*	26,417	86	Grass Cover >= 75%
	68,337	93	Weighted Average
	26,417	86	Pervious Area
	41,920	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9	105	0.0100	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.60"

Subcatchment 7S: EAST-MH 23 BASIN



Summary for Subcatchment 8S: SOUTH-MH 23 BASIN

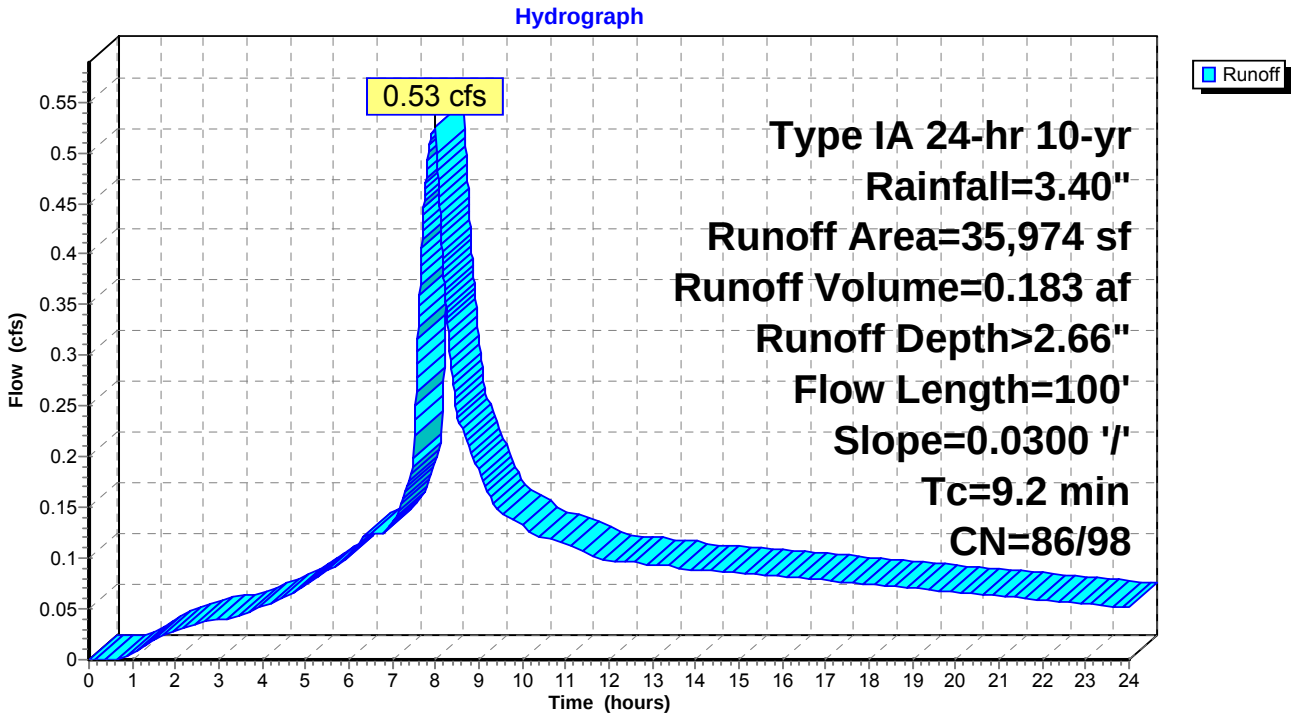
Runoff = 0.53 cfs @ 7.97 hrs, Volume= 0.183 af, Depth> 2.66"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	10,000	98	4 lot x 2,500 s.f.
*	10,520	98	Area Within ROW
*	15,454	86	Grass Cover >= 75%
	35,974	93	Weighted Average
	15,454	86	Pervious Area
	20,520	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.0300	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.60"

Subcatchment 8S: SOUTH-MH 23 BASIN



Summary for Subcatchment 9S: EAST-POND

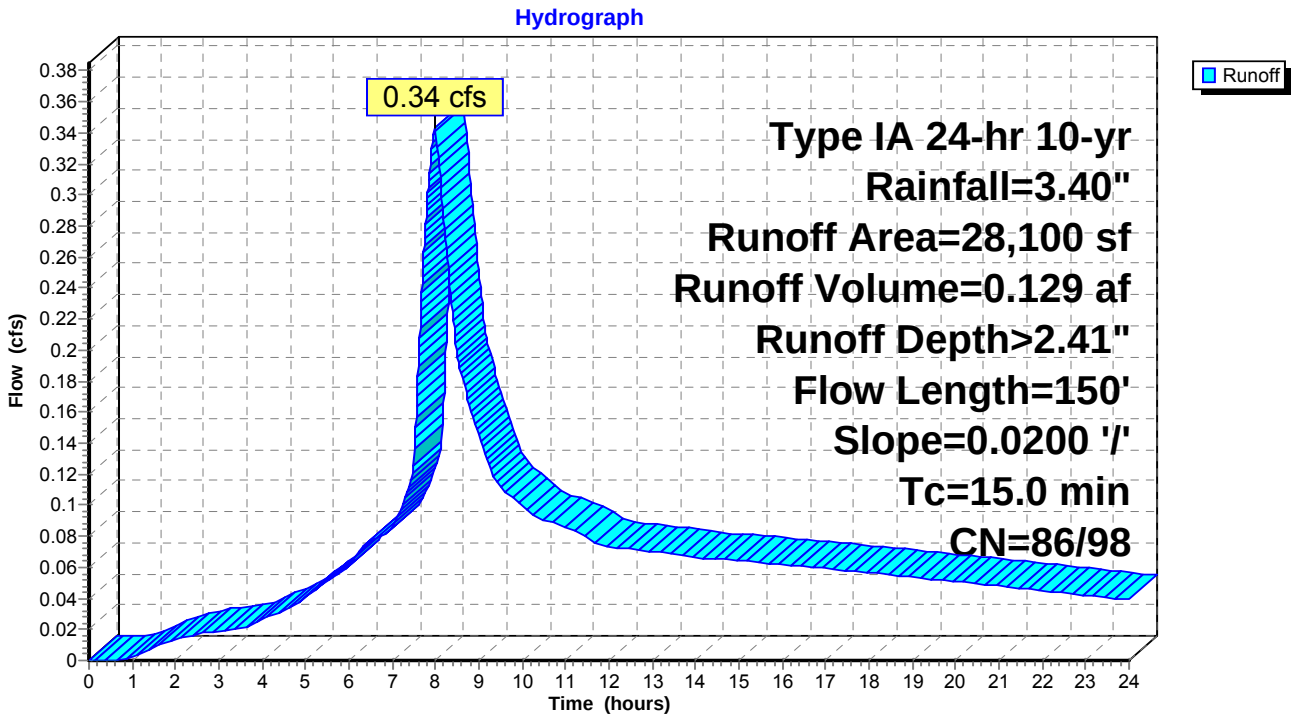
Runoff = 0.34 cfs @ 8.00 hrs, Volume= 0.129 af, Depth> 2.41"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	10,000	98	4 lot x 2,500 s.f.
*	18,100	86	Grass Cover >= 75%
	28,100	90	Weighted Average
	18,100	86	Pervious Area
	10,000	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	150	0.0200	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.60"

Subcatchment 9S: EAST-POND



Summary for Subcatchment 13-S: Offsite Contribute Basin West

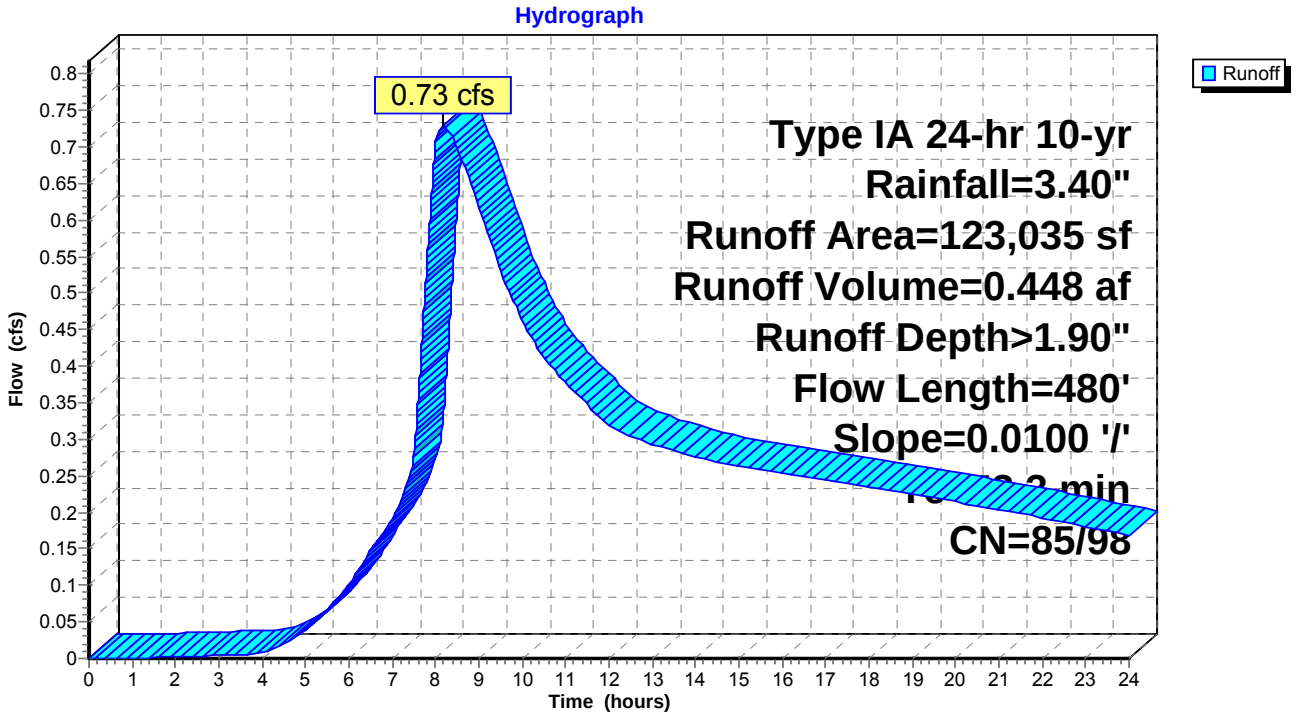
Runoff = 0.73 cfs @ 8.19 hrs, Volume= 0.448 af, Depth> 1.90"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	120,535	85	Meadow and Pasture
*	2,500	98	Impervious Area
	123,035	85	Weighted Average
	120,535	85	Pervious Area
	2,500	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
50.3	300	0.0100	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.60"
3.0	180	0.0100	1.00		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
53.3	480	Total			

Subcatchment 13-S: Offsite Contribute Basin West



Summary for Subcatchment 14-S: Offsite Contribute Basin Leland

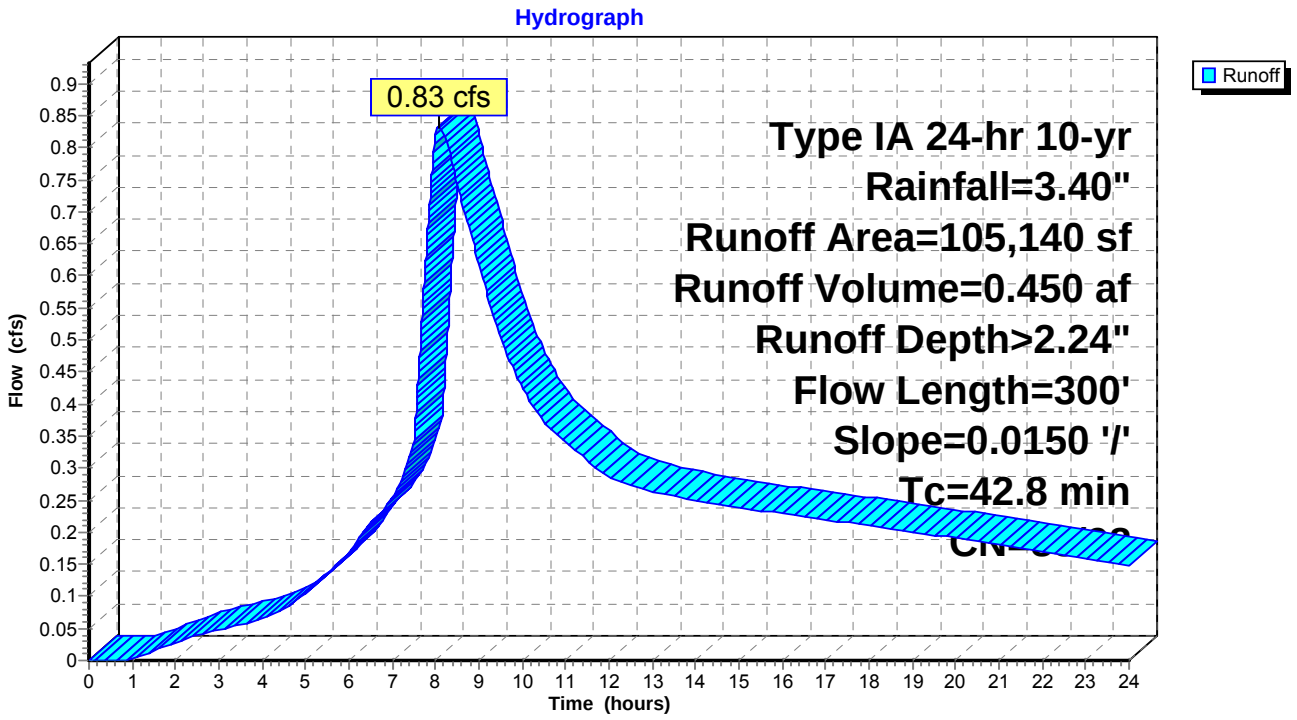
Runoff = 0.83 cfs @ 8.08 hrs, Volume= 0.450 af, Depth> 2.24"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	75,140	85	Meadow and Pasture
*	30,000	98	Impervious Area
	105,140	89	Weighted Average
	75,140	85	Pervious Area
	30,000	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
42.8	300	0.0150	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.60"

Subcatchment 14-S: Offsite Contribute Basin Leland



Summary for Subcatchment 15-S: Offsite Contribute Basin South

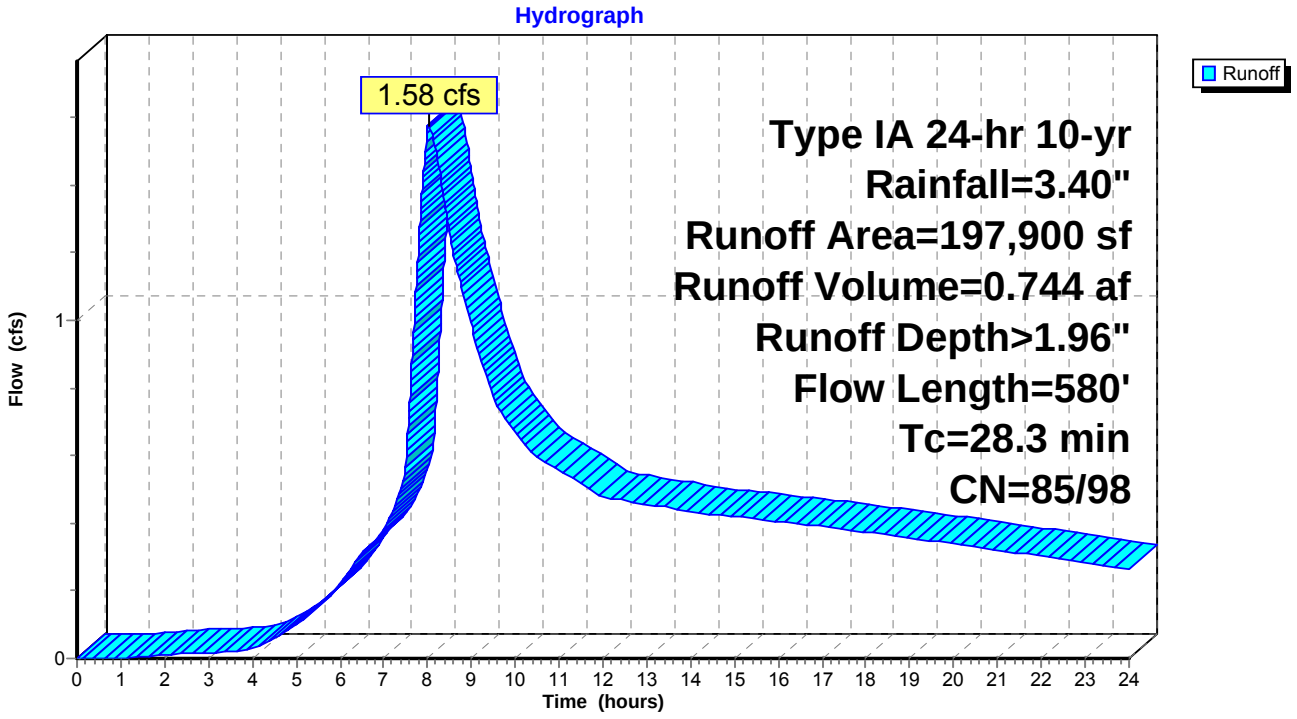
Runoff = 1.58 cfs @ 8.01 hrs, Volume= 0.744 af, Depth> 1.96"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	188,000	85	Meadow and Pasture
*	9,900	98	Impervious Area
	197,900	86	Weighted Average
	188,000	85	Pervious Area
	9,900	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	300	0.0167	0.20		**Sheet Flow,** Range n= 0.130 P2= 2.60"
3.2	280	0.0214	1.46		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
28.3	580	Total			

Subcatchment 15-S: Offsite Contribute Basin South



Summary for Subcatchment 16S: Offsite Contribute Basin Leland South

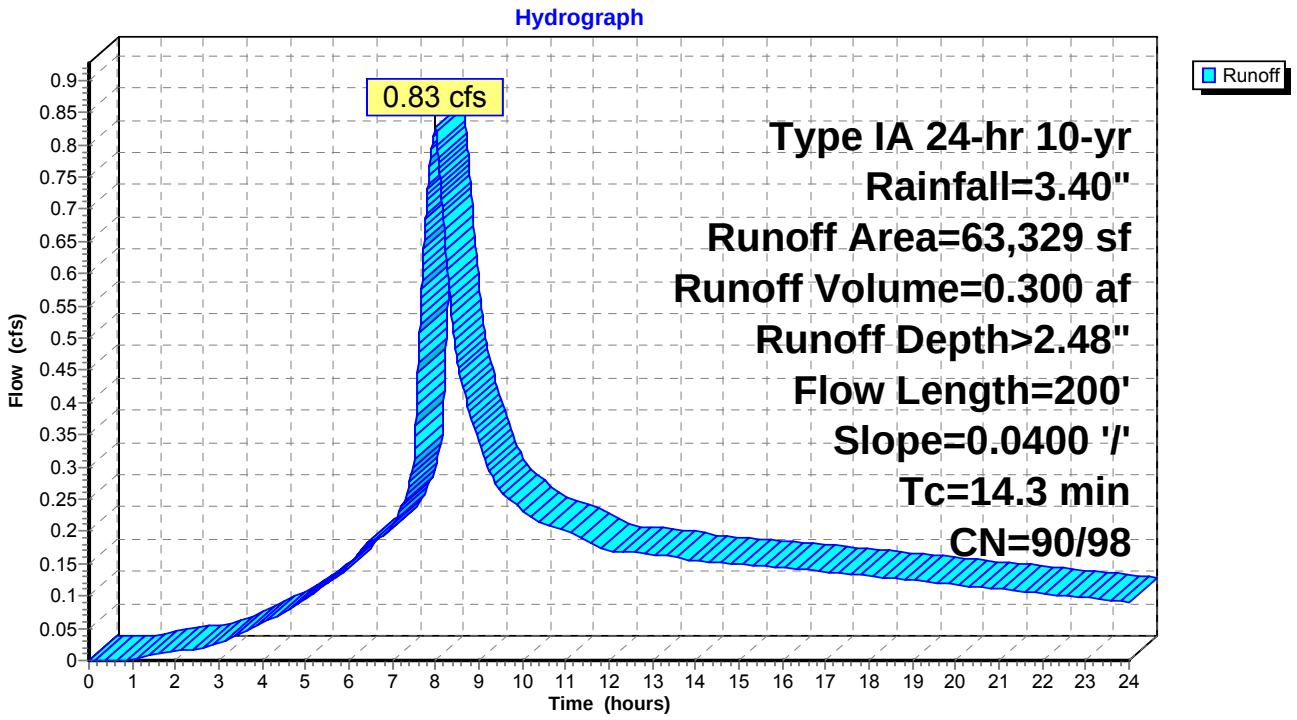
Runoff = 0.83 cfs @ 8.00 hrs, Volume= 0.300 af, Depth> 2.48"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-yr Rainfall=3.40"

	Area (sf)	CN	Description
*	52,429	90	Grass Cover On 50%-75% of Area
*	10,900	98	Impervious Area
	63,329	91	Weighted Average
	52,429	90	Pervious Area
	10,900	98	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	200	0.0400	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.60"

Subcatchment 16S: Offsite Contribute Basin Leland South



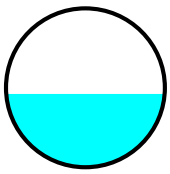
Summary for Reach 10R: MH 52 TO OUTFALL 51

Inflow Area = 11.830 ac, 37.66% Impervious, Inflow Depth > 2.24" for 10-yr event
Inflow = 4.17 cfs @ 8.36 hrs, Volume= 2.204 af
Outflow = 4.16 cfs @ 8.38 hrs, Volume= 2.202 af, Atten= 0%, Lag= 1.3 min

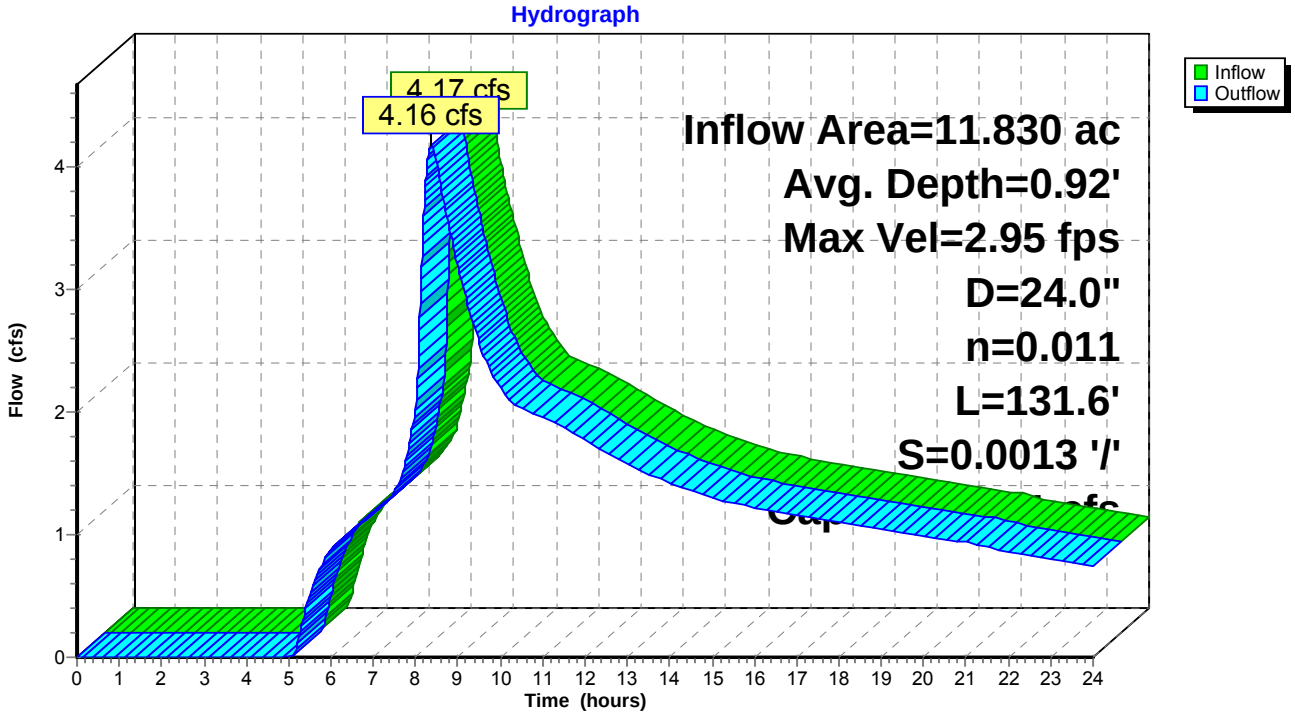
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.95 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 2.13 fps, Avg. Travel Time= 1.0 min

Peak Storage= 186 cf @ 8.37 hrs, Average Depth at Peak Storage= 0.92'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 9.61 cfs

24.0" Diameter Pipe, n= 0.011
Length= 131.6' Slope= 0.0013 '/'
Inlet Invert= 421.85', Outlet Invert= 421.68'



Reach 10R: MH 52 TO OUTFALL 51



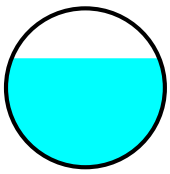
Summary for Reach 11R: MH 53 TO MH 52

Inflow Area = 11.830 ac, 37.66% Impervious, Inflow Depth > 2.24" for 10-yr event
Inflow = 4.17 cfs @ 8.34 hrs, Volume= 2.205 af
Outflow = 4.17 cfs @ 8.36 hrs, Volume= 2.204 af, Atten= 0%, Lag= 0.8 min

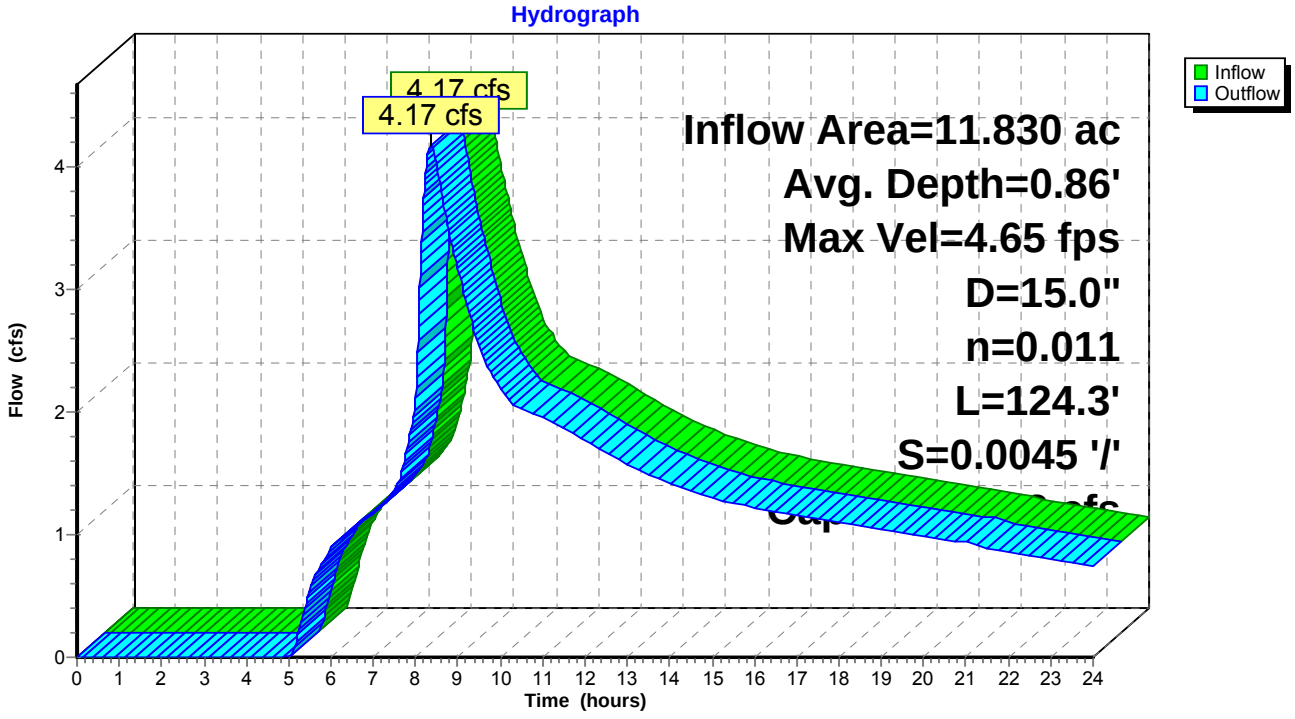
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.65 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 3.47 fps, Avg. Travel Time= 0.6 min

Peak Storage= 111 cf @ 8.35 hrs, Average Depth at Peak Storage= 0.86'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 5.12 cfs

15.0" Diameter Pipe, n= 0.011
Length= 124.3' Slope= 0.0045 '/'
Inlet Invert= 422.61', Outlet Invert= 422.05'



Reach 11R: MH 53 TO MH 52



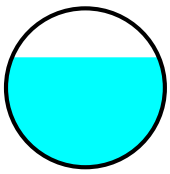
Summary for Reach 12R: MH 54 TO MH 53

Inflow Area = 11.830 ac, 37.66% Impervious, Inflow Depth > 2.24" for 10-yr event
Inflow = 4.17 cfs @ 8.34 hrs, Volume= 2.206 af
Outflow = 4.17 cfs @ 8.34 hrs, Volume= 2.205 af, Atten= 0%, Lag= 0.3 min

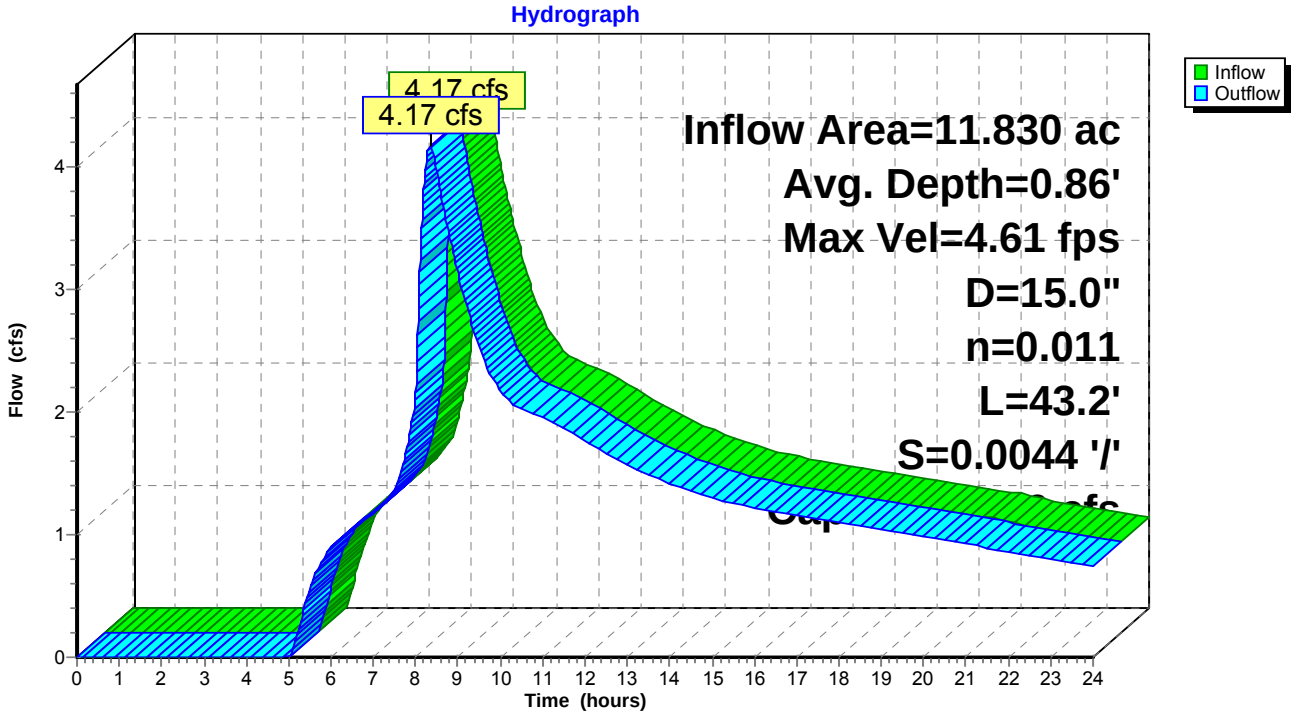
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.61 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.43 fps, Avg. Travel Time= 0.2 min

Peak Storage= 39 cf @ 8.34 hrs, Average Depth at Peak Storage= 0.86'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 5.06 cfs

15.0" Diameter Pipe, n= 0.011
Length= 43.2' Slope= 0.0044 '/'
Inlet Invert= 423.00', Outlet Invert= 422.81'



Reach 12R: MH 54 TO MH 53



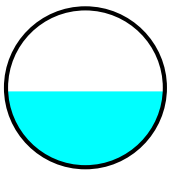
Summary for Reach 13R: MH 55 TO MH 54

Inflow Area = 11.830 ac, 37.66% Impervious, Inflow Depth > 2.24" for 10-yr event
Inflow = 4.17 cfs @ 8.33 hrs, Volume= 2.206 af
Outflow = 4.17 cfs @ 8.34 hrs, Volume= 2.206 af, Atten= 0%, Lag= 0.6 min

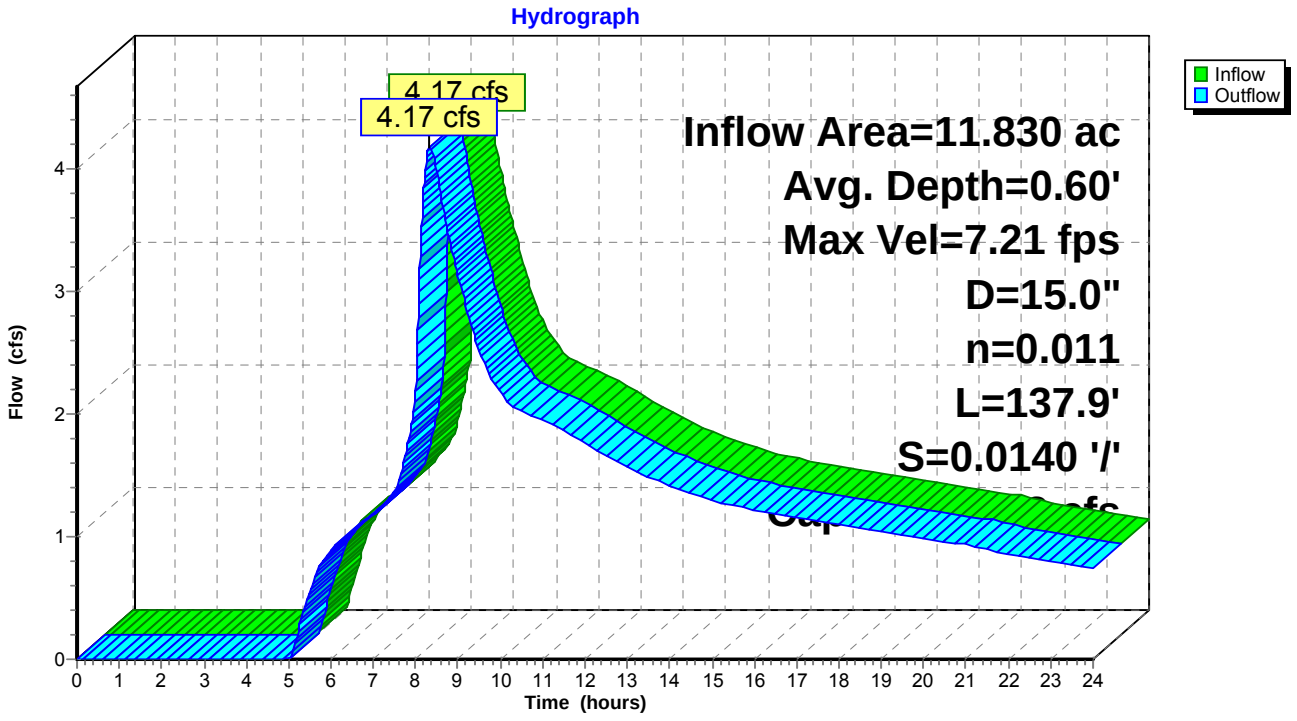
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 7.21 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 5.21 fps, Avg. Travel Time= 0.4 min

Peak Storage= 80 cf @ 8.33 hrs, Average Depth at Peak Storage= 0.60'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 9.03 cfs

15.0" Diameter Pipe, n= 0.011
Length= 137.9' Slope= 0.0140 '/'
Inlet Invert= 424.63', Outlet Invert= 422.70'



Reach 13R: MH 55 TO MH 54



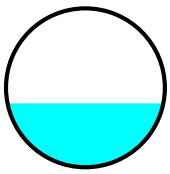
Summary for Reach 14R: MH 56 TO MH 55

Inflow Area = 11.830 ac, 37.66% Impervious, Inflow Depth > 2.24" for 10-yr event
Inflow = 4.17 cfs @ 8.33 hrs, Volume= 2.207 af
Outflow = 4.17 cfs @ 8.33 hrs, Volume= 2.206 af, Atten= 0%, Lag= 0.2 min

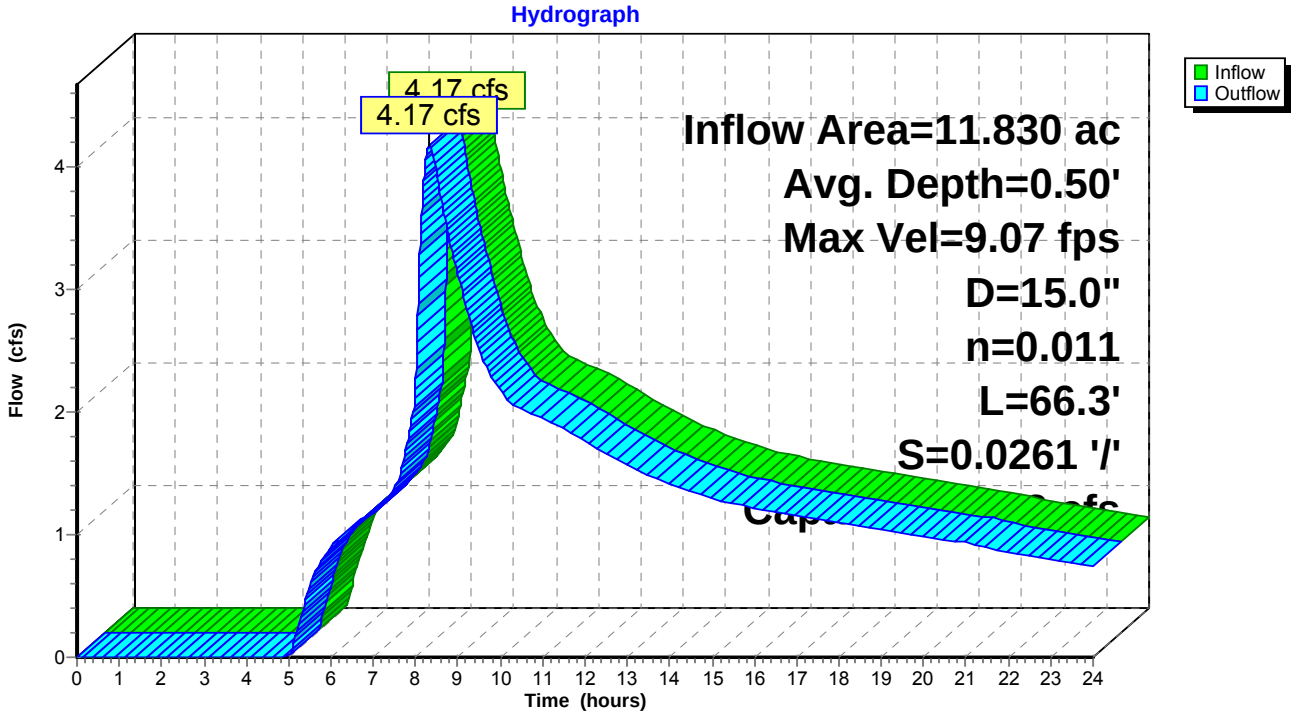
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 9.07 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 6.50 fps, Avg. Travel Time= 0.2 min

Peak Storage= 30 cf @ 8.33 hrs, Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 12.33 cfs

15.0" Diameter Pipe, n= 0.011
Length= 66.3' Slope= 0.0261 '/'
Inlet Invert= 426.56', Outlet Invert= 424.83'



Reach 14R: MH 56 TO MH 55



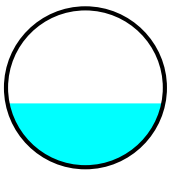
Summary for Reach 15R: MH 57 TO MH 56

Inflow Area = 11.830 ac, 37.66% Impervious, Inflow Depth > 2.24" for 10-yr event
Inflow = 4.17 cfs @ 8.32 hrs, Volume= 2.207 af
Outflow = 4.17 cfs @ 8.33 hrs, Volume= 2.207 af, Atten= 0%, Lag= 0.3 min

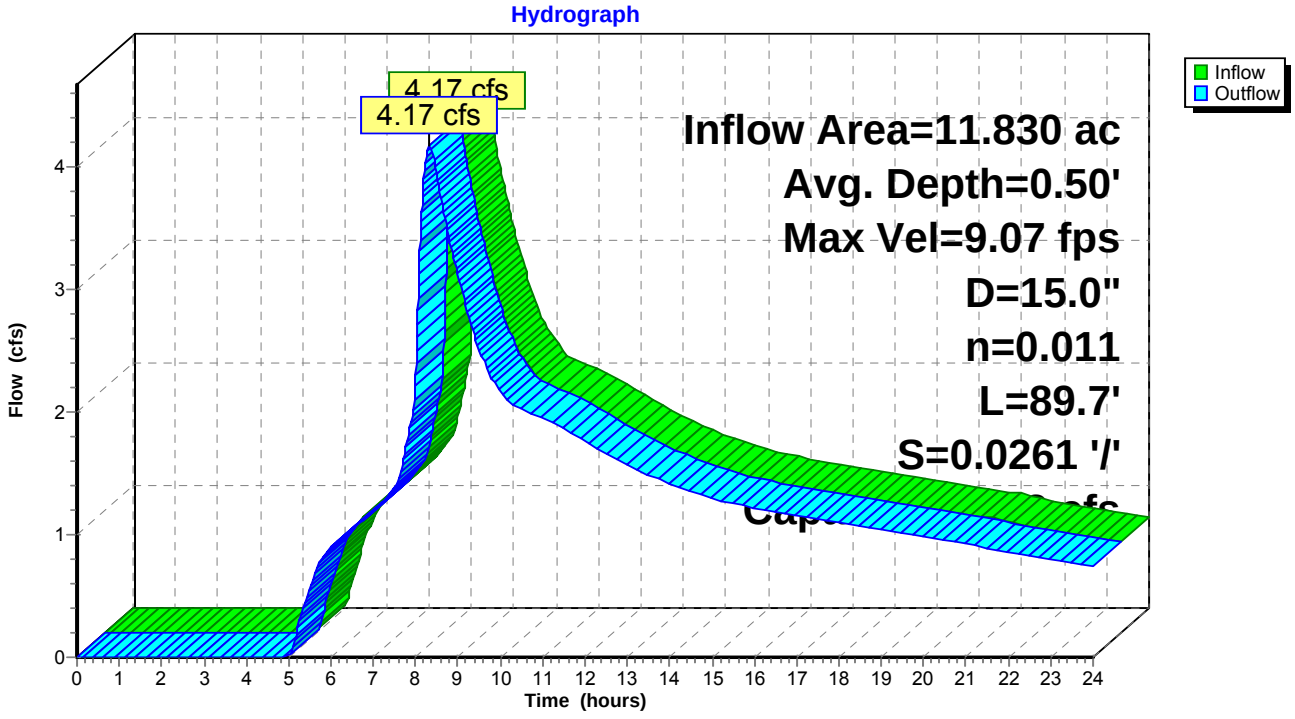
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 9.07 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 6.50 fps, Avg. Travel Time= 0.2 min

Peak Storage= 41 cf @ 8.32 hrs, Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 12.33 cfs

15.0" Diameter Pipe, n= 0.011
Length= 89.7' Slope= 0.0261 '/'
Inlet Invert= 429.10', Outlet Invert= 426.76'



Reach 15R: MH 57 TO MH 56



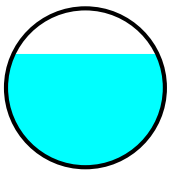
Summary for Reach 16R: MH 22 TO OUTFALL 21

Inflow Area = 8.771 ac, 40.32% Impervious, Inflow Depth > 2.42" for 10-yr event
Inflow = 4.39 cfs @ 8.01 hrs, Volume= 1.772 af
Outflow = 4.39 cfs @ 8.02 hrs, Volume= 1.772 af, Atten= 0%, Lag= 0.3 min

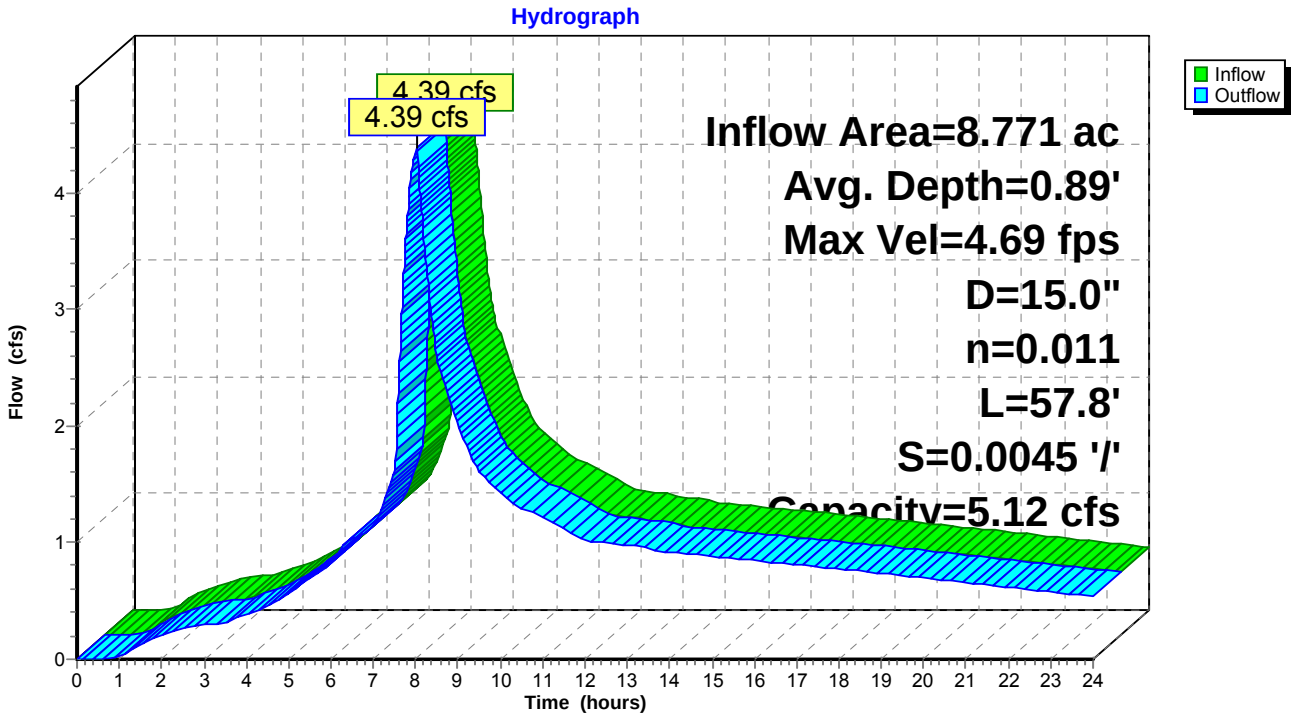
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.69 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.00 fps, Avg. Travel Time= 0.3 min

Peak Storage= 54 cf @ 8.01 hrs, Average Depth at Peak Storage= 0.89'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 5.12 cfs

15.0" Diameter Pipe, n= 0.011
Length= 57.8' Slope= 0.0045 '/'
Inlet Invert= 429.36', Outlet Invert= 429.10'



Reach 16R: MH 22 TO OUTFALL 21



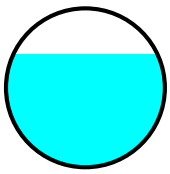
Summary for Reach 17R: MH 23 TO MH 22

Inflow Area = 8.771 ac, 40.32% Impervious, Inflow Depth > 2.43" for 10-yr event
Inflow = 4.40 cfs @ 8.00 hrs, Volume= 1.773 af
Outflow = 4.39 cfs @ 8.01 hrs, Volume= 1.772 af, Atten= 0%, Lag= 0.7 min

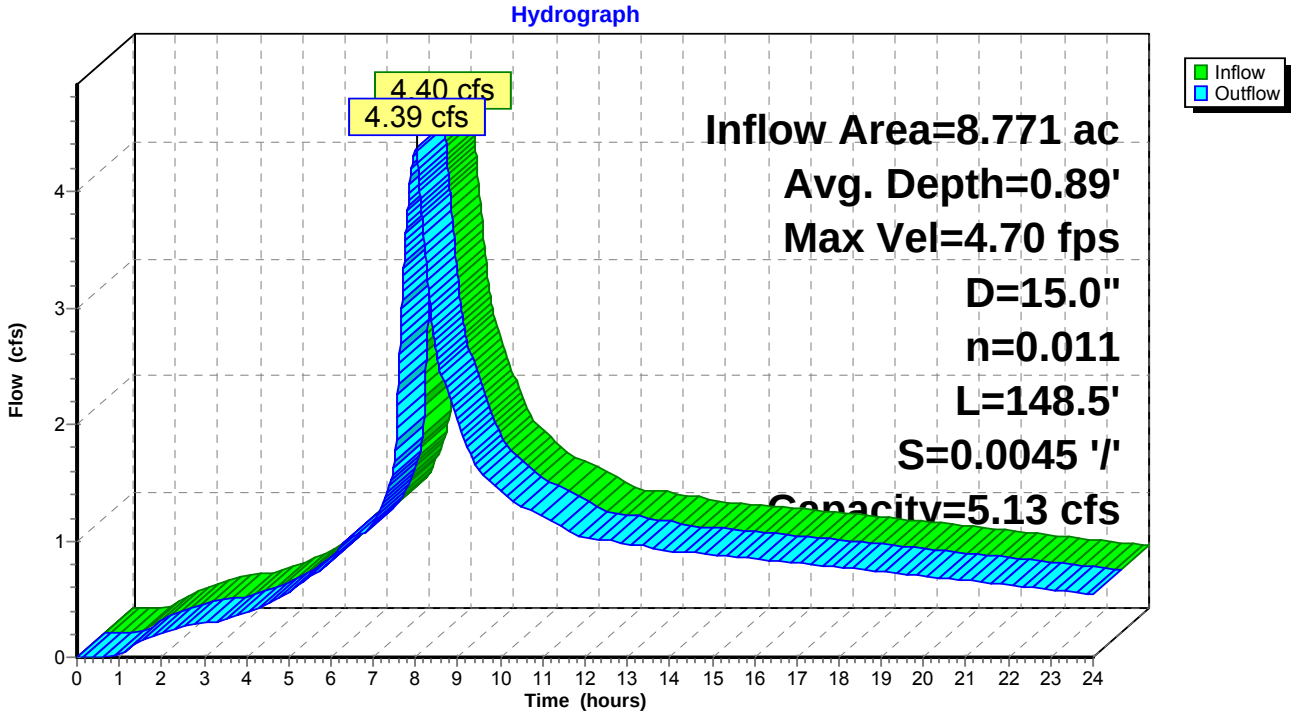
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.70 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 3.00 fps, Avg. Travel Time= 0.8 min

Peak Storage= 139 cf @ 8.00 hrs, Average Depth at Peak Storage= 0.89'
Bank-Full Depth= 1.25', Capacity at Bank-Full= 5.13 cfs

15.0" Diameter Pipe, n= 0.011
Length= 148.5' Slope= 0.0045 '/'
Inlet Invert= 430.25', Outlet Invert= 429.58'



Reach 17R: MH 23 TO MH 22



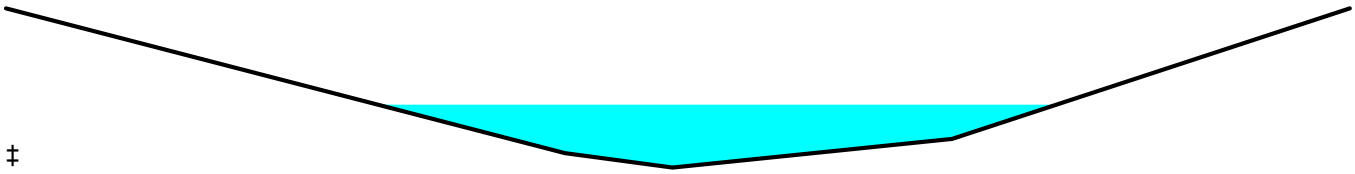
Summary for Reach 23R: Existing Channel

Inflow Area = 13.284 ac, 35.42% Impervious, Inflow Depth > 2.26" for 10-yr event
Inflow = 4.71 cfs @ 8.35 hrs, Volume= 2.502 af
Outflow = 4.71 cfs @ 8.36 hrs, Volume= 2.502 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.80 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.72 fps, Avg. Travel Time= 0.5 min

Peak Storage= 84 cf @ 8.35 hrs, Average Depth at Peak Storage= 0.44'
Bank-Full Depth= 1.11', Capacity at Bank-Full= 40.06 cfs

Custom cross-section, Length= 50.0' Slope= 0.0190 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 0.00', Outlet Invert= -0.95'

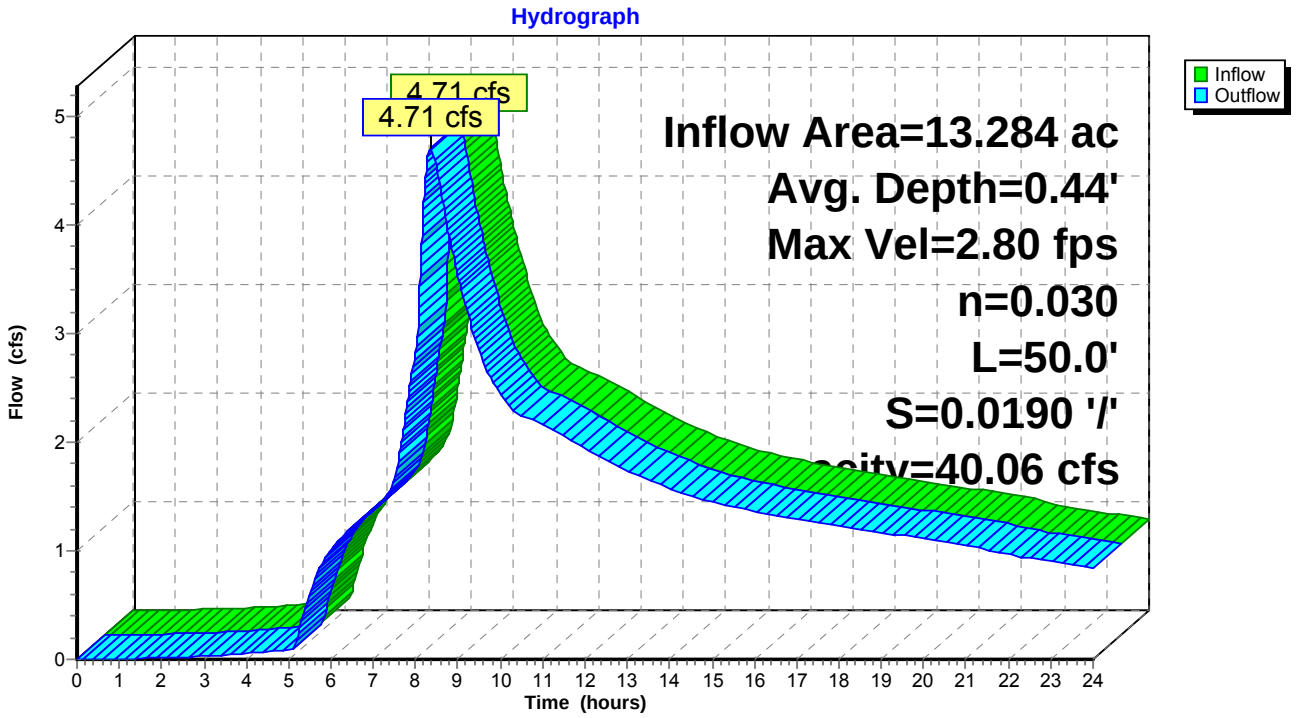


‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	423.26	0.00
5.20	422.25	1.01
6.20	422.15	1.11
8.80	422.35	0.91
12.50	423.26	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
0.10	0.1	2.3	6	0.11
0.20	0.4	4.1	22	0.66
1.11	8.0	12.7	400	40.06

Reach 23R: Existing Channel



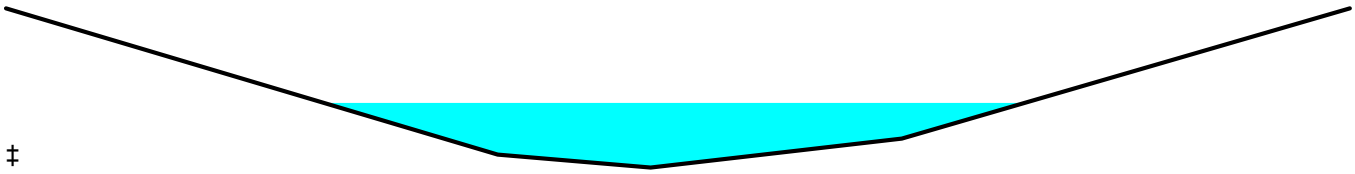
Summary for Reach 24R: Existing Channel

Inflow Area = 13.284 ac, 35.42% Impervious, Inflow Depth > 2.26" for 10-yr event
Inflow = 4.71 cfs @ 8.36 hrs, Volume= 2.502 af
Outflow = 4.70 cfs @ 8.37 hrs, Volume= 2.501 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.64 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.62 fps, Avg. Travel Time= 0.5 min

Peak Storage= 89 cf @ 8.36 hrs, Average Depth at Peak Storage= 0.45'
Bank-Full Depth= 1.10', Capacity at Bank-Full= 36.37 cfs

Custom cross-section, Length= 50.0' Slope= 0.0160 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 0.00', Outlet Invert= -0.80'

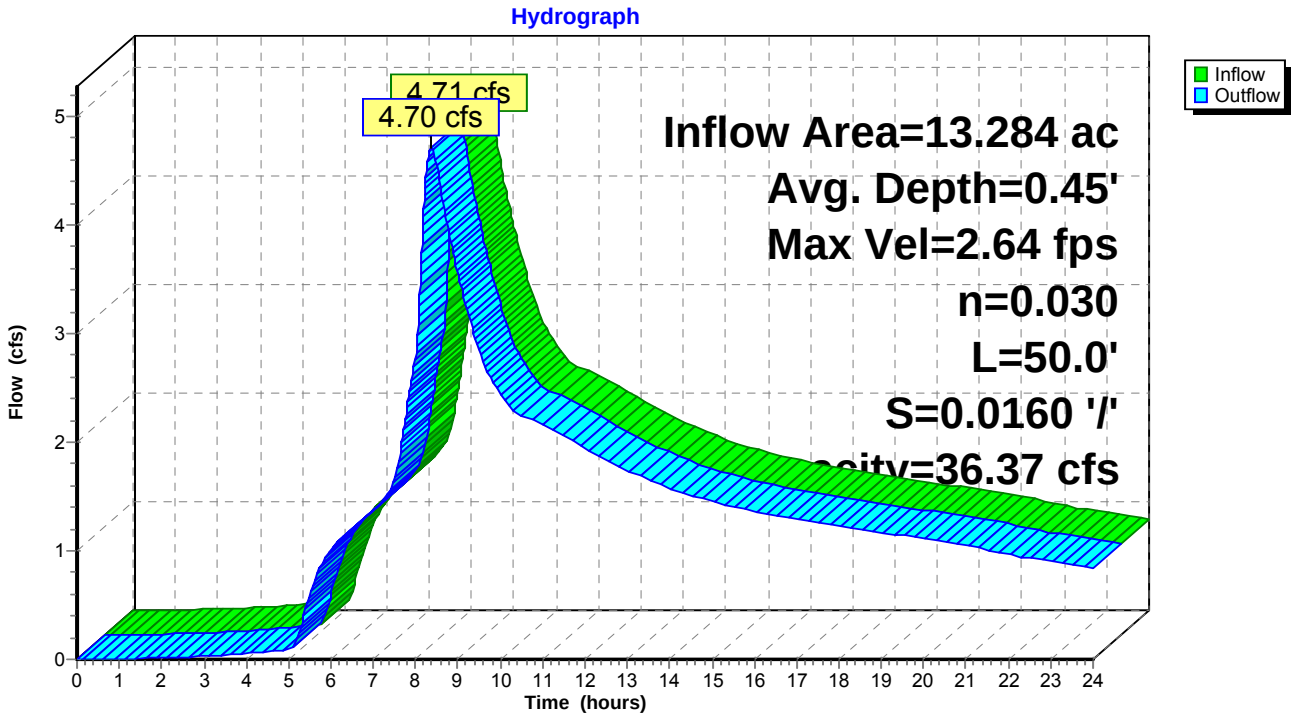


‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	422.80	0.00
4.50	421.79	1.01
5.90	421.70	1.10
8.20	421.90	0.90
12.30	422.80	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
0.09	0.1	2.4	5	0.09
0.20	0.5	4.2	24	0.69
1.10	7.9	12.5	395	36.37

Reach 24R: Existing Channel



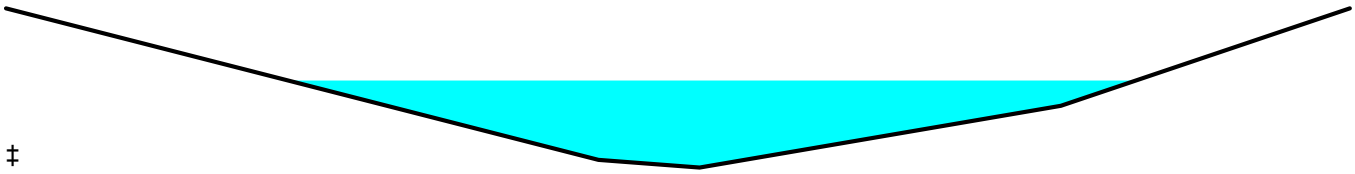
Summary for Reach 25R: Existing Channel

Inflow Area = 17.827 ac, 27.67% Impervious, Inflow Depth > 2.18" for 10-yr event
Inflow = 6.08 cfs @ 8.34 hrs, Volume= 3.244 af
Outflow = 6.08 cfs @ 8.34 hrs, Volume= 3.243 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.24 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.05 fps, Avg. Travel Time= 0.4 min

Peak Storage= 94 cf @ 8.34 hrs, Average Depth at Peak Storage= 0.56'
Bank-Full Depth= 1.03', Capacity at Bank-Full= 26.01 cfs

Custom cross-section, Length= 50.0' Slope= 0.0200 '/'
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 0.00', Outlet Invert= -1.00'

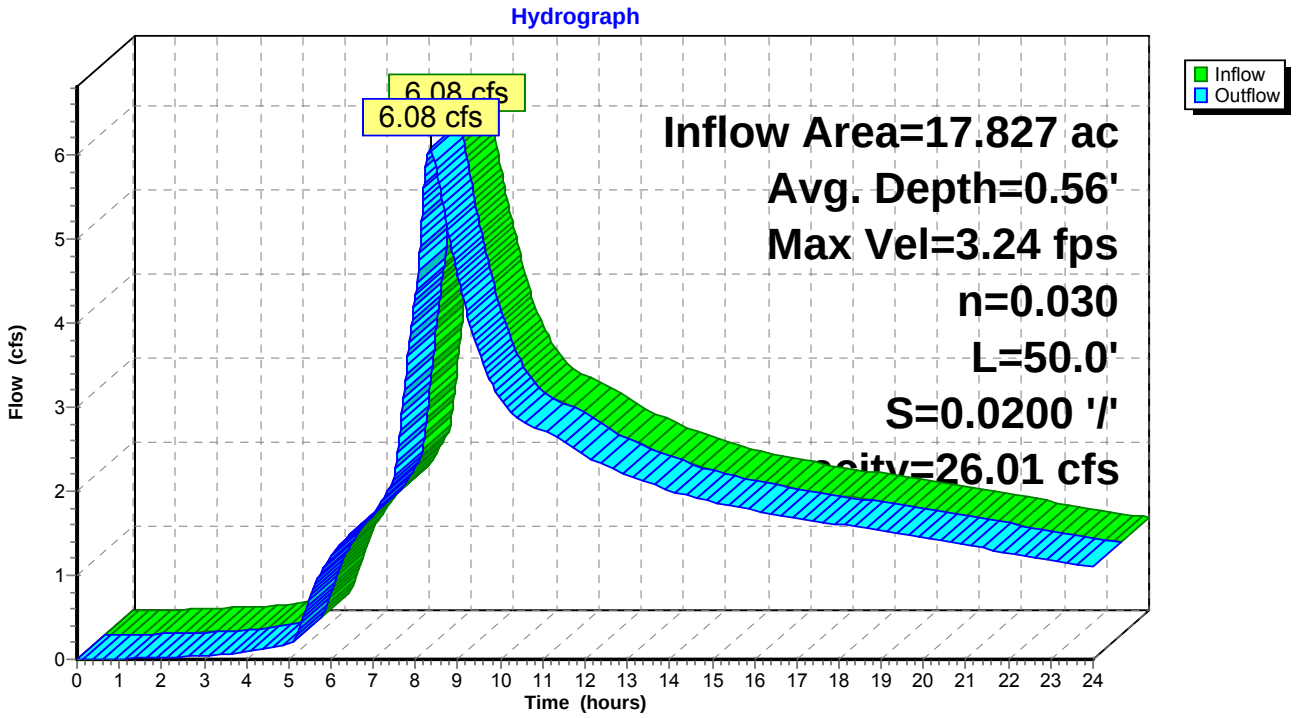


‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	420.86	0.00
4.10	419.88	0.98
4.80	419.83	1.03
7.30	420.23	0.63
9.30	420.86	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
0.05	0.0	1.0	1	0.02
0.40	1.0	4.7	51	2.56
1.03	5.4	9.5	271	26.01

Reach 25R: Existing Channel



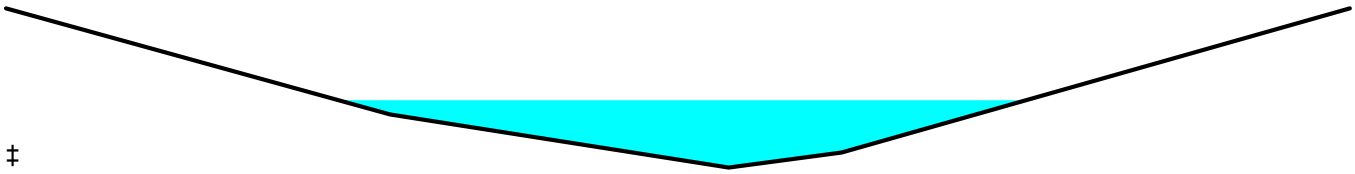
Summary for Reach 27R: Existing Channel

Inflow Area = 17.827 ac, 27.67% Impervious, Inflow Depth > 2.18" for 10-yr event
Inflow = 6.08 cfs @ 8.34 hrs, Volume= 3.243 af
Outflow = 6.08 cfs @ 8.35 hrs, Volume= 3.243 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.07 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.96 fps, Avg. Travel Time= 0.3 min

Peak Storage= 59 cf @ 8.35 hrs, Average Depth at Peak Storage= 0.58'
Bank-Full Depth= 1.38', Capacity at Bank-Full= 49.55 cfs

Custom cross-section, Length= 30.0' Slope= 0.0177 '/' (101 Elevation Intervals)
Constant n= 0.030 Earth, grassed & winding
Inlet Invert= 0.00', Outlet Invert= -0.53'

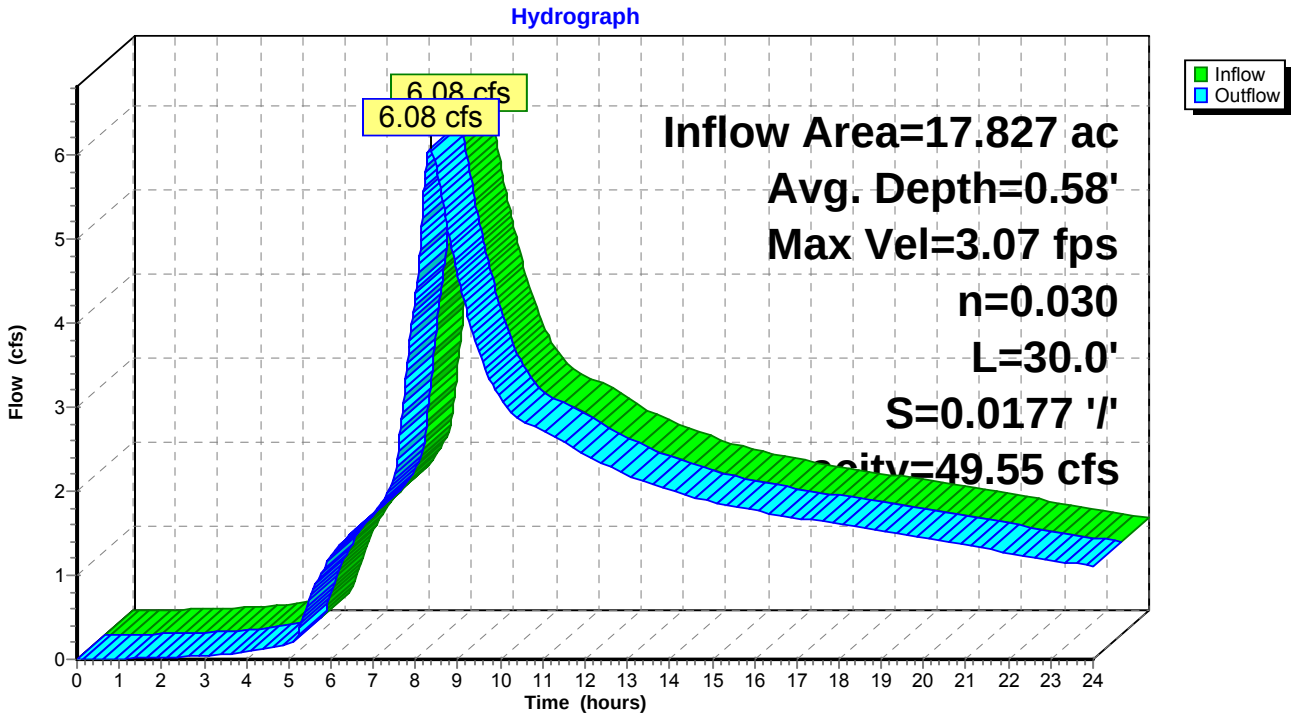


‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	419.92	0.00
3.40	419.00	0.92
6.40	418.54	1.38
7.40	418.67	1.25
11.90	419.92	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
0.13	0.1	1.9	4	0.13
0.46	1.3	5.3	38	3.29
1.38	9.1	12.2	274	49.55

Reach 27R: Existing Channel



Summary for Pond 26R: Existing 12" Culvert

Inflow Area = 17.827 ac, 27.67% Impervious, Inflow Depth > 2.18" for 10-yr event
Inflow = 6.08 cfs @ 8.34 hrs, Volume= 3.243 af
Outflow = 6.08 cfs @ 8.34 hrs, Volume= 3.243 af, Atten= 0%, Lag= 0.0 min
Primary = 6.08 cfs @ 8.34 hrs, Volume= 3.243 af

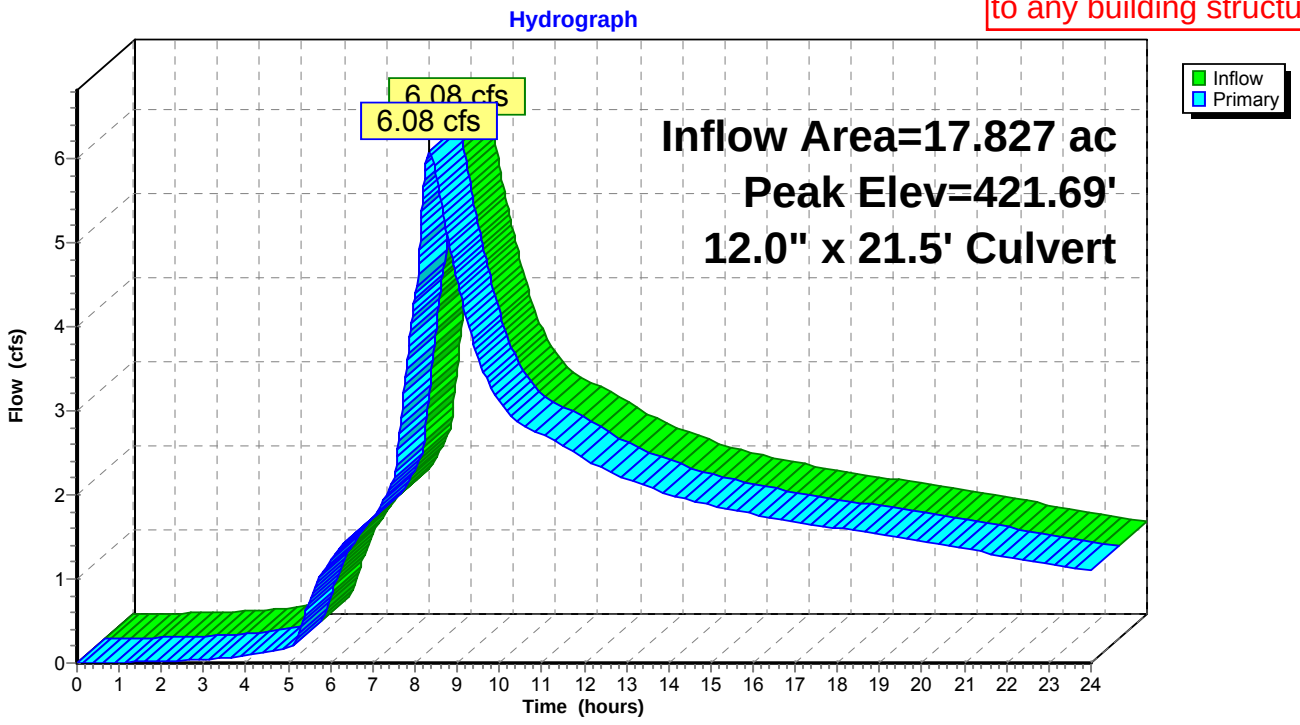
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 421.69' @ 8.34 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	419.41'	**12.0" x 21.5' long Culvert** RCP, groove end projecting, Ke= 0.200 Outlet Invert= 419.04' S= 0.0172 '/' Cc= 0.900 n= 0.012

Primary OutFlow Max=6.08 cfs @ 8.34 hrs HW=421.69' (Free Discharge)
↑**1=Culvert** (Barrel Controls 6.08 cfs @ 7.74 fps)

Existing driveway=421.15' Headwater/ Flow will overtop the driveway and flow downstream without impact to any building structures

Pond 26R: Existing 12" Culvert



Summary for Pond 28R: Existing 12" Culvert

Inflow Area = 17.827 ac, 27.67% Impervious, Inflow Depth > 2.18" for 10-yr event
Inflow = 6.08 cfs @ 8.35 hrs, Volume= 3.243 af
Outflow = 6.08 cfs @ 8.35 hrs, Volume= 3.243 af, Atten= 0%, Lag= 0.0 min
Primary = 6.08 cfs @ 8.35 hrs, Volume= 3.243 af

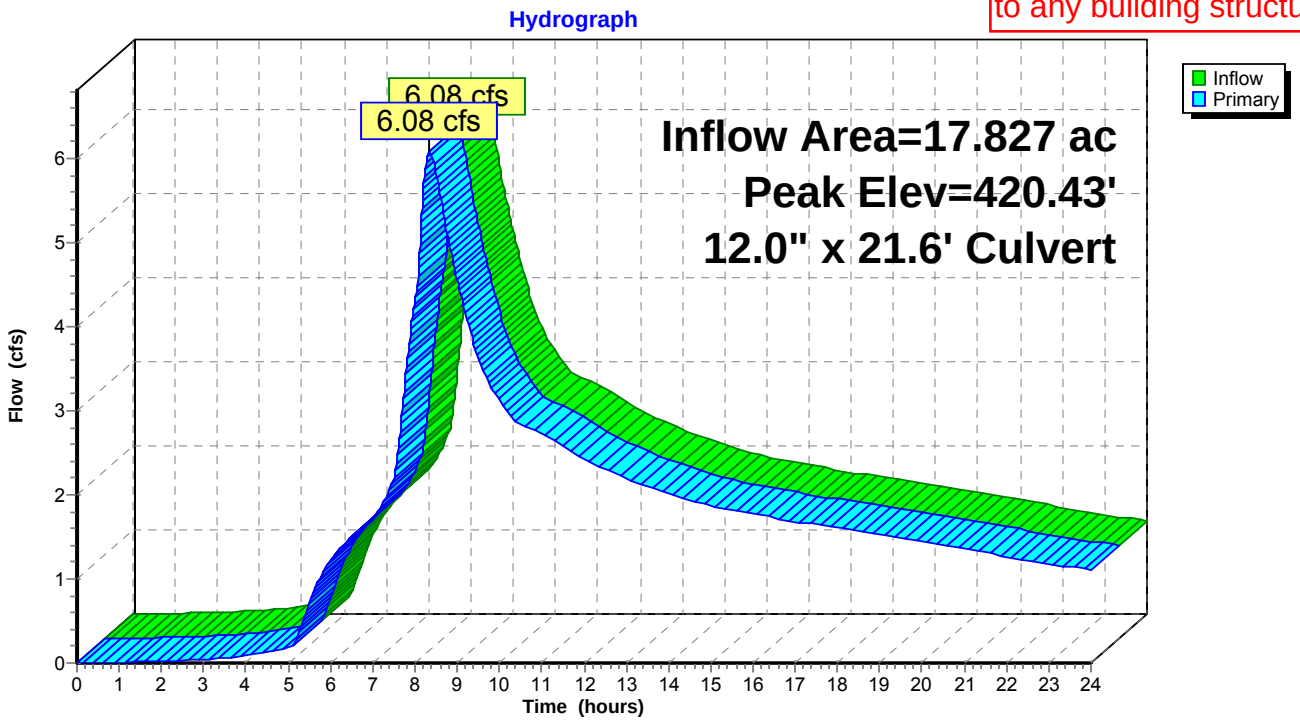
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 420.43' @ 8.35 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	418.27'	**12.0" x 21.6' long Culvert** RCP, groove end projecting, Ke= 0.200 Outlet Invert= 417.69' S= 0.0269 '/' Cc= 0.900 n= 0.012

Primary OutFlow Max=6.08 cfs @ 8.35 hrs HW=420.43' (Free Discharge)
↑**1=Culvert** (Inlet Controls 6.08 cfs @ 7.74 fps)

Existing driveway=419.70'
Headwater/ Flow will overtop the driveway and flow downstream without impact to any building structures

Pond 28R: Existing 12" Culvert



Summary for Pond SW: STORMWATER FACILITY

Inflow Area = 11.830 ac, 37.66% Impervious, Inflow Depth > 2.39" for 10-yr event
Inflow = 5.56 cfs @ 8.01 hrs, Volume= 2.352 af
Outflow = 4.17 cfs @ 8.32 hrs, Volume= 2.207 af, Atten= 25%, Lag= 18.4 min
Primary = 4.17 cfs @ 8.32 hrs, Volume= 2.207 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 430.70' @ 8.32 hrs Surf.Area= 6,161 sf Storage= 14,112 cf

Plug-Flow detention time= 99.6 min calculated for 2.207 af (94% of inflow)
Center-of-Mass det. time= 58.0 min (792.0 - 734.0)

Volume	Invert	Avail.Storage	Storage Description
#1	428.00'	22,729 cf	**Custom Stage Data (Pyramidal)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
428.00	4,321	0	0	4,321
429.00	4,981	4,647	4,647	5,035
430.00	5,667	5,320	9,967	5,781
431.00	6,378	6,019	15,986	6,556
432.00	7,114	6,743	22,729	7,362

Device	Routing	Invert	Outlet Devices
#1	Primary	429.10'	**8.3" Horiz. Orifice/Grate** Limited to weir flow C= 0.600
#2	Primary	430.37'	**11.5" Horiz. Orifice/Grate** Limited to weir flow C= 0.600
#3	Primary	431.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=4.16 cfs @ 8.32 hrs HW=430.70' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 2.29 cfs @ 6.09 fps)
- **2=Orifice/Grate** (Weir Controls 1.88 cfs @ 1.88 fps)
- **3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond SW: STORMWATER FACILITY

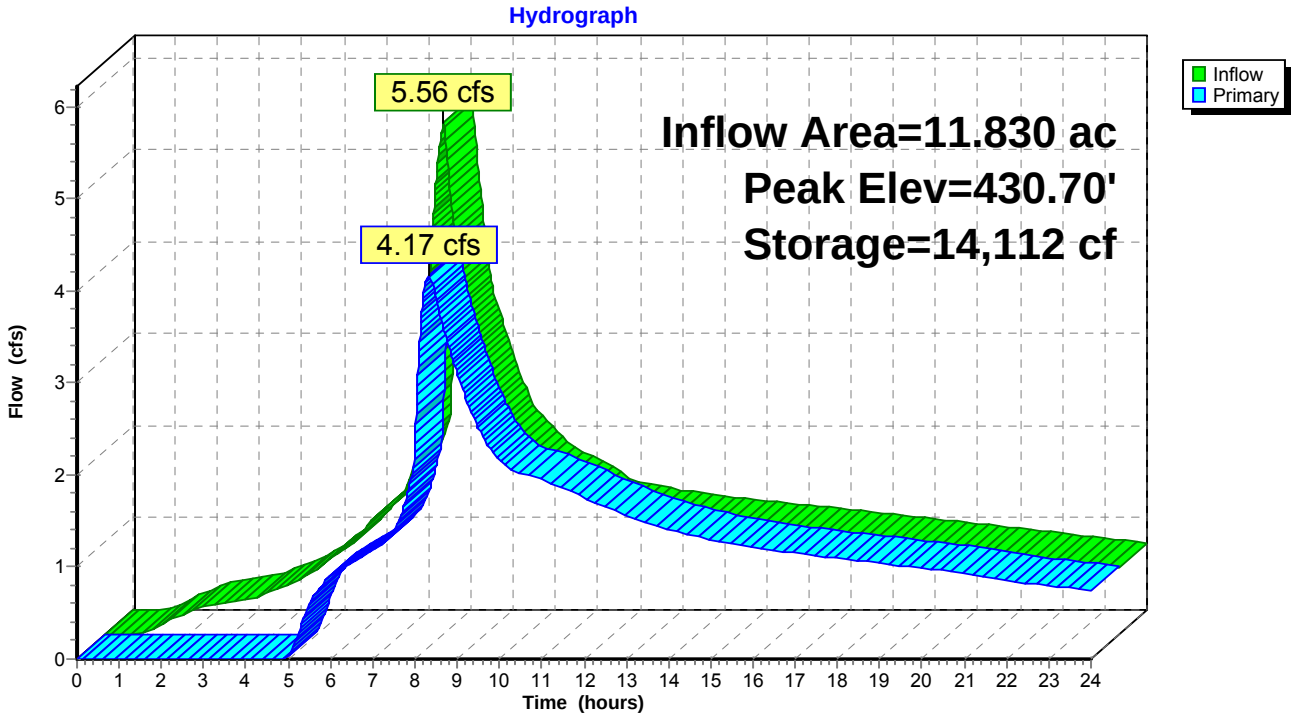


Exhibit Q: Mailing Labels for 300-Foot Radius Owners

300' radius - Taxlot 199

0.1 0 0.07 0.1 Miles

First American Title™

Subject

Radius

Radius Properties

12/12/2017

Notes

32E07C 00199

32E07C 00100
Wayne & Patsy Streight
19673 Leland Rd
Oregon City, OR 97045

32E07C 00101
Patricia Mcclure
19681 Leland Rd
Oregon City, OR 97045

32E07C 00102
Bradley Morris
19659 Mccord Rd
Oregon City, OR 97045

32E07C 00104
Levi & Jillian Morris
19665 Mccord Rd
Oregon City, OR 97045

32E07C 00105
Ali Fathalla
19667 Leland Rd
Oregon City, OR 97045

32E07C 00106
Jerry & Faye Rainbolt
19663 Mccord Rd
Oregon City, OR 97045

32E07C 00107
Robert Rohrs Sr
19661 Mccord Rd
Oregon City, OR 97045

32E07C 00109
Ross & Kay Smith
19691 Leland Rd
Oregon City, OR 97045

32E07C 00192
Bradley Morris
19659 Mccord Rd
Oregon City, OR 97045

32E07C 00199
Ross & Kay Smith
19691 Leland Rd
Oregon City, OR 97045

32E07DC00200
Steven Tidwell
19570 Leland Rd
Oregon City, OR 97045

32E07DC00300
Jonathan Peters
Po Box 3168
Oregon City, OR 97045

32E07DC00400
Christina Westphal
19592 Leland Rd
Oregon City, OR 97045

32E07DC00500
Terry & Anita Anderson
19600 Leland Rd
Oregon City, OR 97045

32E07DC00600
Patricia & Thomas Kitancevski
Po Box 1297
Oregon City, OR 97045

32E07DC00700
Trina Houck
19634 Leland Rd
Oregon City, OR 97045

32E07DC00800
Colleen Commons
19646 Leland Rd
Oregon City, OR 97045

32E07DC00900
Arhondisa Thompson
19658 Leland Rd
Oregon City, OR 97045

32E07DC02700
Wayne & Katherine Dupell
19580 Kalal Ct
Oregon City, OR 97045

32E07DC02800
Kurt & Susan Gross
19590 Kalal Ct
Oregon City, OR 97045

32E07DC02900
Rizzo John A (Trustee)
19600 Kalal Ct
Oregon City, OR 97045

32E07DC03000
Murray William M (Trustee)
19620 Kalal Ct
Oregon City, OR 97045

32E07DC03100
Sean & Lauren Fuller
19630 Kalal Ct
Oregon City, OR 97045

32E07DC03200
Kirk Smith
19640 Kalal Ct
Oregon City, OR 97045

32E18 01400
Bruce Miller
19701 Leland Rd
Oregon City, OR 97045

32E18 01401
Jeff & Tina Westenfelt
19717 Leland Rd
Oregon City, OR 97045

32E18 01402
Rick & Keli Dotson
19695 Leland Rd
Oregon City, OR 97045