Exhibit A1

City of Sherwood
22560 SW Pine St.
Sherwood, OR 97140
Tel 503-625-5522
Fax 503-625-5524
www.sherwoodoregon.gov

December 17, 2021

Westwood Homes, LLC
12700 NW Cornell Road
Portland, OR 97229

RE: LU 2021-023 SUB Cedar Creek Garden Completeness Review

Dear Westwood Homes, LLC,

This letter confirms receipt of your land use application for 42-lot subdivision on Tax Lots 3S106060000102 and 3S106060000107. The application was received on November 17, 2021 and is being processed at a Type III land use review with the Hearings Officer as the Decision Authority.

The application has been deemed incomplete at this time – please see a description of the required information below:

Incomplete Items

- Clean Water Services SPL
- Tualatin Valley Fire & Rescue SPL
- Oregon Department of State Lands Wetland Delineation Report (concurrence)
- Label and show the area of all tracts on the Preliminary Plat
- Conceptual Future Connectivity Plan – show the full property line between Tax Lots 3S1060000105 and 106; show the approximate extent of natural resources on Tax Lots 3S1060000105 and 106 as depicted in the 2009 Brookman Addition Concept Plan.
- Show the location of one off-street parking stall per lot, outside of garages (9’ x 20’)
- Provide a breakdown (area, square feet) of proposed right-of-way, sensitive areas, and open space in order to calculate density
- A Type II Transportation Facility Modification is required for all standards not met in SZCDC § 16.106 (SZCDC § 16.106.020(E)). Staff has identified the following standards that require a modification: SZCDC § 16.106.030(B)(3) and SZCDC § 16.106.030(B)(5). The Type II is in addition to any required Engineering Design Exceptions.

Advisory Comments

MDRL Development Standards

- The minimum lot width at front property line is less than the required 25 ft. for Lots 1, 2, 3, 9, 21, 39, and 42 (SZCDC § 16.12.030(C))

Subdivision Design Standards

- The angle of the side lot line between Lots 13 and 14 does not appear to be at a right angle to the extent practicable (SZCDC § 16.128.030(D))
- Two phases are proposed. The City requires each phase to record a separate plat in order to issue occupancy permits for homes on the initial phase, assuming public improvements on the second phase are not complete. The maximum duration of each phase is 2 years without re-applying for preliminary plat approval.

Transportation and Access

- A private street is proposed to serve more than 2 single-family lots for Lots 1 – 3 and Lots 40 – 42. The maximum number of single-family lots that can be served by a private street is 2 (SZCDC § 16.106.040(N)). A street is defined as "A public or private road, **easement** or right-of-way that is created to provide access to one (1) or more lots, parcels, or tracts of land.." (SZCDC § 16.10 – "Street").
- A fire turnaround is likely required for Lots 40 – 42. A TVF&R SPL is required as a completeness item above.
- An additional pedestrian accessway is required between Street B and the trail (SZCDC § 16.106.030(B)(6))
- Provide clarification on how lowering Brookman Rd. at the new intersection with "Street A" would result in significant safety issue
- No completeness comments have been provided by Washington County as part of this land use application. The applicant is required to coordinate the application for access with the application for land use. Approval of the access to Brookman Rd. for Lots 40 – 42 is required prior to land use approval.

Parks and Open Space

- Required sensitive areas and buffers cannot be counted towards the usable open space area (Tract H) (SZCDC § 16.142.030(A)(3))
- Tracts without pedestrian access cannot be counted towards the usable open space area (tract behind Lot 34)
- A park or usable open space area is not shown west of proposed Lot 40, as indicated in the Brookman Concept Plan
- A trail is not shown across Cedar Creek at the north end of Tax Lot 107, as indicated in the Brookman Concept Plan

- A 15 ft. wide visual corridor is not shown for Brookman Rd. at northeast corner of Tax Lot 107

Natural Resources

- A FEMA CLOMR may be required as Condition of Approval, prior to issuance of grading permit (SZCDC § 16.134.080(A)(4)(b)).
- City wetland regulations require permanent impacts to be mitigated within the same drainage basin (Tualatin River Drainage Basin). Evidence of mitigation will be required as a Condition of Approval, prior to issuance of a grading permit (SZCDC § 16.144.020(A)(1)(c)).
- The tree report introduction states the report is for the Reserve at Cedar Creek

In accordance with ORS 227.178(2) your application will be deemed complete once we have received:

- All of the missing information noted; or
- Some of the missing information and written notice that no additional information will be provided; or
- Written notice that no additional information will be provided.

Please note that you have 180-days from the date of this letter to bring your application into completeness or the application becomes void per ORS 227.178(4). If you have any questions, please contact me at 503-625-4242 or rutledgee@sherwoodoregon.gov.

Sincerely,

ER

Eric Rutledge, Associate Planner
City of Sherwood

Exhibit A1

Engineering Department
Land Use Application
Completeness Review Comments

To:	Eric Rutledge, Associate Planner
From:	Craig Christensen P.E., Civil Engineer
Project:	Cedar Creek Gardens LU 2021-023
Date:	December 2, 2021

Engineering staff has reviewed the information provided for the above referenced private development project for submittal completeness. LU submittals will need to meet the standards established by the City of Sherwood Engineering Department and Public Works Department, Clean Water Services (CWS) and Tualatin Valley Fire & Rescue (TVF&R), in addition to requirements established by other jurisdictional agencies providing land use comments. City of Sherwood Engineering Department comments are as follows:

Engineering Department – Overall Completeness Review Decision

Based on the individual public infrastructure reviews listed below, the LU submittal for Cedar Creek Gardens (LU 2021-023) is ***deemed incomplete*** at this time.

General Description

The proposed site consists of 2 tax lots with addresses of 16871 and 17033 SW Brookman Road. The site is approximately 19.64 acres in size.

The proposed site development is located along within the Brookman Expansion Area on the north side of SW Brookman Road just east of the under construction subdivision known as the Reserve at Cedar Creek.

Existing Conditions Plan

The application has included an existing site conditions plan. The existing conditions plan needs to show the location of the existing fire hydrant at the SW Redfern Drive/SW Shadygrove Drive intersection.

The existing sanitary sewer north of the subject property has been marked with a XSD line. Correct

The vegetative corridor limits on the plan appears to be missing or incorrect. Show existing vegetative corridor line not proposed.

Review and Conclusion: For the purposes of the Existing Condition Plan section, the application is **deemed incomplete** for Engineering LU review.

Grading and Erosion Control

The application has included a grading plan with no erosion control.

Review and Conclusion: For the purposes of the Grading and Erosion Control section, the application is **deemed complete** for Engineering LU review.

Transportation

The proposed project has submitted a Traffic Impact Analysis.

A sight distance analysis was provided for accesses onto SW Brookman Road showing adequate sight distance.

The application shows how the stubbed street may be extended into the property to the east providing for access to the development to the east.

The application needs to show a turn-around on Street ‘B’ of size adequate for an emergency vehicle.

Maintenance access road needs to continue through the flag of Lot 39 to connect with Street ‘B’.

The preliminary plan shows Lots 40-42 having a combined private street that would have access onto SW Brookman Road (Arterial Road) less than the minimum separation distance with the existing driveway. A design modification request needs to be submitted/approved with completeness review.

A design modification request to exceed the maximum length of road between intersections for Street ‘B ’needs to be submitted/approved with completeness review.

A design modification request to be less than the minimum length of road between intersections for Street ‘A ’needs to be submitted/approved with completeness review.

The preliminary plan shows Lots 40-42 having a private street with a paved width of 12 feet. Only 2 lots may be served by a private street with a paved width of 12 feet with a clear width of 20 feet. Private streets serving 3-5 lots need to have a paved width of 20 feet.

PUE needs to go along all street frontages including tracts unless being requested otherwise through a design modification request.

Make sidewalk curb tight at end of Street ‘B’ to extend street to provide more room for Lot 27 to back out onto street. Recommend extending right-of-way to match corner of Lot 26.

Review and Conclusion: For the purposes of the Transportation section, the application is ***deemed incomplete*** for Engineering LU review.

Sanitary Sewer

The application utility plan shows sanitary sewer throughout the development providing public sanitary sewer service to each lot. Sanitary sewer within Street ‘B’ should be on the north and west sides of the street (non-completeness issue).

Public sanitary sewers on private property will require a minimum easement width of 15 feet (non-completeness item).

Extension of the public sanitary sewer near Lot 40 is not shown to be extended though the development. Since the property only has about 60 feet of width in this area, a payment-in-lieu of constructing this segment of sanitary sewer line will likely be required.

Extension of sanitary sewer to SW Brookman Road will likely be required (non-completeness item).

Review and Conclusion: For the purposes of the Sanitary Sewer section, the application is ***deemed complete*** for Engineering LU review.

Storm Sewer

The application utility plan shows storm sewer throughout the development providing public storm sewer service to each lot.

The preliminary storm report has been submitted and is adequate for a preliminary.

The preliminary plans shows Individual LIDA facilities for Lots 40-42. Storm water treatment and hydro-modification to be through a regional facility.

Any public storm facilities on private property needs to be accessible to public work maintenance vehicles.

Public storm sewers on private property will require a minimum easement width of 15 feet (non-completeness item.

Review and Conclusion: For the purposes of the Storm Sewer section, the application is ***deemed incomplete*** for Engineering LU review.

Water

The application utility plan shows public water line throughout the development providing public water service to each lot. Water lines within Street 'B' should be on the south and east sides of the street (non-completeness issue).

Review and Conclusion: For the purposes of the Water section, the application is ***deemed complete*** for Engineering LU review.

Natural Resources

There does not appear to be a Service Provider Letter in the application submittal.

Review and Conclusion: For the purposes of the Natural Resources section, the application is ***deemed incomplete*** for Engineering LU review.

PIONEER DESIGN GROUP, INC.
CIVIL • PLANNING • SURVEY • LANDSCAPE
P 503.643.8286 www.pd-grp.com
9020 SW Washington Square Rd Suite 170
Portland, Oregon 97223

May 3, 2022

City of Sherwood Community Development
Attn: Eric Rutledge
22560 SW Pine Street
Sherwood, OR 97140

RE: RE: LU 2021-023 SUB Cedar Creek Garden Completeness Review
Pioneer Project No.: 285-021

Dear Mr. Rutledge;

Please find below our responses to your Completeness Review letter, City of Sherwood Land Use File LU 2021-023 SUB, dated December 17, 2021. Please note that in response to the identified completeness items the number of lots within the development has been reduced by one (Lot 42), and accordingly the application is now for a 41-Lot Single Family Residential Subdivision.

The application has been deemed incomplete at this time – please see a description of the required information below:

Incomplete Items

- *Clean Water Services SPL*

RESPONSE: Clean Water Services Sensitive Area Service Provider Letter No. 21-002919 has been issued for the site, and is included within the revised electronic and hard copy application materials.

- *Tualatin Valley Fire & Rescue SPL*

RESPONSE: Tualatin Valley Fire and Rescue Service Provider Permit No. 2021-0129 has been issued for the site, and is included within the revised electronic and hard copy application materials.

- *Oregon Department of State Lands Wetland Delineation Report (concurrence)*

RESPONSE: The applicant's biologist, Environmental Science & Assessment, LLC (ES&A), submitted a request to the Oregon Department of State Lands (DSL) for Wetland Delineation/ Determination (concurrence) on 11/18/2021. On 03/17/2022, DSL approved and issued WD # 2022-0005, demonstrating concurrence with ESA's delineation

- *Label and show the area of all tracts on the Preliminary Plat*

RESPONSE: The preliminary plan set has been updated to show the area of all tracts, including the preliminary plat, and is included with this resubmittal.

- *Conceptual Future Connectivity Plan – show the full property line between Tax Lots 3S1060000105 and 106; show the approximate extent of natural resources on Tax Lots 3S1060000105 and 106 as depicted in the 2009 Brookman Addition Concept Plan.*

RESPONSE: The Conceptual Future Connectivity Plan (Sheet P7.0) has been updated to address a wider future development area as requested above. The adjoining areas identified have not been formally surveyed or had natural resources delineated in the field, however the applicant has attempted to anticipate development potential as accurately as possible utilizing Metromap topography and resource locations. There are differences between Metromap and the 2009 Brookman Addition Concept Plan as there are resources the Concept Plan failed to identify.

- *Show the location of one off-street parking stall per lot, outside of garages (9' x 20')*

RESPONSE: All homes within the proposed subdivision will be single-family detached dwellings with attached garages. Per the requirements of the SZCDC, all garage vehicle entrances will be set back a minimum of 20 feet from the property line, and therefore a minimum of one off-street parking stall per lot will be provided within a paved area in front of each garage, in addition to parking provided within the garage. The written narrative has been revised to clarify compliance with this requirement.

- *Provide a breakdown (area, square feet) of proposed right-of-way, sensitive areas, and open space in order to calculate density*

RESPONSE: As requested, the applicant has provided a breakdown (area, square feet) of proposed right-of-way, sensitive areas, and open space as used to calculate density for the site. These numbers have been revised to account for changes to the site plan in response to the completeness review, and are provided below as well as within the revised narrative. It is noted that the areas provided represent a conservative approach to calculating net developable area, following the easily identified boundaries of tracts, lots, and rights-of-way. For example, the outer 3 feet of the Community Trail may be located within the VC as an allowed encroachment, and could be counted as either VC or open space. Accounting for these areas as VC reduces the net developable area and slightly underrepresents the amount of open space being provided by the applicant, but provides easily established areas as follows:

Gross Site Area = 870,698 Square Feet.
Right-of-way Dedication = 85,453 Square Feet.
Vegetated Corridor = 493,979 Square feet
Area Contained within Lots = 234,328 Square Feet.
Other Areas/Open Space (outside of VC) = 56,938 Square feet

The net developable site area is defined as the remaining area of a parent parcel after excluding present and future rights-of-way, environmentally constrained areas, public parks and other public uses. Accordingly, the net developable site area equals the 234,328 square feet of future lot areas plus 56,938 square feet of other developable areas/open space (outside of VC areas) for a total of 291,266 square feet, or 6.69 Acres.

The minimum density for the MDRL zoning district is 5.6 units per acre and the maximum density is 8 units per acre. Minimum and maximum densities are calculated as follows:

Minimum Density = 6.69 Acres X 5.6 Units/Acre = 37.46 Units.
Maximum Density = 6.69 Acres X 8 Units/Acre = 53.52 Units.

Accordingly, the proposed 41 Lot subdivision falls within the lower end of minimum and maximum density requirements for the site.

- *A Type II Transportation Facility Modification is required for all standards not met in SZCDC § 16.106 (SZCDC § 16.106.020(E)). Staff has identified the following standards that require a modification: SZCDC § 16.106.030(B)(3) and SZCDC § 16.106.030(B)(5). The Type II is in addition to any required Engineering Design Exceptions.*

RESPONSE: In addition to the standards listed above, SZCDC Section 16.106.030(B) also includes a provision to allow for exceptions to the street, bike, and pedestrian connections required by (B)(3) and (B)(5), without need for modification. Section 16.106.030(B)(7) states:

> *(7). Exceptions. Streets, bike, and pedestrian connections need not be constructed when any of the following conditions exists:*
>
> *a. Physical or topographic conditions make a street or accessway connection impracticable. Such conditions include but are not limited to freeways, railroads, steep slopes, wetlands or other bodies of water where a connection could not reasonably be provided.*
>
> *b. Buildings or other existing development on adjacent lands physically preclude a connection now or in the future considering the potential for redevelopment; or*

The development site meets the requirements for an exception to these SZCDC standards on the basis that the presence of topographical features including stream channels, wetlands, and 100-year flood plain mean that additional connections cannot be reasonably provided. In addition, approved development to the west does not provide stub street or pedestrian connections at locations which facilitate additional connections, also due to the location of topographical features. A standard to which the applicant has already been excepted cannot subsequently be "modified". Please see the applicant's response to this section in the revised narrative.

It is noted that while the applicant is exempt from these standards for the purposes of the SZCDC, a modification to the City Engineering Design and Standard Details Manual is required, and is submitted with these documents.

Advisory Comments

MDRL Development Standards

- *The minimum lot width at front property line is less than the required 25 ft. for Lots 1, 2, 3, 9, 21, 39, and 42 (SZCDC § 16.12.030(C))*

RESPONSE: The plans have been updated to provide at least 25 feet of frontage for all of these lots. Lot 42 is now Lot 41 in the plans as the applicant has reduced the lot count by one since initial submittal.

Subdivision Design Standards

- *The angle of the side lot line between Lots 13 and 14 does not appear to be at a right angle to the extent practicable (SZCDC § 16.128.030(D))*

RESPONSE: The applicant has verified that the proposed lot line is perfectly perpendicular to the ROW on which it fronts. However, the curvilinear nature of the right-of-way may give the impression that it is not.

- *Two phases are proposed. The City requires each phase to record a separate plat in order to issue occupancy permits for homes on the initial phase, assuming public improvements on the second phase are not complete. The maximum duration of each phase is 2 years without re-applying for preliminary plat approval.*

RESPONSE: The applicant understands the phasing requirements and also notes that although a phasing approval is proposed, the applicant can also construct the project as a single phase with a single plat if desired. A preliminary phasing plan was provided with the initial submittal, and approval was requested as part of the written narrative.

Transportation and Access

- *A private street is proposed to serve more than 2 single-family lots for Lots 1 – 3 and Lots 40 – 42. The maximum number of single-family lots that can be served by a private street is 2 (SZCDC § 16.106.040(N)). A street is defined as "A public or private road, easement or right-of-way that is created to provide access to one (1) or more lots, parcels, or tracts of land.." (SZCDC § 16.10 – "Street").*

RESPONSE: One lot has been removed and replaced with an open space Tract. Therefore, only 2 lots now utilize the private driveway in compliance with 16.106.040(N).

- *A fire turnaround is likely required for Lots 40 – 42. A TVF&R SPL is required as a completeness item above.*

RESPONSE: Tualatin Valley Fire and Rescue Service Provider Permit No. 2021-0129 has been issued for the site, and is included within the revised electronic and hard copy application

materials. The issued permit does not require any modifications or conditions, or request any alterations to the turn-around on Street B using the driveway of Lot 39 adjacent to Lot 38. However, it is noted that the applicant has proposed a revision to the driveway on Lot 39 in order to more clearly accommodate maintenance and emergency vehicles, residential traffic, and pedestrians. The turnaround and access areas have been more clearly identified within the submitted plan set. See Sheet P5.1 for further details.

- *An additional pedestrian accessway is required between Street B and the trail (SZCDC § 16.106.030(B)(6))*

RESPONSE: Code section 16.106.030(B)(6) is in reference to connections between streets, not between streets and trails. However, the applicant has redesigned the access to Lot 39 to include a public easement over a 12-foot-wide driveway and sidewalk to facilitate another through trail connection at an average of less than 300 feet considering the connection at Brookman Road, the proposed connection between Lots 15 and 16 and the connection provided over lot 39 via public easement. Therefore, the intent of this code is met even though it does not apply in this case.

- *Provide clarification on how lowering Brookman Rd. at the new intersection with "Street A" would result in significant safety issue*

RESPONSE: The applicant prepared and submitted a memorandum from Brent Fitch P.E. dated 10/22/2021 which addressed the safety and construction issues associated with the completion of improvements at ultimate alignment along the SW Brookman Road at this time. The Memorandum also detailed the design considerations incorporated into the site to ensure future improvements to SW Brookman Road are accommodated within the development. It is noted that similar safety and constructability issues have warranted payment of funds into a Trust and Agency account for future improvements to SW Brookman Road, including both "The Reserve at Cedar Creek" and the "Riverside at Cedar Creek" developments. In this case, improvements to SW Brookman Road to the 35-mph ultimate alignment would require an approximately 3.7' cut at the intersection with Street A, which can't be accommodated within the existing roadway along the site frontage.

The applicant has provided appropriate ROW dedication to accommodate construction of the future facility. In addition, street sections and profiles show the Street A intersection has been designed to minimize reconstruction as much as practicable, while avoiding impacts to the proposed dwellings within the Cedar Creek Gardens Development through the imposition of grading easements on lots abutting Street A. Future stormwater management facilities can be built to current Clean Water Services (CWS) standards within the required 15' wide visual corridor located behind the proposed ROW, with the provision of appropriate easements. Further, City visual corridor requirements do not prohibit the placement of such facilities, provided compliance with street tree and landscaping requirements can be achieved. City of Sherwood street tree standards include appropriate street trees species to meet both CWS and City landscaping requirements.

- *No completeness comments have been provided by Washington County as part of this land use application. The applicant is required to coordinate the application for access with the application for land use. Approval of the access to Brookman Rd. for Lots 40 – 42 is required prior to land use approval.*

RESPONSE: The applicant has submitted two Washington County Design Exception requests to Washington County Engineering, Traffic, and Survey Division liaison (Naomi Vogel), along with copies of the Design Modification requests submitted to the City. It is anticipated the County will provide comments in the form of recommended Conditions of Approval prior to issuance of the City's Staff Report and Recommendation.

Parks and Open Space

- *Required sensitive areas and buffers cannot be counted towards the usable open space area (Tract H) (SZCDC § 16.142.030(A)(3))*

RESPONSE: Tract H is not counted towards the usable open space areas as shown on sheet 3.2. It is not hatched as usable open space.

- *Tracts without pedestrian access cannot be counted towards the usable open space area (tract behind Lot 34)*

RESPONSE: There is no tract proposed behind lot 34. The line that makes it appear as if it is a separate tract is actually the location of the VC. The area behind lot 34 is part of open space Tract D which includes VC within its majority area.

- *A park or usable open space area is not shown west of proposed Lot 40, as indicated in the Brookman Concept Plan*

RESPONSE: The plans have been revised to remove a lot and provide open space within this area.

- *A trail is not shown across Cedar Creek at the north end of Tax Lot 107, as indicated in the Brookman Concept Plan*

RESPONSE: The applicant is providing a 20-foot-wide easement for future construction of a Community Trail across Cedar Creek and its associated Vegetated Corridor, Wetlands and Floodplain. In addition, the applicant is already providing community trail access to the north of the site on both the east and west sides of the resource area.

Based upon the extent of the wetlands and the elevation of the floodplain, it is anticipated that an elevated trail would need to be constructed on piles at a height of as much as 10 feet above existing grade, with higher sections over the channel of the creek. At approximately 410 feet in length, the cost of such facility is not proportional to the impact of the development, particularly given the already substantial provision of open space, trails, and right-of-way within the site. It is estimated that construction of the elevated trail would add approximately $1,000 per lineal foot, or $410,000, to the public exactions required by the City.

The applicant is willing to pay a fee in lieu amount for their share of construction for a standard Community Trail, provided a fair and reasonable formula can be determined to establish a payment amount.

- *A 15 ft. wide visual corridor is not shown for Brookman Rd. at northeast corner of Tax Lot 107*

RESPONSE: There is Vegetated Corridor along the Brookman frontage in the northeast corner and as such, a visual corridor is not required over sensitive lands.

Natural Resources

- *A FEMA CLOMR may be required as Condition of Approval, prior to issuance of grading permit (SZCDC § 16.134.080(A)(4)(b)).*

RESPONSE: If a CLOMR is required, the applicant will submit and obtain proper permits prior to issuance of a grading permit.

- *City wetland regulations require permanent impacts to be mitigated within the same drainage basin (Tualatin River Drainage Basin). Evidence of mitigation will be required as a Condition of Approval, prior to issuance of a grading permit (SZCDC § 16.144.020(A)(1)(c)).*

RESPONSE: Mitigation for impacts to wetlands on-site will occur within the Tualatin River Drainage Basin, and may include both on-site mitigation and mitigation bank credits. Evidence of the mitigation bank location will be provided to the City of Sherwood prior to issuance of a grading permit, if utilized.

- *The tree report introduction states the report is for the Reserve at Cedar Creek*

RESPONSE: The tree report has been revised to correctly identify Cedar Creek Gardens.

In addition to the above, completeness information included in the City of Sherwood Engineering Department Land Use Application Review Comments, dated December 2, 2021, is identified below:

Existing Conditions Plan

- *The application has included an existing site conditions plan. The existing conditions plan needs to show the location of the existing fire hydrant at the SW Redfern Drive/SW Shadygrove Drive intersection.*

RESPONSE: The existing conditions plan has been revised to include the existing fire hydrant at the SW Redfern/SW Shadygrove Drive intersection.

- *The vegetative corridor limits on the plan appears to be missing or incorrect. Show existing vegetative corridor line not proposed.*

RESPONSE: The existing vegetative corridor lines have replaced the lines on this plan that indicate the revised VC line.

Transportation

- *The application needs to show a turn-around on Street 'B' of size adequate for an emergency vehicle.*

RESPONSE: As described above, Tualatin Valley Fire and Rescue Service Provider Permit No. 2021-0129 has been issued for the site, and is included within the revised electronic and hard copy application materials. The issued permit does not require any modifications or conditions, or request any alterations to the turn-around on Street B using the driveway of Lot 39 adjacent to Lot 38. However, it is noted that the applicant has proposed a revision to the driveway on Lot 39 in order to more clearly accommodate maintenance and emergency vehicles, residential traffic, and pedestrians. See Sheet P5.1 for further details.

- *Maintenance access road needs to continue through the flag of Lot 39 to connect with Street 'B'.*

RESPONSE: The maintenance access drive continues through the flag of Lot 39 to Street B. It consists of a 12-foot driveway with a wedge curb and reinforced sidewalk for a drivable width of 18 feet.

- *The preliminary plan shows Lots 40-42 having a combined private street that would have access onto SW Brookman Road (Arterial Road) less than the minimum separation distance with the existing driveway. A design modification request needs to be submitted/approved with completeness review.*

RESPONSE: A design modification request has been submitted for the access to Lots 40 and 41 which are now the only 2 lots accessing Brookman in the northwest corner of the site.

- *A design modification request to exceed the maximum length of road between intersections for Street 'B 'needs to be submitted/approved with completeness review.*

RESPONSE: A design modification request to exceed the maximum length of a road between intersections for Street "B" has been submitted to the City for review. A copy has been included with this submittal.

- *A design modification request to be less than the minimum length of road between intersections for Street 'A 'needs to be submitted/approved with completeness review.*

RESPONSE: A design modification request to be less than the minimum length of road between intersections, (Street A between the centerlines of Street B and Brookman Road) has been submitted to the City for review. A copy has been included with this submittal.

- *The preliminary plan shows Lots 40-42 having a private street with a paved width of 12 feet. Only 2 lots may be served by a private street with a paved width of 12 feet with a clear width of 20 feet. Private streets serving 3-5 lots need to have a paved width of 20 feet.*

RESPONSE: The plans have been revised to show only 2 lots within this area accessing a shared driveway. The driveway is 12 feet wide and compliant with the City's Engineering Standards.

- *PUE needs to go along all street frontages including tracts unless being requested otherwise through a design modification request.*

RESPONSE: The applicant is submitting a design modification request to eliminate the PUE along each side of Street B as it crosses resource lands. This is necessary to reduce impacts to resources and the franchise utilities can be installed under the sidewalk along this crossing. A copy of the request has been included with this submittal.

- *Make sidewalk curb tight at end of Street 'B' to extend street to provide more room for Lot 27 to back out onto street. Recommend extending right-of-way to match corner of Lot 26.*

RESPONSE: The plans have been revised to make the sidewalk curb tight at the end of Street B, and the right-of-way has been extended slightly to match the corner of Lot 26.

Sanitary Sewer

- *The application utility plan shows sanitary sewer throughout the development providing public sanitary sewer service to each lot. Sanitary sewer within Street 'B' should be on the north and west sides of the street (non-completeness issue).*

RESPONSE: The applicant acknowledges that sanitary should and will be located on the north and west sides of the street.

- *Public sanitary sewers on private property will require a minimum easement width of 15 feet (non-completeness item).*

RESPONSE: All pubic sanitary sewers on private property have a minimum easement width of 15 feet.

- *Extension of the public sanitary sewer near Lot 40 is not shown to be extended though the development. Since the property only has about 60 feet of width in this area, a payment-in-lieu of constructing this segment of sanitary sewer line will likely be required.*

RESPONSE: The sanitary sewer extension across the area formerly known as Lot 40 and now an open space Tract I has been shown crossing the property.

- *Extension of sanitary sewer to SW Brookman Road will likely be required (non-completeness item).*

RESPONSE: The applicant has revised the plan to show the extension of the sanitary sewer to Brookman Road via Street A.

Storm Sewer

- *The preliminary plans shows Individual LIDA facilities for Lots 40-42. Storm water treatment and hydro-modification to be through a regional facility.*

RESPONSE: As part of the response to this letter of completeness, the applicant has eliminated Lot 42 from the proposed plans, and as such only 2 lots are proposed for the north east corner of the site. The applicant proposes to serve these lots using individual on-site LIDA facilities, as opposed to a regional facility serving 2 lots. Chapter 4.04.2.a.1. of CWS' current Design and Construction Standards states:

> *Chapter 4.04.2 Criteria for Requiring Implementation of a Water Quality Approach*
>
> *a. A water quality approach shall be implemented on-site unless, in the judgment of the District or City, any of the following conditions exist:*
>
> *1. Due to topography, soils or other site conditions, implementation of an on-site approach is impractical, ineffective or results in the inefficient use of District or City resources for long-term operations and maintenance;*

The applicant argues that significant site conditions exist (e.g.wetlands, flood-plain) such that Chapter 4.04.2.a.1. would apply in this case, as a large facility for only two lots would be very inefficient for long-term operations and maintenance. As proposed, the applicant would request fee-in-lieu for the water quality component as allowed, and provide overdentention in the proposed pond to address lots 40-41's hydromodification requirements.

The proposed LIDA planters will treat 5,280 square feet of new impervious area in Basin C. Runoff from the roofs of the proposed homes in Basin C will be discharged into flow through LIDA planters for treatment. The shared driveway will be designed and constructed with porous pavement to minimize runoff. The LIDA planters will provide treatment for all contributing impervious surfaces in accordance with CWS' "Design and Construction Standard's for Sanitary and Storm Water Management" (R&O 19-22) Sections 4.04 and 4.09.

- *Any public storm facilities on private property needs to be accessible to public work maintenance vehicles.*

RESPONSE: The proposed individual LIDA facilities on Lots 40 and 41 will be privately owned and maintained, however will be located to provide maintenance access via the shared driveway access to SW Brookman Road, and individual driveway approaches for each home.

- *Public storm sewers on private property will require a minimum easement width of 15 feet (non-completeness item.*

RESPONSE: All public storm sewers proposed on private property have a minimum easement width of 15 feet.

Water

- *Water lines within Street 'B' should be on the south and east sides of the street (non-completeness issue).*

RESPONSE: The final design will have water lines within Street B on the south and east sides of the street.

Natural Resources

- *There does not appear to be a Service Provider Letter in the application submittal.*

RESPONSE: Clean Water Services Sensitive Area Service Provider Letter No. 21-002919 has been issued for the site, and is included within the revised electronic and hard copy application materials.

The applicant will submit all requested paper copies (along with electronic copies of all materials) once the application is formally accepted as complete by the City.

With submittal of all of the requested information, we respectfully request that the application be deemed complete and accepted for review in accordance with ORS 227.178(2), subject to submittal of the additional review copies.

Please do not hesitate to contact me if you have any questions.

Sincerely,
Pioneer Design Group, Inc.

Wayne Hayson
Planning Manager

City of Sherwood
Oregon
Home of the Tualatin River National Wildlife Refuge

Case No. _____
Fee _____
Receipt # _____
Date _____
TYPE _____

City of Sherwood
Application for Land Use Action

Type of Land Use Action Requested: (check all that apply)

- ☐ Annexation
- ☐ Plan Amendment (Proposed Zone _____)
- ☐ Planned Unit Development
- ☐ Site Plan (square footage of building and parking area)
- ☐ Variance (list standards to be varied in description)
- ☐ Conditional Use
- ☐ Partition (# of lots ___)
- ☒ Subdivision (# of lots 42)
- ☐ Other: _____

By submitting this form the Owner, or Owner's authorized agent/ representative, acknowledges and agrees that City of Sherwood employees, and appointed or elected City Officials, have authority to enter the project site at all reasonable times for the purpose of inspecting project site conditions and gathering information related specifically to the project site.

Note: See City of Sherwood current Fee Schedule, which includes the "Publication/Distribution of Notice" fee, at **www.sherwoodoregon.gov.** Click on Government/Finance/Fee Schedule.

Owner/Applicant Information:

Applicant: Westwood Homes, LLC
Phone: (503) 715-2383
Applicant Address: 12700 NW Cornell Road Portland OR 97229
Email: bill@westwoodhomesllc.com
Owner: TL 102 - Charles and Louise Bissett
Phone: _____
Owner Address: 16871 SW Brookman Rd. Sherwood, OR 97140
Email: _____
Contact for Additional Information: Matthew Sprague, ph 503-643-8286, email msprague@pd-grp.com

Property Information:

Street Location: 16871 and 17033 SW Brookman Road, Sherwood
Tax Lot and Map No: TL 3S1060000102 and TL 3S1060000107
Existing Structures/Use: Two Detached Single Family Dwellings
Existing Plan/Zone Designation: Medium Density Residential Low (MDRL)
Size of Property(ies) 20.03 acres (per site survey)

Proposed Action:

Purpose and Description of Proposed Action:

Preliminary Approval for a 42-Lot Single-Family Detached Residential Subdivision "Cedar Creek Garden"

Proposed Use: Single-Family Detached Residential Subdivision

Proposed No. of Phases (one year each): _____

Continued on Reverse

DS
UMB

LAND USE APPLICATION FORM

Authorizing Signatures:

I am the owner/authorized agent of the owner empowered to submit this application and affirm that the information submitted with this application is correct to the best of my knowledge.

I further acknowledge that I have read the applicable standards for review of the land use action I am requesting and understand that I must demonstrate to the City review authorities compliance with these standards prior to approval of my request.

Applicant's Signature — Date: 10-21-2021

DocuSigned by:
LOUISE M BISSETT
0659FB1583126408
Owner's Signature — Date: 10/26/2021 | 10:08 AM PDT

The following materials must be submitted with your application or it will not be accepted at the counter. Once taken at the counter, the City has up to 30 days to review the materials submitted to determine if we have everything we need to complete the review. Applicant can verify submittal includes specific materials necessary for the application per checklist.

☒ **3 Copies of Application Form*** completely filled out and signed by the property owner (or person with authority to make decisions on the property.

☒ **Copy of Deed** to verify ownership, easements, etc.

☒ **At least 3 folded** sets of plans*

☒ **At least 3 copies** of narrative addressing application criteria*

☒ **Fee** (along with calculations utilized to determine fee if applicable)

☒ **Neighborhood Meeting Verification** including affidavit, sign-in sheet and meeting summary (required for Type III, IV and V projects)

* **Note** that the required numbers of copies identified on the checklist are required for completeness; however, upon initial submittal applicants are encouraged to submit only 3 copies for completeness review. Prior to completeness, the required number of copies identified on the checklist and one full electronic copy will be required to be submitted.

City of Sherwood
Oregon
Home of the Tualatin River National Wildlife Refuge

Case No. _____
Fee _____
Receipt # _____
Date _____
TYPE _____

City of Sherwood
Application for Land Use Action

Type of Land Use Action Requested: (check all that apply)

- ☐ Annexation
- ☐ Plan Amendment (Proposed Zone _____)
- ☐ Planned Unit Development
- ☐ Site Plan (square footage of building and parking area)
- ☐ Variance (list standards to be varied in description)
- ☐ Conditional Use
- ☐ Partition (# of lots _____)
- ☒ Subdivision (# of lots 42)
- ☐ Other: _____

By submitting this form the Owner, or Owner's authorized agent/ representative, acknowledges and agrees that City of Sherwood employees, and appointed or elected City Officials, have authority to enter the project site at all reasonable times for the purpose of inspecting project site conditions and gathering information related specifically to the project site.

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Owner/Applicant Information:

Applicant: Westwood Homes, LLC — Phone: (503) 715-2383
Applicant Address: 12700 NW Cornell Road Portland OR 97229 — Email: bill@westwoodhomesllc.com
Owner: TL 107 - Wayne and Linda Chronister — Phone: _____
Owner Address: PO Box 1474 Sherwood, OR 97140 — Email: _____
Contact for Additional Information: Matthew Sprague, ph 503-643-8286, email msprague@pd-grp.com

Property Information:

Street Location: 16871 and 17033 SW Brookman Road, Sherwood
Tax Lot and Map No: TL 3S1060000102 and TL 3S1060000107
Existing Structures/Use: Two Detached Single Family Dwellings
Existing Plan/Zone Designation: Medium Density Residential Low (MDRL)
Size of Property(ies) 20.03 acres (per site survey)

Proposed Action:

Purpose and Description of Proposed Action:

Preliminary Approval for a 42-Lot Single-Family Detached Residential Subdivision "Cedar Creek Garden"

Proposed Use: Single-Family Detached Residential Subdivision

Proposed No. of Phases (one year each): _____

Continued on Reverse

LAND USE APPLICATION FORM

Authorizing Signatures:

I am the owner/authorized agent of the owner empowered to submit this application and affirm that the information submitted with this application is correct to the best of my knowledge.

I further acknowledge that I have read the applicable standards for review of the land use action I am requesting and understand that I must demonstrate to the City review authorities compliance with these standards prior to approval of my request.

Applicant's Signature — Date: 10-21-2021

X Linda Chronister Wayne K. Chronister — Owner's Signature — Date: 10.25.21

Linda Chronister Wayne Chronister

The following materials must be submitted with your application or it will not be accepted at the counter. Once taken at the counter, the City has up to 30 days to review the materials submitted to determine if we have everything we need to complete the review. Applicant can verify submittal includes specific materials necessary for the application per checklist.

■ **3 Copies of Application Form*** completely filled out and signed by the property owner (or person with authority to make decisions on the property.

■ **Copy of Deed** to verify ownership, easements, etc.

■ **At least 3 folded** sets of plans*

■ **At least 3 copies** of narrative addressing application criteria*

■ **Fee** (along with calculations utilized to determine fee if applicable)

■ **Neighborhood Meeting Verification** including affidavit, sign-in sheet and meeting summary (required for Type III, IV and V projects)

* **Note** that the required numbers of copies identified on the checklist are required for completeness; however, upon initial submittal applicants are encouraged to submit only 3 copies for completeness review. Prior to completeness, the required number of copies identified on the checklist and one full electronic copy will be required to be submitted.

APPLICATION MATERIALS REQUIRED FOR

SUBDIVISION PLAT

Submit the following to the City of Sherwood Planning Department, 22560 SW Pine St., Sherwood, OR 97140: (503) 925-2308.

It is strongly suggested that you have a pre-application meeting with the City prior to submitting for a Subdivision. (See *Pre-application Process* form for information.)

Note: The Clean Water Services (CWS) requires a pre-screening to determine if water quality sensitive areas exist on the property. If these sensitive areas exist, a Site Assessment and Service Provider Letter is required prior to submitting for a subdivision or minor land partition or undertaking any development. **This application will not be accepted without a completed Pre-Screening Form and if required a Service Provider Letter.** Please contact CWS at (503) 681-3600.

If the proposal is next to a Washington County roadway, the applicant must submit an Access Report (Traffic Study) to Washington County Department of Land Use and Transportation (503) 846-8761. **This application will not be accepted until an Access Report (Traffic Study) is submitted to Washington County and the Access Report is deemed complete by the County; or written verification from Washington County that an Access Report is not required is provided.**

I. **Fee -** See City of Sherwood current Fee Schedule, which includes the "Publication/Distribution of Notice" fee, at **www.sherwoodoregon.gov.** Click on Departments/Planning/ Fee Schedule.

Note: The above fee is required at the time you submit for a subdivision. Additional fees will be charged for building permit, system development charges, impact fees and other fees applicable to the development. These fees will be charged when you make application for building permit. Building permit application will not be accepted until the final plat is recorded.

II. **BACKGROUND INFORMATION** (all materials collated and folded (not rolled) to create fifteen (15) sets)

*****Note that the *final* application must contain fifteen (15) folded sets of the above, however, upon initial submittal of the application and prior to completeness review, the applicant may submit three (3) complete folded sets with the application in lieu of fifteen (15), with the understanding that fifteen (15) complete sets of the application materials will be required before the application is deemed complete and scheduled for review.

☑ **Application Form –** One original and fourteen (14) copies of a completed **City of Sherwood Application for Land Use Action** form. Original signatures from all owners must be on the application form.

☑ **Documentation of Neighborhood Meeting** - Affidavits of mailing, sign-in sheets and a summary of the meeting notes shall be included with the application.

☑ **Tax Map** - Fifteen (15) copies of the latest Tax Map available from the Washington County Assessor's Office showing property within at least 300 feet with scale (1"=100' or 1"= 200') north point, date and legend.

☑ **Mailing Labels –** Two (2) sets of mailing labels for property owners within 1,000 feet of the subject site, including a map of the area showing the properties to receive notice. Mailing labels are available from the Washington County Assessors office or a private title insurance company. . Ownership records shall be based on the most current available information from the Tax Assessor's office. *It is the applicant's responsibility to provide mailing labels that accurately reflect all property owners that reside within 1,000 feet of the subject site.*

☑ **Vicinity Map –** Fifteen (15) copies of a vicinity map. A photocopy of the Thomas Guide is adequate, showing the City limits and the Urban Growth Boundary.

☑ **Narrative –** Fifteen (15) copies and **an electronic copy** of a narrative explaining the proposal in detail and a response to the Required Findings for Subdivision, located in Chapter 16 of the Municipal Code/Zoning & Development, Section 16.120. The Municipal Code/Zoning & Development is available online at www.sherwoodoregon.gov, City Government/Records.

☑ **Electronic Copy –** An electronic copy of the entire application packet. This should include all submittal materials (narrative, vicinity map, mailing labels, site plan, preliminary plat, etc.).

III. REQUIRED PLANS

Submit fifteen (15) sets of the following folded full-size plans and **an electronic copy in PDF format**. Plans must have:

1) The proposed name of the development. If a proposed project name is the same as or similar to other existing projects in the City of Sherwood, the applicant may be required to modify the project name.
2) The name, address and phone of the owner, developer, applicant and plan producer.
3) North arrow,
4) Legend,
5) Date plans were prepared and date of any revisions
6) Scale clearly shown. Other than architectural elevations, all plans must be drawn to an engineer scale.
7) All dimensions clearly shown.

☑ **Existing Conditions Plan** - Existing conditions plan drawn to scale showing: property lines and dimensions, existing structures and other improvements such as streets and utilities, existing vegetation including trees, any floodplains or wetlands and any easements on the property. The existing conditions plan shall also include the slope of the site at 5-foot contour intervals

☑ **Preliminary Development Plans-** Plans must be sufficient for the Hearing Authority to determine compliance with applicable standards. The following information is typically needed for adequate review:

1. The subject parcel(s), its dimensions and area and the buildable area of each lot.

2. The location and dimensions of proposed development, including the following:

Transportation

a. Public and private streets with proposed frontage improvements including curb, gutters, sidewalks, planter strip, street lighting, distances to street centerline, pavement width, right-of-way width, bike lanes and driveway drops.
b. Public and private access easements, width and location.
c. General circulation plan showing location, widths and direction of existing and proposed streets, bicycle and pedestrian ways and transit routes and facilities.
d. Show the location and distance to neighboring driveways and the width and locations of driveways located across the street.
e. The location and size of accesses, sight distance and any fixed objects on collectors or arterial streets.
f. Emergency accesses.

Grading and Erosion Control

g. Indicate the proposed grade at two (2)-foot contour intervals.
h. Indicate the proposed erosion control measures to CWS standards (refer to CWS R&O 07-20).
i. Show areas of cut and fill with areas of structural fill.
j. Show the location of all retaining walls, the type of material to be used, the height of the retaining wall from the bottom of the footing to the top of the wall and the exposed height of the wall.

Utilities

k. Utilities must be shown after proposed grade with 2-foot contour intervals.
l. Map location, purpose, dimensions and ownership of easements.
m. Fire hydrant locations and fire flows.
n. Water, sewer and stormwater line locations, types and sizes.
o. Clearly indicate the private and public portions of the system.
p. Above-ground utilities and manhole locations

Preliminary Stormwater Plan

q. Show location, size and slope of water quality facility.
r. Preliminary calculations justifying size of facility.
s. The total square footage of the new and existing impervious area.
t. Indicate a stormwater facility to CWS standards (CWS R&O 07-20).

Sensitive Areas

u. Show any and all streams, ponds, wetlands and drainage ways.
v. Indicate the vegetative corridor for sensitive areas to CWS standards. (R&O 07-20).
w. Indicate measures to avoid environmental degradation that meet CWS, DSL and Army Corp requirements.
x. Flood elevation.
y. Wetland delineation and buffering proposed.

Land Use

z. The square footage of each building and a break down of square footage by use. (i.e. retail, office, industrial, residential, etc.).
aa. Net buildable acres. (The land remaining after unbuildable areas are taken out, such as the floodplain and wetland areas.)
bb. Net density calculation for residential use.
cc. Existing trees proposed to remain and trees to be removed and the drip-lines of trees proposed to remain.
dd. Street tree location, size and type. (refer to Ch. 8, Section 8.304.06 of the Community Development Code).
ee. Location, size and height of proposed free-standing signs.
ff. Location, height and type of fencing and walls.
gg. For each lot indicated the building envelope.

☑ **Reduced - Proposed Development Plans –** One (1) reduced copy of the Proposed Development Plans on 8 1/2" by 11" sheets and fifteen (15) reduced copies on 11" by 17" sheets.

☑ **Lighting Plan** – Photometric lighting plan indicating foot candle power on and along the perimeter of the site. Proposed locations, height and size of lights. (If outdoor lighting is proposed).

☑ **Surrounding Land Uses –** Existing land use including nature, size and location of existing structures within 300 feet. .

IV. DOCUMENTS REQUIRED

☑ **Title Report** – Two (2) copies of a current preliminary title report available from a private title insurance company.

☑ **CWS Service Provider Letter** – Four (4) copies of the CWS service provider letter.

☐ **Soils Analysis and/or Geotechnical Report** – Four (4) copies completed by a registered Soils Engineer or Geologist including measures to protect natural hazards. (If required by the City Engineer).

☑ **Traffic Study –** Four (4) copies of a traffic study. (If required by the City Engineer

V. ADDITIONAL DOCUMENTS THAT MAY BE REQUIRED

☑ **Army Corps and DSL wetland applications and/or permits –** Four (4) copies of required Divisions of State Lands and/or Army Corp of Engineers permits and/or permit applications if applicable.

☑ **Trip Analysis** - verifying compliance with the Capacity Allocation Program, if required per 16.108.070.

☑ **Tree Report –** Two (2) copies of a tree report prepared by an arborist, forester, landscape architect, botanist or other qualified professional. (If trees are on-site).

☑ **Natural Resource Assessment –** If required by Clean Water Services (CWS). The CWS Pre-Screening indicates as to whether this report is required or not.

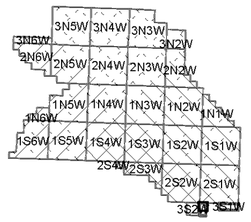
☑ **Wetland Delineation Study –** if required by Oregon Division of State Lands (DSL) or the Army Corps of Engineers.

☐ **Other Special Studies and/or Reports –** if required by the Planning Director or the City Engineer to address issues identified in the pre-application meeting or during project review.

☐ Verification of compliance with other agency standards such as CWS, DSL, Army Corps of Engineers, ODOT, PGE, BPA, Washington County

Exhibit A5 3S106

WASHINGTON COUNTY OREGON
SECTION 6 T3S R1W
SCALE 1"= 400'



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12	7	8	9	10	11	12	7
13	18	17	16	15	14	13	18
24	19	20	21	22	23	24	19
25	30	29	28	27	26	25	30
36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6

BB	BA	AB	AA
BC	BD	AC	AD
CB	CA	DB	DA
CC	CD	DC	DD

SECTION 6

FOR ADDITIONAL MAPS VISIT OUR WEBSITE AT
www.co.washington.or.us

Cancelled Taxlots For: 3S106
1200, 1290, 1104, 1106, 902, 202, 703, 400, 204, 103

Feet
0 200 400 800 1,200

Assessment CARTOGRAPHY

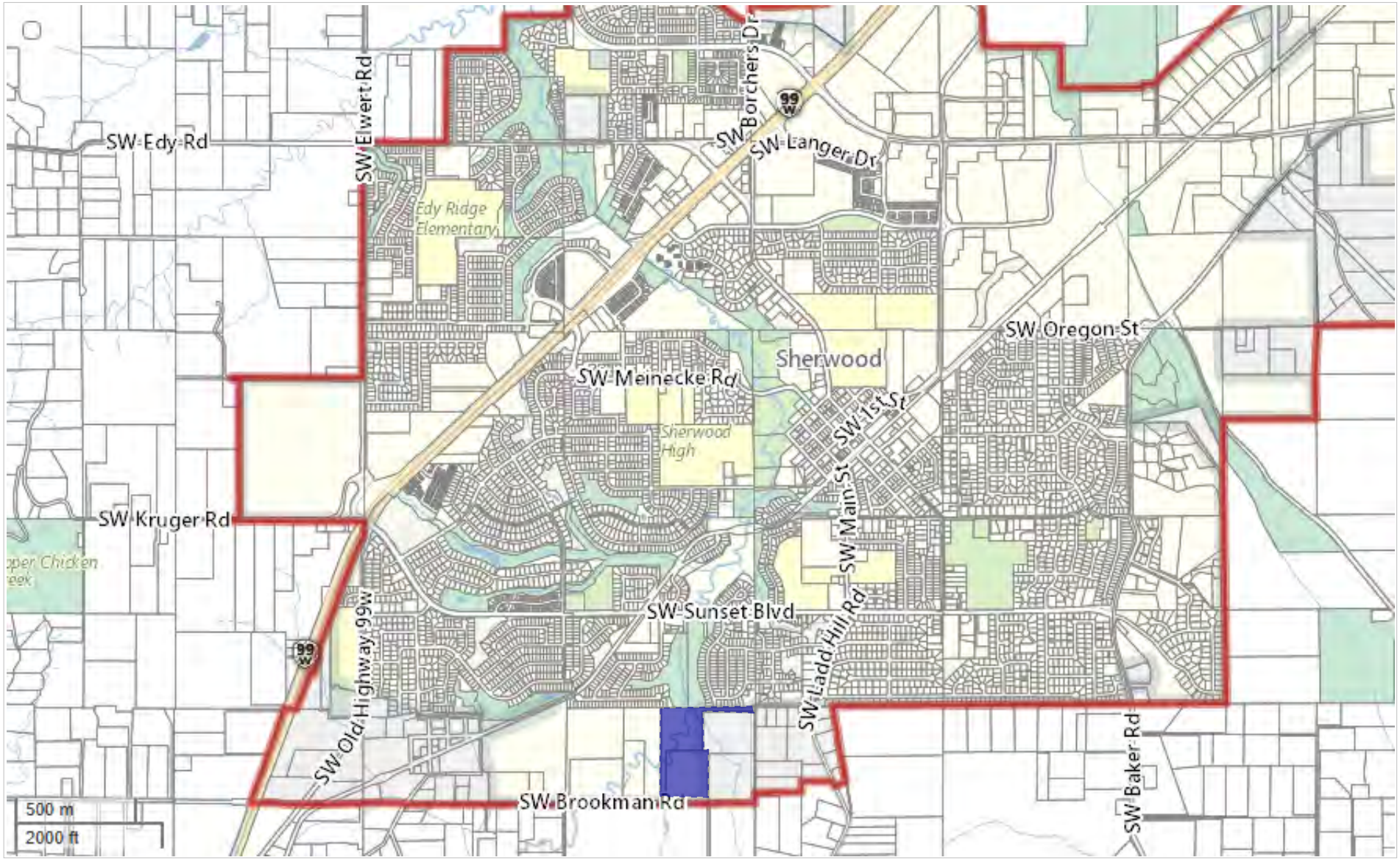
PLOT DATE: 11/9/2021
Rotation: 0

FOR ASSESSMENT PURPOSES ONLY - DO NOT RELY ON FOR OTHER USE

Map areas delineated by either gray shading or a cross-hetched pattern are for reference only and may not indicate the most current property boundaries. Please consult the appropriate map for the most current information.

SHERWOOD
3S106

Exhibit A5



Metro

Data Resource Center
600 NE Grand Ave, Portland, OR 97232
503.797.1742 – drc@oregonmetro.gov

LAND USE APPLICATION
CITY OF SHERWOOD, OREGON

CEDAR CREEK GARDENS

A 41-Lot Single Family Residential Subdivision of Tax Lots 102 & 107, Tax Map 3S1 06

November 15, 2021
Revised May 10th, 2022

OWNER TAX LOT 107:
Wayne and Linda Chronister
PO Box 1474
Sherwood, OR 97140

OWNER TAX LOT 102
Charles and Louise Bisset
16871 SW Brookman Road
Sherwood, OR 97140

APPLICANT:
Westwood Homes, LLC
12700 NW Cornell Road
Portland, OR 97229

APPLICANT'S REPRESENTATIVE:
Pioneer Design Group
9020 Washington Square Road, Suite 170
Portland, OR 97223
Contact: Matthew L. Sprague
Phone: 503-643-8286
Email: msprague@pd-grp.com

PIONEER DESIGN GROUP

9020 SW Washington Square Rd
Suite 170
Portland, Oregon 97223
p 503.643.8286
f 844.715.4743
www.pd-grp.com

FACT SHEET

Project Name:	**Cedar Creek Gardens**
Proposed Action:	A 41-Lot Single Family Residential Subdivision
Tax Map/Lot:	3S1 06 102 & 106
Site Size:	19.99 Acres
Addresses:	16871 & 17033 SW Brookman Road, Sherwood, OR 97140
Location:	On the north side of SW Brookman Road, approximately 600 feet west of where Brookman makes a 90-degree corner to the north.
Zoning:	MDRL – Medium Density Residential Low

Owner Tax Lot 102:
Charles and Louise Bisset
16871 SW Brookman Road
Sherwood, OR 97140

Owner Tax Lot 107
Wayne and Linda Chronister
PO Box 1474
Sherwood, OR 97140

Applicant:
Westwood Homes, LLC
12700 NW Cornell Road
Portland, OR 97229
Contact: Bill Wagoner
Phone: 503-330-2215
Email: bwagoner@westwoodhomes.com

Applicants Representative:
Planning/Survey/Eng./Landscape
Pioneer Design Group
9020 SW Washington Square Rd, Ste. 170
Portland, OR 97223
Contact: Matthew L. Sprague
Phone: 503-643-8286
Email: msprague@pd-grp.com

Applicant's Representatives:

Traffic Engineer
Lancaster Mobley
321 SW 4th Ave, #400
Portland, OR 97204
Contact: Todd Mobley
Phone: 503-248-0313
Email: Todd@lancastermobley.com

Biologist
Environmental Science & Assessment
107 SE Washington Street, Suite 249
Portland, OR 97214
Contact: Jack Dalton
Phone: 503-478-0424
Email: jack@esapdx.com

GENERAL INFORMATION

The applicant requests preliminary approval of a 41-Lot Single-Family Detached Residential Subdivision "Cedar Creek Gardens". The subject site, specifically identified as Tax Lot 102 and 107 of Tax Map 3S106, is 19.99 acres in size, per the site survey. An existing residence and associated out buildings are located in the northwest quadrant of the site, with a driveway culvert crossing of the Cedar Creek drainage to access the dwelling from SW Brookman Road to the south. Another existing residence and associated outbuildings are located off the Brookman Road frontage near the south property line, at approximately the midpoint of the site along the roadway.

The site is within the Brookman Road Concept Plan area, which was adopted by the Sherwood City Council in 2009, and is zoned Medium Density Residential Low (MDRL) by the City of Sherwood. The MDRL Zone allows for single family detached residential lots as a permitted use, with a 5,000 square foot minimum lot size.

The northwest part of the site will support 8 lots, which will be accessed from the west via public streets within the proposed Reserve at Cedar Creek Subdivision which is currently under construction. There are 2 lots that will access east out to Brookman Road via a shared driveway. This is the only access available to developable land in the northeast corner of the site because Redfern, (which stubs into the site) is not permitted to be extended for vehicular use. The remainder of the 31 lots will obtain access SW Brookman Road to the south via a new interior public street system.

It is noted that when the Brookman Road area was annexed into the City of Sherwood, Exhibit B of annexation WA2917 (http://library.oregonmetro.gov/annexation/WA2917.pdf (Sheet 3 of 6)) incorrectly labelled the narrow north eastern strip of Tax Lot 3S1060000107 as being 50 feet in width where it extends to Brookman Road. Staff with the Washington County Department of Assessment and Taxation have confirmed that the reference to the point of call in Exhibit A of the annexation documents controls over the distance given in Exhibit B. As per the survey submitted with this application, and consistent with available public records from the Washington County Surveyors Office and Department of Assessment and Taxation, the actual width of the strip is 59.89 feet, based on the point of call.

VICINITY & SITE INFORMATION

Site Location: On the north side of SW Brookman Road, approximately 600 feet east of its 90-degree corner turning to the north.

Existing Uses: The site is located within the Brookman Addition community in the south end of Sherwood, Oregon. The site has large acreage parcels. The site includes two single-family homes and several outbuildings and structures. A driveway extends through neighboring property to the west to access the home and outbuildings in the northwest corner of the site. Access to this home is currently being modified with construction of The Reserve at Cedar Creek subdivision. The other home and outbuildings have a driveway connection directly to Brookman Road near the midpoint of the site's southern boundary. Much of the western and central areas of the site are forested with a riparian forested community along Cedar Creek, which flows through the site from north to southwest. There are multiple wetland areas within the Cedar Creek floodplain.

Topography: The site topography slopes in various directions mostly downward towards the Cedar Creek Riparian Corridor, wetlands along the eastern edge and south of lots 40-41. The flattest areas are in the proposed development areas along the northwest edge, the northeast flag area and the area adjacent to Brookman Road between the drainageways.

Vegetation: The site is mostly forested except areas surrounding the existing homes and outbuildings. The remainder of the site is a mix of riparian and wetland communities. The riparian areas include Douglas fir (*Pseudotsuga menziesii*), Douglas Hawthorn (*Crataegus douglasii*), Oregon ash (*Fraxinus latifolia*), and Big Leaf Maple (*Acer macrophyllum*) with a canopy cover of up to 90 percent throughout. Understory plants include mainly native species such as Western Beaked Hazelnut (*Corylus cornuta*), Vine Maple (*Acer circinatum*), Snowberry (*Symphoricarpos albus*), Serviceberry (*Amelanchier alnifolia*), Osoberry (*Oemleria cerasiformis*) and Swordfern (*Polystichum munitum*).

Surrounding Land Uses: SW Brookman Road runs along the site's southern boundary, and forms the edge of the Urban Growth Boundary. South of SW Brookman Road, a mixture of County resource and rural residential zoning districts prevail, typically consisting of rural uses and single-family dwellings on large lots. To the east and west of the site, land is located within the Brookman Road Concept Plan area, and will ultimately be developed to similar residential densities as the subject property. In fact, The Reserve at Cedar Creek is a project along the western boundary currently under construction and will provide services to this site. To the north are developed lands and the Cedar Creek riparian corridor.

Transportation: Transportation facilities for automobile, transit, pedestrians, and bicyclists continue to develop in the local area. The site is within the TriMet service district boundaries; however, the closest bus routes are #93 and 94 (Tigard/Sherwood, Pacific Highway/Sherwood) on SW Main Street, located approximately 1.2 miles to the north west of the site by road. It is noted that this is a greenfield development, and it is expected that access to transit facilities will increase over time, with new bus routes or stops, and the addition of community trails allowing greater pedestrian access to SW Brookman Road.

PROJECT DESCRIPTION

The proposed project is a residential subdivision creating 41 Lots for single-family detached homes. A tract of approximately 432,585 square feet (9.93 acres) (Tract B) containing Cedar Creek and its associated flood plain and vegetated corridor along with portions of unnamed drainages and their vegetated corridors as well as City required open space is to be preserved as open space. Another tract of approximately 79,478 square feet (1.82 acres) (Tract D) preserves portions of an unnamed tributary in the southeast area of the site including the wetlands, vegetated Corridor and other City required open space. Another open space tract of 10,617 square feet (0.24 acres) (Tract H) is located in the northeast corner of the site and is also preserving wetlands, vegetated corridor and City required open space. Finally, Tract I, located to the east of Tract B and west of Lot 40, is an open space area of 8,660 square feet (0.2 acres) to be reserved for future acquisition as a neighborhood park. The 4 tracts total 531,340 square feet (12.2 acres) of open space representing 61% of the entire site. Those tracts will be privately owned unless they are dedicated to Clean Water Services, or in the case of Tract I, acquired by the City (or another appropriate jurisdiction) for a neighborhood park.

The smallest lot in the subdivision is 4,500 square feet (Lots 8 and 25), while the largest lot is approximately 11,033 square feet (Lot 39). The average lot size is approximately 5,715 square feet. As part of this application, the applicant is requesting the ability to reduce minimum lot areas to 4,500 square feet as necessary and lot widths at the building line to 45 feet, while still exceeding the 5,000 square foot minimum average lot size.

The design for the site includes the limited improvement of SW Brookman Road to a County arterial standard with a ½ street improvement along the site frontage. 53 feet of total right-of-way will be provided along the project side of the street along with the required 15-foot-wide visual corridor tracts except where those interfere with preservation of natural resources. The improvements to Brookman are limited by the existing conditions of the roadway and its future vertical alignment requirements for the County. A fee in lieu is proposed for improvements that cannot be completed at this time. In the northwest corner of the site, the project will complete the improvements being constructed by the Reserve at Cedar Creek for SW Yamel Terrace. Street A provides access to SW Brookman Road connecting to proposed Street B. These streets serve the majority of the lots within the project. The northern leg of Street B will extend east to the project boundary to serve future development in that direction as recommended by Staff. The City has decided not to allow the extension of the existing SW Redfern stub street to serve residential development. As such, developable parts of the project have limited access. Lots 40-41 will access to the east to Brookman Road via a shared driveway in an easement, rather than access the stub of Redfern. Each lot still maintains its required public street frontage however, with Lot 40 having legal frontage on Redfern and Lot 41 having frontage on Brookman Road.

Community Trails are proposed in three locations. The first is behind lots 3-8, eventually connecting to the northern trail section being constructed by The Reserve at Cedar Creek. The second trail section is the trail required on the southern edge of Cedar Creek. It will connect from the west and extend behind Lots 9-16 and eventually cross Lot 11 on the east boundary of the site for future extension. The final section of Community Trail is located behind Lot 40. It connects to the existing trail system north of the site, and can be extended with future development of the currently undeveloped parcels to the south.

The total calculated tree canopy for the site is 165,584 square feet, or 56.85% (121,624 retained trees + 43,960 planted trees = 165,584 / 291,266 = 56.85%). This greatly exceeds the required minimum tree canopy of 40%, and represents an additional 43,960 square feet (just over 1 acre) of tree canopy on the site.

The applicant proposes 2 stormwater facilities, designed and constructed providing both water quality and detention. They are proposed within Tracts A and C providing service on each side of the Cedar Creek drainageway. Lots 40-41 will have individual stormwater facilities to address stormwater requirements. Drainage from the site will be directed to these facilities via catch basins, manholes and pipes and then released into the adjoining Cedar Creek drainageway. SW Yamel Terrace will serve to provide access to the facility in Tract A while access to Tract C will be via the driveway to Lot 39 and then via the Community Trail. A turn-around for maintenance vehicles within an easement has been provided over lot 39 as well.

The Cedar Creek channel flows from the northern boundary in a southwesterly direction through the site. There is an unnamed tributary stream crossing Brookman Road in the southwest corner of the site which flows north into Cedar Creek. An additional unnamed channel crosses

Brookman Road in the southeast corner of the site also flowing north and connecting into Cedar Creek. All of these corridors are being preserved. Street B is the only street crossing of a resource proposed but also required to provide access to property east of the site. The Community Trail is required to cross the unnamed western tributary at the point where it was approved in the project to the west.

The applicant is requesting approval for construction of the site in 2 phases, although no particular order for completion has yet been determined. Phase 1 will consist of Lots 1 – 8, located at the north east corner of the site. These lots are accessed independently from the remainder of the subdivision and will rely on improvements provided by others. As such, the exact timing of Phase 1 will depend on the completion of adjoining developments. Phase 2 will consist of Lots 9 – 41. Access to Phase 2 will occur directly from Brookman Road, and as such construction is not dependent on others. Phase 2 may occur prior to, concurrently with, or subsequent to Phase 1, depending on available access. The applicant acknowledges that if the project is completed in phases, individual and independent public improvement contracts will be required for each phase.

APPLICABLE REVIEW CRITERIA

CITY OF SHERWOOD COMMUNITY DEVELOPMENT CODE

Title 16 -ZONING AND COMMUNITY DEVELOPMENT CODE

Division II. - LAND USE AND DEVELOPMENT

Chapter 16.12 - RESIDENTIAL LAND USE DISTRICTS

The residential districts are intended to promote the livability, stability and improvement of the City's neighborhoods.

16.12.010 - Purpose and Density Requirements

C. Medium Density Residential (MDRL)

The MDRL zoning district provides for single-family and two-family housing, manufactured housing and other related uses with a density of 5.6 to 8 dwelling units per acre. Minor land partitions shall be exempt from the minimum density requirements.

RESPONSE: The entire development site is zoned Medium Density Residential Low (MDRL) within the Brookman Road Concept Plan. The proposed subdivision, "Cedar Creek Gardens", includes a total of 41 Lots for single-family detached residential units. While the gross site area equals approximately 19.99 acres, when removing approximately 13.30 acres of streets, public use areas, and environmentally constrained areas, the net development area of the site is 6.69 acres. Minimum and Maximum densities based on the net site area are calculated as follows:

Minimum Density = 6.69 Acres X 5.6 Units/Acre = 37.46 Units.
Maximum Density = 6.69 Acres X 8 Units/Acre = 53.52 Units.

Accordingly, the proposed 41 Lot subdivision falls within the lower end of minimum and maximum density requirements for the site.

16.12.020 - Allowed Residential Land Uses

A. Residential Land Uses

The table below identifies the land uses that are allowed in the Residential Districts. The specific land use categories are described and defined in Chapter 16.10.

USES	MDRL
RESIDENTIAL	
Single-Family Attached or Detached Dwellings	P

RESPONSE: The application proposes the creation of 41 Lots for the construction of detached single-family residential dwelling units. Detached single-family dwellings are a permitted use in the MDRL district. Therefore, this criterion is met.

B. Any use not otherwise listed that can be shown to be consistent or associated with the permitted uses or conditionally permitted uses identified in the residential zones or contribute to the achievement of the objectives of the residential zones will be allowed or conditionally permitted using the procedure under Chapter 16.88 (Interpretation of Similar Uses).

C. Any use that is not permitted or conditionally permitted under this zone that cannot be found to be consistent with the allowed or conditional uses identified as in B. is prohibited in the residential zone using the procedure under Chapter 16.88 (Interpretation of Similar Uses).

RESPONSE: The application includes only the above listed permitted uses. Therefore, these criteria do not apply.

16.12.030 - Residential Land Use Development Standards

A. Generally

No lot area, setback, yard, landscaped area, open space, off-street parking or loading area, or other site dimension or requirement, existing on, or after, the effective date of this Code shall be reduced below the minimum required by this Code. Nor shall the conveyance of any portion of a lot, for other than a public use or right-of-way, leave a lot or structure on the remainder of said lot with less than minimum Code dimensions, area, setbacks or other requirements, except as permitted by Chapter 16.84. (Variance and Adjustments)

B. Development Standards

Except as modified under Chapter 16.68 (Infill Development), Section 16.144.030 (Wetland, Habitat and Natural Areas) Chapter 16.44 (Townhomes), or as otherwise provided, required minimum lot areas, dimensions and setbacks shall be provided in the following table.

C. Development Standards per Residential Zone

RESPONSE: The following development standards are applicable to single-family detached dwelling units in the MDRL zone:

DEVELOPMENT STANDARD BY RESIDENTIAL ZONE	MDRL
Minimum Lot areas: (in square ft.)	
Single-Family Detached	5,000
Minimum Lot width at front property line: (in feet)	25
Minimum Lot width at building line[1] (in feet)	
Single-Family	50
Lot Depth	80
Maximum Height [2] (in feet)	30 or 2 stories
Setbacks (in feet)	
Front yard [4]	14
Face of garage	20
Interior side yard	
Single-family detached	5
Corner lot street side	
Single-family or Two family	15
Rear Yard	20

RESPONSE: As proposed, each of the lots meets the required dimensional standards listed above with the exception of minimum lot size, including both lot area and minimum lot width at the building line. In accordance with Section 16.144.030.B.1., the applicant is requesting an exception to these dimensional standards, to the maximum permitted 10% reduction. Accordingly, the minimum lot size allowed is 4,500 square feet, with a minimum lot width at the building line of 45 feet. Please see the response to Section 16.144.030.B.1. for findings related to the exception criteria.

The Preliminary Plat submitted with the application demonstrates that each lot is capable of supporting a detached single-family dwelling unit meeting all minimum setback requirements, at the time of building permit review. Therefore, these criteria are met.

> *16.12.040 - Community Design*
>
> *For standards relating to off-street parking and loading, energy conservation, historic resources, environmental resources, landscaping, access and egress, signs, parks and open space, on-site storage, and site design, see Divisions V, VIII, IX.*

RESPONSE: This written narrative demonstrates that the proposed 41-Lot subdivision meets the applicable community design standards of Division V. – Community Design, and Division VIII. – Environmental Resources. There are no identified historic resources on the site, therefore Division IX.- Historic Resources does not apply to this application.

16.12.050 - Flood Plain

Except as otherwise provided, Section 16.134.020 shall apply.

RESPONSE: The site is bisected by Cedar Creek, which runs from west to east across the site, and its associated 100-year flood plain. Therefore, Section 16.134.020 is applicable to this application, and addressed later in this written narrative.

Division IV. - PLANNING PROCEDURES

Chapter 16.84 - VARIANCES

16.84.020 – Applicability

A. Exceptions and Modifications versus Variances

A code standard or approval criterion may be modified without approval of a variance if the applicable code section expressly allows exceptions or modifications. If the code provision does not expressly provide for exceptions or modifications then a variance is required to modify that code section and the provisions of Chapter 16.84 apply.

RESPONSE: As described above, the applicant is requesting an exception to minimum lot size, including both lot area and minimum lot width at the building line, to the maximum permitted 10% reduction. As stated above, a code standard or approval criterion may be modified without approval of a variance if the applicable code section expressly allows exceptions or modifications. Section 16.144.030 expressly allows such exceptions without the need for a variance, where it states that *"The flexibility of standards is only applicable when reviewed and approved as part of a land use application and shall require no additional fee or permit provided criteria is addressed."* The applicable standards are addressed as part of this land use application in response to Section 16.144.030, and therefore no further permit or fee is required

Division V. - COMMUNITY DESIGN

Chapter 16.92 - LANDSCAPING

16.92.030 - Site Area Landscaping and Perimeter Screening Standards

D. Visual Corridors

Except as allowed by subsection 6. above, new developments shall be required to establish landscaped visual corridors along Highway 99W and other arterial and collector streets, consistent with the Natural Resources and Recreation Plan Map, Appendix C of the Community Development Plan, Part II, and the provisions of Chapter 16.142 (Parks, Trees, and Open Space). Properties within the Old Town Overlay are exempt from this standard.

16.142.040 - Visual Corridors

A. Corridors Required

New developments located outside of the Old Town Overlay with frontage on Highway 99W, or arterial or collector streets designated on Figure 8-1 of the Transportation System Plan shall be required to establish a landscaped visual corridor according to the following standards:

Highway 99W: 25 feet
Arterial: 15 feet
Collector: 10 feet

In residential developments where fences are typically desired adjoining the above described major street the corridor may be placed in the road right-of-way between the property line and the sidewalk. In all other developments, the visual corridor shall be on private property adjacent to the right-of-way.

RESPONSE: SW Brookman Road is classified as an Arterial street; therefore a 15-foot wide landscaped visual corridor is required. As shown on the preliminary plat, a 15-foot wide visual corridor is provided along the SW Brookman Road frontage, except where the delineated resources associated with Cedar Creek extend to the Right-of-Way of SW Brookman Road, and the visual corridor is already located within an open space tract exceeding 15 feet in width. This visual corridor is identified as Tracts E and F on the Preliminary Plat. Therefore, this criterion is met.

B. Landscape Materials

The required visual corridor areas shall be planted as specified by the review authority to provide a continuous visual and/or acoustical buffer between major streets and developed uses. Except as provided for above, fences and walls shall not be substituted for landscaping within the visual corridor. Uniformly planted, drought resistant street trees and ground cover, as specified in Section 16.142.060, shall be planted in the corridor by the developer. The improvements shall be included in the compliance agreement. In no case shall trees be removed from the required visual corridor.

RESPONSE: As illustrated on the Preliminary Street Tree and Open Space Planting Plan (Sheets L1 and L2), street trees meeting City requirements and extensive ground cover landscaping are provided within the visual corridor areas. Therefore, this criterion is met.

C. Establishment and Maintenance

Designated visual corridors shall be established as a portion of landscaping requirements pursuant to Chapter 16.92. To assure

continuous maintenance of the visual corridors, the review authority may require that the development rights to the corridor areas be dedicated to the City or that restrictive covenants be recorded prior to the issuance of a building permit.

RESPONSE: The Applicant is aware and understands that the City may require dedication of the development rights or restrictive covenants to be recorded for the visual corridor area. This criterion can be met, as determined appropriate by the City through the land use review.

D. Required Yard

Visual corridors may be established in required yards, except that where the required visual corridor width exceeds the required yard width, the visual corridor requirement shall take precedence. In no case shall buildings be sited within the required visual corridor, with the exception of front porches on townhomes, as permitted in Section 16.44.010(E)(4)(c).

RESPONSE: The visual corridor area is not in a required yard, and no buildings are proposed to be sited in the corridor. Therefore, this criterion is met.

Chapter 16.96 - ON-SITE CIRCULATION

16.96.010 - On-Site Pedestrian and Bicycle Circulation

A. Purpose

On-site facilities shall be provided that accommodate safe and convenient pedestrian access within new subdivisions, multi-family developments, planned unit developments, shopping centers and commercial districts, and connecting to adjacent residential areas and neighborhood activity centers within one-half mile of the development.

Neighborhood activity centers include but are not limited to existing or planned schools, parks, shopping areas, transit stops or employment centers. All new development, (except single-family detached housing), shall provide a continuous system of private pathways/sidewalks.

RESPONSE: As shown on the Preliminary Plat, Preliminary Street Tree and Open Space Planting Plan (Sheet L1), and the submitted plan set, designated pedestrian pathways are provided adjacent to the natural resource areas and throughout the subdivision, including a Community Trail connecting The Reserve at Cedar Creek Subdivision to the west, on both the north and south sides of Cedar Creek as well as extending a Community Trail south behind lot 40 for future extension and ultimate connection to the terminus where the southern Community Trail stubs to the project's east boundary. A pedestrian bicycle pathway is also provided between Lots 15 and 16 to connect the Community Trail system to the new public streets. Sidewalks meeting city standards will be built adjacent to both sides of the new interior streets. Therefore, this criterion is met.

B. Maintenance

No building permit or other City permit shall be issued until plans for ingress, egress and circulation have been approved by the City. Any change increasing any ingress, egress or circulation requirements, shall be a violation of this Code unless additional facilities are provided in accordance with this Chapter.

RESPONSE: The Applicant understands that no building permits or other City permits will be issued until the plans for ingress, egress, and circulation have been approved by the City. This criterion can be met.

C. Joint Access

Two (2) or more uses, structures, or parcels of land may utilize the same ingress and egress when the combined ingress and egress of all uses, structures, or parcels of land satisfied the other requirements of this Code, provided that satisfactory legal evidence is presented to the City in the form of deeds, easements, leases, or contracts to clearly establish the joint use.

RESPONSE: Joint access is not required or proposed as part of this development. Therefore, this criterion is not applicable.

D. Connection to Streets

1. Except for joint access per this Section, all ingress and egress to a use or parcel shall connect directly to a public street, excepting alleyways with paved sidewalk.

RESPONSE: With the exception of Lots 19 and 20, individual ingress and egress connections for all proposed lots are available directly to public streets within the development, as shown on the Preliminary Plat. Lots 19 and 20, which each have significant public street frontage, will access Street B over an individual private street tract, meeting the intent of this section. Therefore, this criterion is met.

2. Required private sidewalks shall extend from the ground floor entrances or the ground floor landing of stairs, ramps or elevators to the public sidewalk or curb of the public street which provides required ingress and egress.

RESPONSE: Private sidewalks will extend from the primary ground floor entrance of each dwelling to the nearest public street sidewalk. These private sidewalks will be planned and installed as part of the individual home construction on each lot. Therefore, this criterion will be met.

E. Maintenance of Required Improvements

Required ingress, egress and circulation improvements shall be kept clean and in good repair.

RESPONSE: Following construction, required ingress, egress and circulation improvements will be maintained and kept clean and in good repair by the individual homeowner adjacent to such improvement, or other legal entity legally responsible for maintenance and upkeep of said improvements such as a Home Owners Association. This criterion will be met.

F. Access to Major Roadways

Points of ingress or egress to and from Highway 99W and arterials designated on the Transportation Plan Map, attached as Appendix C of the Community Development Plan, Part II, shall be limited as follows:

1. *Single and two-family uses and manufactured homes on individual residential lots developed after the effective date of this Code shall not be granted permanent driveway ingress or egress from Highway 99W and arterial roadways. If alternative public access is not available at the time of development, provisions shall be made for temporary access which shall be discontinued upon the availability of alternative access.*

2. *Other private ingress or egress from Highway 99W and arterial roadways shall be minimized. Where alternatives to Highway 99W or arterials exist or are proposed, any new or altered uses developed after the effective date of this Code shall be required to use the alternative ingress and egress.*

3. *All site plans for new development submitted to the City for approval after the effective date of this Code shall show ingress and egress from existing or planned local or collector streets, consistent with the Transportation Plan Map and Section VI of the Community Development Plan.*

RESPONSE: SW Brookman Road is classified as an Arterial street on the Washington County Transportation System Plan and the City of Sherwood Transportation System Plan. As such, single-family uses are not permitted permanent driveway ingress or egress from SW Brookman Road. This application includes ingress and egress to the single-family lots from a proposed new local public street (Street A). Therefore, this criterion is met.

G. Service Drives

Service drives shall be provided pursuant to Section 16.94.030.

RESPONSE: The subject application does not include service drives. Therefore, this criterion is not applicable.

16.96.020 - Minimum Residential standards

Minimum standards for private, on-site circulation improvements in residential developments:

A. Driveways

1. Single-Family: One (1) driveway improved with hard surface pavement with a minimum width of ten (10) feet, not to exceed a grade of 14%. Permeable surfaces and planting strips between driveway ramps are encouraged in order to reduce stormwater runoff.

RESPONSE: Each lot within the subdivision is planned to have a single driveway, each of which will be improved with hard surface pavement. Each of the driveways will be greater than 10 feet in width and 20 feet in depth to provide off-street parking for each lot, in addition to any parking provided within garages, and will be constructed with a grade of less than 14%. The criterion will be met.

B. Sidewalks, Pathways and Curbs

1. Single, Two-Family, and Manufactured Home on Individual Residential Lot: No on-site sidewalks and curbs are required when not part of a proposed partition or subdivision.

RESPONSE: As illustrated on the Preliminary Street Tree and Open Space Planting Plan (Sheet L1), a curb, sidewalk and planter strip are planned to be installed along the street frontage of each lot in the subdivision, where they abut a public street. This criterion will be met.

16.96.030 - Minimum Non-Residential Standards

RESPONSE: The application does not include commercial or industrial uses. The Section does not apply.

16.96.040 - On-Site Vehicle Circulation

A. Maintenance

No building permit or other City permit shall be issued until plans for ingress, egress and circulation have been approved by the City. Any change increasing any ingress, egress or circulation requirements, shall be a violation of this Code unless additional facilities are provided in accordance with this Chapter.

RESPONSE: The Applicant is aware that no building permit or other City permit will be issued until the plans for ingress, egress, and circulation have been approved by the City. This criterion can be met.

B. Joint Access [See also Chapter 16.108]

Two (2) or more uses, structures, or parcels of land are strongly encouraged to utilize jointly the same ingress and egress when the combined ingress and egress of all uses, structures, or parcels of land satisfy the other requirements of this Code, provided that satisfactory legal evidence is presented to the City in the form of deeds, easements, leases, or contracts to clearly establish the joint use. In some cases, the City may require a joint access to improve safety, vision clearance, site distance, and comply with access spacing standards for the applicable street classification.

RESPONSE: Joint access is not required or proposed as part of this development. Therefore, this criterion is not applicable.

C. Connection to Streets

1. Except for joint access per this Section, all ingress and egress to a use or parcel shall connect directly to a public street, excepting alleyways.

RESPONSE: With the exception of Lots 19 and 20, individual ingress and egress connections for all proposed lots are available directly to public streets within the development, as shown on the Preliminary Plat. Lots 19 and 20, which each have significant public street frontage, will access the new Street B over an individual private street tract, meeting the intent of this section. Therefore, this criterion is met.

2. Required private sidewalks shall extend from the ground floor entrances or the ground floor landing of stairs, ramps or elevators to the public sidewalk or curb of the public street which provides required ingress and egress.

RESPONSE: Private sidewalks will extend from the primary ground floor entrance of each dwelling to the nearest public street sidewalk. These private sidewalks will be planned and installed as part of the individual home construction on each lot. Therefore, this criterion will be met.

D. Maintenance of Required Improvements

Required ingress, egress and circulation improvements shall be kept clean and in good repair.

RESPONSE: Following construction, required ingress, egress and circulation improvements will be maintained and kept clean and in good repair by the individual homeowner adjacent to such improvement, or other legal entity legally responsible for maintenance and upkeep of said improvements such as a Home Owners Association. This criterion will be met.

E. Service Drives

Service drives shall be provided pursuant to Section 16.94.030.

RESPONSE: This proposed development does not include service drives. This criterion is not applicable to this application.

Division VI. - PUBLIC INFRASTRUCTURE

Chapter 16.106 - TRANSPORTATION FACILITIES

16.106.010 - Generally

A. Creation

Public streets shall be created in accordance with provisions of this Chapter. Except as otherwise provided, all street improvements and rights-of-way shall conform to standards for the City's functional street classification, as shown on the Transportation System Plan (TSP) Map (Figure 15) and other applicable City standards. The following table depicts the guidelines for the street characteristics.

Type of Street	Right of Way Width	Number of Lanes	Minimum Lane Width	On Street Parking Width	Bike Lane Width	Sidewalk Width	Landscape Strip (exclusive of Curb)	Median Width
Arterial	**60-102**	**2-5**	**12'**	**Limited**	**6 feet**	**6-8'**	**5'**	**14' if required**
Local (<1000 vpd)	**52'**	**2**	**14'**	**8' on one side only**	**None**	**6'**	**5' with 1' buffer**	**None**

RESPONSE: SW Brookman Road is under the jurisdiction of Washington County. The proposed improvements to SW Brookman Road have been designed to Washington County arterial standards in concert with City input. Not all of Brookman can be constructed at this time and a fee-in-lieu of those unconstructed improvements will apply to this project. Within the application package, the applicant has provided a memorandum regarding this issue along with plans for review by the City and County. The new local streets are designed according to City standards, as described above. Therefore, these criteria are met.

B. Street Naming

1. All streets created by subdivision or partition will be named prior to submission of the final plat.

2. Any street created by a public dedication shall be named prior to or upon acceptance of the deed of dedication.

3. *An action to name an unnamed street in the City may be initiated by the Council or by a person filing a petition as described in this Section.*

4. *All streets named shall conform to the general requirements as outlined in this Section.*

5. *At the request of the owner(s), the City may approve a private street name and address. Private streets are subject to the same street name standards as are public streets. All private street signs will be provided at the owner(s) expense.*

RESPONSE: Final street names for Street A and B have not been proposed at this time. However, proposed street names, when available, will comply with this section and the standards below. These criteria are met.

C. Street Name Standards

1. *All streets named or renamed shall comply with the following criteria:*

   a. *Major streets and highways shall maintain a common name or number for the entire alignment.*
   b. *Whenever practicable, names as specified in this Section shall be utilized or retained.*
   c. *Hyphenated or exceptionally long names shall be avoided.*
   d. *Similar names such as Farview and Fairview or Salzman and Saltzman shall be avoided.*
   e. *Consideration shall be given to the continuation of the name of a street in another jurisdiction when it is extended into the City.*

2. *The following classifications (suffixes) shall be utilized in the assignment of all street names:*

   a. *Boulevards: North/south arterials providing through traffic movement across the community.*
   b. *Roads: East/west arterials providing through traffic movement across the community.*
   c. *Avenues: Continuous, north/south collectors or extensions thereof.*
   d. *Streets: Continuous, east-west collectors or extensions thereof.*
   e. *Drives: Curvilinear collectors (less than 180 degrees) at least 1,000 feet in length or more.*
   f. *Lanes: Short east/west local streets under 1,000 feet in length.*

g. *Terraces: short north/south local streets under 1,000 feet in length.*
h. *Court: All east/west cul-de-sacs.*
i. *Place: All north/south cul-de-sacs.*
j. *Ways: All looped local streets (exceeding 180 degrees).*
k. *Parkway: A broad landscaped collector or arterial.*

3. *Except as provided for by this section, no street shall be given a name that is the same as, similar to, or pronounced the same as any other street in the City unless that street is an extension of an already named street.*

4. *All proposed street names shall be approved, prior to use, by the City.*

D. *Preferred Street Names*

Whenever practicable, historical names will be considered in the naming or renaming of public roads. Historical factors to be considered shall include, but not be limited to the following:

a. Original holders of Donation Land Claims in Sherwood.
b. Early homesteaders or settlers of Sherwood.
c. Heirs of original settlers or long-time (50 or more years) residents of Sherwood.
d. Explorers of or having to do with Sherwood.
e. Indian tribes of Washington County.
f. Early leaders and pioneers of eminence.
g. Names related to Sherwood's flora and fauna.
h. Names associated with the Robin Hood legend.

RESPONSE: The street in the northwest corner is being platted as SW Yamel Terrace to which Lots 1-8 will take access. Streets A and B are the only new streets requiring a name prior to final plat approval. The street names will meet the requirements of this code section and will be reviewed by City Staff prior to approval. Therefore, these criteria are met.

16.106.020 - Required Improvements

A. *Generally*

Except as otherwise provided, all developments containing or abutting an existing or proposed street, that is either unimproved or substandard in right-of-way width or improvement, shall dedicate the necessary right-of-way prior to the issuance of building permits and/or complete acceptable improvements prior to issuance of occupancy permits. Right-of-way requirements are based on functional classification of the street network as established in the Transportation System Plan, Figure 15.

RESPONSE: SW Brookman Road is under the jurisdiction of Washington County. The proposed improvements to SW Brookman Road have been designed to Washington County arterial standards, including dedication of 33-feet of additional right-of-way along the site frontage to provide 53 feet of right-of-way to centerline. The new local streets are designed according to City standards, and will be extended consistent with the applicable local street standards. Therefore, these criteria are met.

B. Existing Streets

Except as otherwise provided, when a development abuts an existing street, the improvements requirement shall apply to that portion of the street right-of-way located between the centerline of the right-of-way and the property line of the lot proposed for development. In no event shall a required street improvement for an existing street exceed a pavement width of thirty (30) feet.

RESPONSE: SW Brookman Road is under the jurisdiction of Washington County. The proposed improvements to SW Brookman Road have been designed to Washington County arterial standards, including dedication of 33-feet of additional right-of-way along the site frontage to provide 53 feet of right-of-way to centerline. Existing pavement along the site frontage is approximately 9 feet to centerline however varies along the frontage. This project will construct improvements that can be constructed including curb returns and paved tie in at the intersection. The remainder of the improvements cannot be constructed at this time due to vertical alignment issues with the ultimate design and therefore remaining improvements will be paid for via fee-in-lieu. SW Yamel Terrace will be constructed along the western boundary in the northern section of the site by The Reserve at Cedar Creek. This project will complete the remaining street cross section including 4 feet of pavement, curbs, planter and sidewalks as well as the elbow corner radii. The new local streets (A and B) are designed according to City standards, with a 52-foot total right-of-way width and 28 feet of paved surface. Therefore, these criteria are met.

C. Proposed Streets

1. *Except as otherwise provided, when a development includes or abuts a proposed street, in no event shall the required street improvement exceed a pavement width of forty (40) feet.*

2. *Half Streets: When a half street is created, a minimum of 22 feet of driving surface shall be provided by the developer.*

RESPONSE: The only new local streets proposed are Streets A and B. They will be constructed to City standards with a total pavement width of 28 feet. Therefore, these criteria are met.

D. Extent of Improvements

1. *Streets required pursuant to this Chapter shall be dedicated and improved consistent with Chapter 6 of the Community Development Plan, the TSP and applicable City specifications*

included in the City of Sherwood Construction Standards. Streets shall include curbs, sidewalks, catch basins, street lights, and street trees. Improvements shall also include any bikeways designated on the Transportation System Plan map. Applicant may be required to dedicate land for required public improvements only when the exaction is directly related to and roughly proportional to the impact of the development, pursuant to Section 16.106.090.

RESPONSE: Proposed right-of-way dedication and street improvements are shown within the submitted plan set, in particular Sheets P5, and include curbs, sidewalks behind planter strips, drainage, street lights, and street trees. Frontage improvements to SW Brookman Road are shown and will be provided in accordance with Washington County standards. Therefore, these criteria are met.

2. *If the applicant is required to provide street improvements, the City Engineer may accept a future improvements guarantee in lieu of street improvements if one or more of the following conditions exist, as determined by the City:*

   a. *A partial improvement is not feasible due to the inability to achieve proper design standards;*
   b. *A partial improvement may create a potential safety hazard to motorists or pedestrians.*
   c. *Due to the nature of existing development on adjacent properties it is unlikely that street improvements would be extended in the foreseeable future and the improvement associated with the project under review does not, by itself, provide a significant improvement to street safety or capacity;*
   d. *The improvement would be in conflict with an adopted capital improvement plan;*
   e. *The improvement is associated with an approved land partition on property zoned residential use and the proposed land partition does not create any new streets; or*
   f. *Additional planning work is required to define the appropriate design standards for the street and the application is for a project that would contribute only a minor portion of the anticipated future traffic on the street.*

RESPONSE: Washington County Land Use & Transportation Engineering and Construction Services staff have not indicated at this time that a fee in-lieu of frontage improvements may be permitted along SW Brookman Road. However, the applicant has provided a memorandum of what can be constructed at this time based on County vertical alignment requirements similar to the case for The Reserve at Cedar Creek to the west of this site. This project will provide fee-in-lieu, physical improvements or a combination thereof as required. Therefore, this criterion can be met.

E. Transportation Facilities Modifications

1. A modification to a standard contained within this Chapter and Section 16.58.010 and the standard cross sections contained in Chapter 8 of the adopted TSP may be granted in accordance with the procedures and criteria set out in this section.

RESPONSE: The applicant is not requesting a modification to a standard within this Chapter, Section 16.58.010, or the standard cross sections contained in Chapter 8 of the adopted TSP. The applicant is utilizing the exception standards of Section 16.106.030.B.(7). below. This section is not applicable to this application.

16.106.030 - Location

A. Generally

The location, width and grade of streets shall be considered in their relation to existing and planned streets, topographical conditions, and proposed land uses. The proposed street system shall provide adequate, convenient and safe traffic and pedestrian circulation, and intersection angles, grades, tangents, and curves shall be adequate for expected traffic volumes. Street alignments shall be consistent with solar access requirements as per Chapter 16.156, and topographical considerations.

RESPONSE: The proposed development and associated street improvements have been designed and located to provide City standard access to each of the planned lots; to meet arterial standards; and to extend existing street stubs through the site in a logical manner. The existing streets (SW Brookman Road, SW Yamel Terrace (under construction)) dictate to a large degree the circulation system within the site, including intersection angles, grades, tangents, and curves, and therefore lot orientation. Adequate, convenient and safe pedestrian circulation is provided through public sidewalks and publicly accessible trails within the development. Street alignments are consistent with the solar access requirements of Chapter 16.156 as discussed below. The criterion is met.

B. Street Connectivity and Future Street Systems

1. Future Street Systems. The arrangement of public streets shall provide for the continuation and establishment of future street systems as shown on the Local Street Connectivity Map contained in the adopted Transportation System Plan (Figure 16).

RESPONSE: The Local Street Connectivity Map (Figure 18) of the City of Sherwood Transportation System Plan shows conceptual street connections, including those along SW Brookman Road. Footnotes for Figure 18 identify that the alignments shown are approximate and may vary. Street A however closely matches one of the local street connections to Brookman Road. Additionally, a future street connection is shown to Brookman Road in the northeast corner of the site near where the shared driveway is providing access to lots 40-41. A wetland south of

this site prevents a full street connection however the shared driveway helps implement the local street connection concept plan.

2. *Connectivity Map Required. New residential, commercial, and mixed use development involving the construction of new streets shall be submitted with a site plan that implements, responds to and expands on the Local Street Connectivity map contained in the TSP.*

    a. *A project is deemed to be consistent with the Local Street Connectivity map when it provides a street connection in the general vicinity of the connection(s) shown on the map, or where such connection is not practicable due to topography or other physical constraints; it shall provide an alternate connection approved by the decision-maker.*

    b. *Where a developer does not control all of the land that is necessary to complete a planned street connection, the development shall provide for as much of the designated connection as practicable and not prevent the street from continuing in the future.*

    c. *Where a development is disproportionately impacted by a required street connection, or it provides more than its proportionate share of street improvements along property line (i.e., by building more than 3/4 width street), the developer shall be entitled to System Development charge credits, as determined by the City Engineer.*

    d. *Driveways that are more than 24 feet in width shall align with existing streets or planned streets as shown in the Local Street Connectivity Map in the adopted Transportation System Plan (Figure 17), except where prevented by topography, rail lines, freeways, pre-existing development, or leases, easements, or covenants.*

RESPONSE: As described above, the Street A connection to Brookman Road closely matches one of the local street connections identified in the Local Street Connectivity map. Additionally, a future street connection is shown to Brookman Road in the northeast corner of the site near where the shared driveway is providing access to lots 40-41. A wetland south of this site prevents a full street connection however the shared driveway helps implement the local street connection concept plan.

3. *Block Length. For new streets except arterials, block length shall not exceed 530 feet. The length of blocks adjacent to arterials shall not exceed 1,800 feet.*

4. *Where streets must cross water features identified in Title 3 of the Urban Growth Management Functional Plan (UGMFP), provide crossings at an average spacing of 800 to 1,200 feet, unless habitat quality or length of crossing prevents a full street connection.*

5. *Where full street connections over water features identified in Title 3 of the UGMFP cannot be constructed in centers, main streets and station communities (including direct connections from adjacent neighborhoods), or spacing of full street crossings exceeds 1,200 feet, provide bicycle and pedestrian crossings at an average spacing of 530 feet, unless exceptional habitat quality or length of crossing prevents a connection.*

6. *Pedestrian and Bicycle Connectivity. Paved bike and pedestrian accessways consistent with cross section standards in Figure 8-6 of the TSP shall be provided on public easements or right- of-way when full street connections are not possible, with spacing between connections of no more than 300 feet. Multi-use paths shall be built according to the Pedestrian and Bike Master Plans in the adopted TSP.*

RESPONSE: The proposed vehicular and pedestrian block length of Street B between Street A and the stub street terminus abutting Tax Lot 105 exceeds 530 feet and 300 feet, respectively. The applicant has requested an exception to the above standards in accordance with SZCDC Section 16.106.030(B)(7). The applicant has also submitted a request for a Design Modification to City of Sherwood Engineering Design Standards Section 210.6.E. to the City Engineer for review, which is included in the application documentation.

7. *Exceptions. Streets, bike, and pedestrian connections need not be constructed when any of the following conditions exists:*

   a. *Physical or topographic conditions make a street or accessway connection impracticable. Such conditions include but are not limited to freeways, railroads, steep slopes, wetlands or other bodies of water where a connection could not reasonably be provided.*

   b. *Buildings or other existing development on adjacent lands physically preclude a connection now or in the future considering the potential for redevelopment; or*

   c. *Where streets or accessways would violate provisions of leases, easements, covenants, restrictions or other*

agreements existing as of May 1, 1995, which preclude a required street or accessway connection.

RESPONSE: SZCDC Section 16.106.030(B) includes a provision to allow exceptions to the street, bike, and pedestrian connections required by (B)(3) and (B)(5), without need for modification. A standard to which the applicant has already been excepted cannot subsequently be "modified".

The development site meets the requirements for an exception to these SZCDC standards on the basis that the presence of topographical features including stream channels, wetlands, and 100-year flood plain mean that additional connections cannot be reasonably provided. In addition, approved development to the west does not provide stub street or pedestrian connections at locations which facilitate additional connections, also due to the location of topographical features. It is also noted that any additional connections to the west would have a minimum length of over 500 over the significant natural resource area.

It is noted that while the applicant is exempt from these standards for the purposes of the SZCDC, a modification to the City Engineering Design and Standard Details Manual is required, and is submitted with these documents.

2. *Connectivity Map Required. New residential, commercial, and mixed-use development involving the construction of new streets shall be submitted with a site plan that implements, responds to and expands on the Local Street Connectivity map contained in the TSP.*

    a. *A project is deemed to be consistent with the Local Street Connectivity map when it provides a street connection in the general vicinity of the connection(s) shown on the map, or where such connection is not practicable due to topography or other physical constraints; it shall provide an alternate connection approved by the decision-maker.*

    b. *Where a developer does not control all of the land that is necessary to complete a planned street connection, the development shall provide for as much of the designated connection as practicable and not prevent the street from continuing in the future.*

    c. *Where a development is disproportionately impacted by a required street connection, or it provides more than its proportionate share of street improvements along property line (i.e., by building more than 3/4 width street), the developer shall be entitled to System Development charge credits, as determined by the City Engineer.*

d. Driveways that are more than 24 feet in width shall align with existing streets or planned streets as shown in the Local Street Connectivity Map in the adopted Transportation System Plan (Figure 17), except where prevented by topography, rail lines, freeways, pre-existing development, or leases, easements, or covenants.

RESPONSE: The submitted plan set demonstrates compliance with the Local Street Connectivity Map (Figure 18) of the City of Sherwood Transportation System Plan. Access to SW Brookman Road is located generally as indicated on Figure 18 for Street A and the shared driveway in the northeast corner emulates a local connection to Brookman in that area. A public street connection is not possible due to constraints from a linear wetland that follows the same east/west direction. These criteria are met.

3. Block Length. For new streets except arterials, block length shall not exceed 530 feet. The length of blocks adjacent to arterials shall not exceed 1,800 feet.

RESPONSE: One new block is completed as part of this development, being the remainder of the improvements required on SW Yamel Terrace now under construction by The Reserve at Cedar Creek. No new blocks can be created with this project however, the beginnings of a new block are being developed where the northern leg of Street B can extend further east and then directly south back to SW Brookman Road. This block will ultimately be about 1500 feet in perimeter length. Due to the existence of natural resources on the property, the block created by Brookman Road, Street A, Street B and Street B's future extension back to Brookman Road results in a block more triangular in design. Measurements east/west and north south within this area result in block lengths of 510 feet and 520 feet at their widest points in compliance with the requirements of this section. This criterion is met.

4. Where streets must cross water features identified in Title 3 of the Urban Growth Management Functional Plan (UGMFP), provide crossings at an average spacing of 800 to 1,200 feet, unless habitat quality or length of crossing prevents a full street connection.

RESPONSE: This project has a street crossing of in intermittent tributary to Cedar Creek. Staff recommended that only one crossing occur and that it be located on the northern leg of Street B in lieu of the southern leg which will terminate as shown. This crossing provides a spacing of approximately 500 feet north of where Brookman Road crosses the same water feature. Due to natural features and resource areas, they cannot be spaced further apart yet, given the length of the overall property in a north south direction, the spacing averages 700 feet. As such, the applicant has complied to the greatest extent possible. If analysis is done between the existing northern crossing of resource lands at Sunset south to Brookman Road, the average spacing will be 1,300 lineal feet. No opportunity exists to increase the spacing between Brookman and Street B or decrease the spacing between Brookman and Sunset.

5. Where full street connections over water features identified in Title 3 of the UGMFP cannot be constructed in centers, main

streets and station communities (including direct connections from adjacent neighborhoods), or spacing of full street crossings exceeds 1,200 feet, provide bicycle and pedestrian crossings at an average spacing of 530 feet, unless exceptional habitat quality or length of crossing prevents a connection.

RESPONSE: The site is not located within a center, main street or station community area. This item does not apply. The applicant however is implementing the requirements for Community Trails on both the north and south sides of Cedar Creek and making a water feature crossing in 2 areas. One is located along the west boundary and the other is located between Tract C and Lot 11. This improves circulation between neighborhoods throughout the local area.

6. *Pedestrian and Bicycle Connectivity. Paved bike and pedestrian accessways consistent with cross section standards in Figure 8-6 of the TSP shall be provided on public easements or right- of-way when full street connections are not possible, with spacing between connections of no more than 300 feet. Multi-use paths shall be built according to the Pedestrian and Bike Master Plans in the adopted TSP.*

RESPONSE: An extensive network of pedestrian paths in pedestrian access easements are provided throughout the site, with design and construction to meet the requirements above. Both north-south and east-west connections are provided. This criterion is met.

7. *Exceptions. Streets, bike, and pedestrian connections need not be constructed when any of the following conditions exists:*

   a. *Physical or topographic conditions make a street or accessway connection impracticable. Such conditions include but are not limited to freeways, railroads, steep slopes, wetlands or other bodies of water where a connection could not reasonably be provided.*
   b. *Buildings or other existing development on adjacent lands physically preclude a connection now or in the future considering the potential for redevelopment; or*
   c. *Where streets or accessways would violate provisions of leases, easements, covenants, restrictions or other agreements existing as of May 1, 1995, which preclude a required street or accessway connection.*

RESPONSE: In lieu of providing street connections between the northern portions of the development and SW Brookman Road, an extensive network of pedestrian paths in pedestrian access easements are provided throughout the site, with both north-south and east-west connections provided. Therefore, these criteria are met.

C. Underground Utilities

All public and private underground utilities, including sanitary sewers and storm water drains, shall be constructed prior to the surfacing of streets. Stubs for service connections shall be long enough to avoid disturbing the street improvements when service connections are made.

RESPONSE: Public and private utilities are proposed to be located underground with the construction of streets and accessways through the site. This requirement is satisfied.

D. Additional Setbacks

Generally additional setbacks apply when the width of a street right-of-way abutting a development is less than the standard width under the functional classifications in Section VI of the Community Development Plan. Additional setbacks are intended to provide unobstructed area for future street right-of-way dedication and improvements, in conformance with Section VI. Additional setbacks shall be measured at right angles from the centerline of the street.

	Classification	Additional Setback
2.	**Arterial**	**37 feet**
5.	**Local**	**26 feet**

RESPONSE: Dedication of 33 feet of right-of-way to Washington County arterial standards along SW Brookman Road is shown on the submitted plan set, creating a right-of-way meeting or exceeding the required standard. There are no other existing abutting streets, with the exception of the ¾ section of SW Yamel Terrace being constructed along the northwest boundary. It will be improved with the required 52 feet of right-of-way for a full local street section. No additional setbacks apply to this project. Therefore, this criterion is met.

16.106.040 - Design

Standard cross sections showing street design and pavement dimensions are located in the City of Sherwood's Engineering Design Manual.

A. Reserve Strips

Reserve strips or street plugs controlling access or extensions to streets are not allowed unless necessary for the protection of the public welfare or of substantial property rights. All reserve strips shall be dedicated to the appropriate jurisdiction that maintains the street.

RESPONSE: No reserve strips or street plugs are proposed as part of this application. Therefore, this criterion is met.

B. Alignment

All proposed streets shall, as far as practicable, be in alignment with existing streets. In no case shall the staggering of streets create a "T" intersection or a dangerous condition. Street offsets of less than one hundred (100) feet are not allowed.

RESPONSE: As shown on the submitted plan set, there are no specific public street intersections created which would create offsets, less than 100 feet. There are two "T" intersections created. One for Street A and Brookman Road and one for Street A and Street B. These intersections are spaced 100 feet apart. Therefore, this criterion is met.

C. Future Extension

Where necessary to access or permit future subdivision or development of adjoining land, streets must extend to the boundary of the proposed development and provide the required roadway width. Dead-end streets less than 100' in length must comply with the Engineering Design Manual.

A durable sign must be installed at the applicant's expense. The sign is required to notify the public of the intent to construct future streets. The sign must read as follows: "This road will be extended with future development. For more information contact the City of Sherwood Engineering Department."

RESPONSE: Street B will have its northern stub directed to the east as the necessary access to permit future development in that direction. Signage will be installed notifying the public of the intent to construct future streets and will read as directed by this criterion.

D. Intersection Angles

Streets shall intersect as near to ninety (90) degree angles as practical, except where topography requires a lesser angle. In all cases, the applicant shall comply with the Engineering Design Manual.

RESPONSE: There are two "T" intersections created with this project and both are 90 degree intersections. Therefore, these criteria are met.

E. Cul-de-sacs

1. *All cul-de-sacs shall be used only when exceptional topographical constraints, existing development patterns, or compliance with other standards in this code preclude a street extension and circulation. A cul-de-sac shall not be*

more than two hundred (200) feet in length and shall not provide access to more than 25 dwelling units.

2. *All cul-de-sacs shall terminate with a turnaround in accordance with the specifications in the Engineering Design Manual. The radius of circular turnarounds may be larger when they contain a landscaped island, parking bay in their center, Tualatin Valley Fire and Rescue submits a written request, or an industrial use requires a larger turnaround for truck access.*

3. *Public easements, tracts, or right-of-way shall provide paved pedestrian and bicycle access ways at least 6 feet wide where a cul-de-sac or dead-end street is planned, to connect the ends of the streets together, connect to other streets, or connect to other existing or planned developments in accordance with the standards of this Chapter, the TSP, the Engineering Design Manual or other provisions identified in this Code for the preservation of trees.*

RESPONSE: No cul-de-sacs are proposed with this development. Therefore, this criterion is not applicable

F. Grades and Curves

Grades shall be evaluated by the City Engineer and comply with the Engineering Design Manual.

RESPONSE: All street grades within the development have been designed in accordance with the applicable City standards. This criterion is met.

G. Streets Adjacent to Railroads

Streets adjacent to railroads shall run approximately parallel to the railroad and be separated by a distance suitable to allow landscaping and buffering between the street and railroad. Due consideration shall be given at cross streets for the minimum distance required for future grade separations and to provide sufficient depth to allow screening of the railroad.

RESPONSE: The site does not abut a railroad, and therefore no streets are located adjacent to the railroad. Accordingly, this criterion does not apply.

H. Buffering of Major Streets

Where a development abuts Highway 99W, or an existing or proposed principal arterial, arterial or collector street, or neighborhood route, adequate protection for residential properties must be provided,

through and local traffic be separated, and traffic conflicts minimized. In addition, visual corridors pursuant to Section 16.142.040, and all applicable access provisions of Chapter 16.96, are to be met. Buffering may be achieved by: parallel access streets, lots of extra depth abutting the major street with frontage along another street, or other treatment suitable to meet the objectives of this Code.

RESPONSE: The subject site abuts SW Brookman Road, a county Arterial street. All lots within the development are buffered from SW Brookman Road by the 15-foot landscaped visual corridor required along SW Brookman Road by Section 16.142.040, and/or approximately 270 lineal feet of resource area located within Tracts B and D. As such, this criterion is met.

I. Median Islands

As illustrated in the adopted Transportation System Plan, Chapter 8, median islands may be required on arterial or collector streets for the purpose of controlling access, providing pedestrian safety or for aesthetic purposes.

RESPONSE: Frontage improvements along SW Brookman Road are not proposed to include a median, and County staff have not indicated that a median island would be required as part of this development. Accordingly, this criterion is not applicable at this time.

J. Transit Facilities

Development along an existing or proposed transit route, as illustrated in Figure 7-2 in the TSP, is required to provide areas and facilities for bus turnouts, shelters, and other transit-related facilities to Tri-Met specifications. Transit facilities shall also meet the following requirements:

1. *Locate buildings within 20 feet of or provide a pedestrian plaza at major transit stops.*

2. *Provide reasonably direct pedestrian connections between the transit stop and building entrances on the site.*

3. *Provide a transit passenger landing pad accessible to disabled persons (if not already existing to transit agency standards).*

4. *Provide an easement or dedication for a passenger shelter and underground utility connection from the new development to the transit amenity if requested by the public transit provider.*

5. *Provide lighting at a transit stop (if not already existing to transit agency standards).*

RESPONSE: It is noted that the Transit System and Potential Enhancements plan (Figure 14) of the City of Sherwood Transportation System Plan (TSP) identifies SW Brookman Road as a route for *"Potential Local Enhancements."* However, SW Brookman Road is not identified as an existing or proposed transit route within either the City of Sherwood TSP or the Washington County TSP. Figure 14 does contain a note which states, *"Transit projects in this TSP include enhancement to local and regional transit service to be identified through a refinement plan. While specific transit service enhancement locations have not been identified, for the purposes of providing information for other planning efforts, this map indicates corridors that could be selected for future enhancements through further planning studies. This information is subject to change pending future planning efforts."* It is further noted that the Washington County TSP designates SW Brookman Road and surrounds as a *"TSP Refinement Area"*. Therefore, SW Brookman Road is not considered an existing or proposed transit route, and therefore these criteria do not apply.

K. Traffic Controls

1. *Pursuant to Section 16.106.080, or as otherwise required by the City Engineer, an application must include a traffic impact analysis to determine the number and types of traffic controls necessary to accommodate anticipated traffic flow.*

2. *For all other proposed developments including commercial, industrial or institutional uses with over an estimated 400 ADT, or as otherwise required by the City Engineer, the application must include a traffic impact analysis to determine the number and types of traffic controls necessary to accommodate anticipated traffic flow.*

RESPONSE: A Transportation Impact Analysis (TIA) has been submitted with this application, prepared by Lancaster Mobley, and dated November 10, 2021. The City of Sherwood Municipal Code Section 16.106.080 requires analysis of all intersections where fifty (50) or more peak hour vehicle trips can be expected to result from the development. The 5 intersections (3 existing and 2 future) included in the TIA are described as those vicinity intersections of significance expected to be impacted by the development; however, none of the studied intersections are projected to experience 50 or more peak hour vehicle trips resulting from this development.

The TIA summarized the following with regard to intersection impacts:

All study intersections are projected to operate acceptably per their respectively jurisdictional standards by year 2024 with buildout of the proposed subdivision. No operational mitigation is necessary as part of the proposed Cedar Creek Subdivision.

The Reserve at Cedar Creek Transportation Impact Analysis (TIA) – Sherwood, Oregon, dated September 19th, 2019, identified four intersections as currently exceeding acceptable jurisdictional standards. Based on the projected site trip impacts to these intersections, a total proportionate share fee to mitigate impacts of $69,274.39 was calculated.

L. Traffic Calming

1. *The following roadway design features, including internal circulation drives, may be required by the City in new construction in areas where traffic calming needs are anticipated:*

    a. *Curb extensions (bulb-outs).*
    b. *Traffic diverters/circles.*
    c. *Alternative paving and painting patterns.*
    d. *Raised crosswalks, speed humps, and pedestrian refuges.*
    e. *Other methods demonstrated as effective through peer reviewed Engineering studies.*

2. *With approval of the City Engineer, traffic calming measures such as speed humps and additional stop signs can be applied to mitigate traffic operations and/or safety problems on existing streets. They should not be applied with new street construction unless approved by the City Engineer and Tualatin Valley Fire & Rescue.*

RESPONSE: No specific or new traffic calming measures have been identified as required or proposed for this development. Therefore, these criteria do not apply.

M. Vehicular Access Management

All developments shall have legal access to a public road. Access onto public streets shall be permitted upon demonstration of compliance with the provisions of adopted street standards in the Engineering Design Manual.

1. *Measurement: See the following access diagram where R/W = Right-of-Way; and P.I. = Point-of Intersection where P.I. shall be located based upon a 90-degree angle of intersection between ultimate right-of-way lines.*

    a. *Minimum right-of-way radius at intersections shall conform to City standards.*
    b. *All minimum distances stated in the following sections shall be governed by sight distance requirements according to the Engineering Design Manual.*
    c. *All minimum distances stated in the following sections shall be measured to the nearest easement line of the access or edge of travel lane of the access on both sides of the road.*
    d. *All minimum distances between accesses shall be measured from existing or approved accesses on both sides of the road.*
    e. *Minimum spacing between driveways shall be measured from Point "C" to Point "C" as shown below:*

2. *Roadway Access*

No use will be permitted to have direct access to a street or road except as specified below. Access spacing shall be measured from existing or approved accesses on either side of a street or road. The lowest functional classification street available to the legal lot, including alleys within a public easement, shall take precedence for new access points.

a. *Local Streets:*

Minimum right-of-way radius is fifteen (15) feet. Access will not be permitted within ten (10) feet of Point "B," if no radius exists, access will not be permitted within twenty-five (25) feet of Point "A." Access points near an intersection with a Neighborhood Route, Collector or Arterial shall be located beyond the influence of standing queues of the intersection in accordance with AASHTO standards. This requirement may result in access spacing greater than ten (10) feet.

b. *Neighborhood Routes:*

Minimum spacing between driveways (Point "C" to Point "C") shall be fifty (50) feet with the exception of single family residential lots in a recorded subdivision. Such lots shall not be subject to a minimum spacing requirement between driveways (Point "C" to Point "C"). In all instances, access points near an intersection with a Neighborhood Route, Collector or Arterial shall be located beyond the influence of standing queues of the intersection in accordance with AASHTO standards. This requirement may result in access spacing greater than fifty (50) feet.

c. *Collectors:*

All commercial, industrial and institutional uses with one-hundred-fifty (150) feet or more of frontage will be permitted direct access to a Collector. Uses with less than one-hundred-fifty (150) feet of frontage shall not be permitted direct access to Collectors unless no other alternative exists.

Where joint access is available it shall be used, provided that such use is consistent with Section 16.96.040, Joint Access. No use will be permitted direct access to a Collector within one- hundred (100) feet of any present Point "A." Minimum spacing between driveways (Point "C" to Point "C") shall be one-hundred (100) feet. In all instances, access points near an intersection with a Collector or Arterial shall be located beyond the influence of standing queues of the intersection in accordance with AASHTO standards. This requirement may result in access spacing greater than one hundred (100) feet.

d. Arterials and Highway 99W - Points of ingress or egress to and from Highway 99W and arterials designated on the Transportation Plan Map, attached as Figure 1 of the Community Development Plan, Part II, shall be limited as follows:

(1) Single and two-family uses and manufactured homes on individual residential lots developed after the effective date of this Code shall not be granted permanent driveway ingress or egress from Highway 99W or arterials. If alternative public access is not available at the time of development, provisions shall be made for temporary access which shall be discontinued upon the availability of alternative access.

(2) Other private ingress or egress from Highway 99W and arterial roadways shall be minimized. Where alternatives to Highway 99W or arterials exist or are proposed, any new or altered uses developed after the effective date of this Code shall be required to use the alternative ingress and egress. Alternatives include shared or crossover access agreement between properties, consolidated access points, or frontage or backage roads. When alternatives do not exist, access shall comply with the following standards:

(a) *Access to Highway 99W shall be consistent with ODOT standards and policies per OAR 734, Division 51, as follows: Direct access to an arterial or principal arterial will be permitted*

provided that Point 'A' of such access is more than six hundred (600) feet from any intersection Point 'A' or other access to that arterial (Point 'C').

(3) The access to Highway 99W will be considered temporary until an alternative access to public right-of-ways is created. When the alternative access is available the temporary access to Highway 99W shall be closed.

(4) All site plans for new development submitted to the City for approval after the effective date of this Code shall show ingress and egress from existing or planned local, neighborhood route or collector streets, including frontage or backage roads, consistent with the Transportation Plan Map and Chapter 6 of the Community Development Plan.

3. Exceptions to Access Criteria for City-Owned Streets

a. *Alternate points of access may be allowed if an access management plan which maintains the classified function and integrity of the applicable facility is submitted to and approved by the City Engineer as the access management plan must be included as part of the land use submittal or an application for modification as described in § 16.106.020 E. (Transportation Facilities Modifications).*

b. *Access in the Old Town (OT) Overlay Zone*

Access points in the OT Overlay Zone shown in an adopted plan such as the Transportation System Plan, are not subject to the access spacing standards and do not need a variance. However, the applicant shall submit a partial access management plan for approval by the City Engineer. The approved plan shall be implemented as a condition of development approval.

RESPONSE: The submitted plans for the application demonstrate that the vehicular access management standards above are met. Street A is the only access point proposed to Brookman Road and it is located in an assumed local street connection point shown in the TSP for local connectivity. The site does not access Highway 99W and is not located in the Old Town Overlay District. Therefore, the applicable criteria are met.

N. Private Streets

1. *The construction of a private street serving a single-family residential development is prohibited unless it provides principal access to two or fewer residential lots or parcels (i.e. flag lots).*

2. *Provisions shall be made to assure private responsibility for future access and maintenance through recorded easements. Unless otherwise specifically authorized, a private street shall comply with the same standards as a public street identified in the Community Development Code and the Transportation System Plan.*

3. *A private street shall be distinguished from public streets and reservations or restrictions relating to the private street shall be described in land division documents and deed records.*

4. *A private street shall also be signed differently from public streets and include the words "Private Street".*

RESPONSE: The application includes one private street, located in Tract G. This private street will serve only lots 19 and 20. Therefore, these criteria are met.

16.106.060 - Sidewalks

A. Required Improvements

1. *Except as otherwise provided, sidewalks shall be installed on both sides of a public street and in any special pedestrian way within new development.*

2. *For Highway 99W, arterials, or in special industrial districts, the City Manager or designee may approve a development without sidewalks if alternative pedestrian routes are available.*

3. *In the case of approved cul-de-sacs serving less than fifteen (15) dwelling units, sidewalks on one side only may be approved by the City Manager or designee.*

RESPONSE: As shown on the submitted plan set, sidewalks meeting city local street standards will be provided along both sides of the extension of Streets A and B and along the site frontage with SW Yamell Terrace being constructed as part of The Reserve at Cedar Creek along the west boundary of the site. A 10-foot-wide sidewalk will be provided along the subject site's frontage of SW Brookman Road with future construction when vertical alignment issues can be addressed through a comprehensive improvement project. Sidewalks are also proposed within all pedestrian access easements. Accordingly, these criteria are met.

B. Design Standards

1. *Arterial and Collector Streets*

Arterial and collector streets shall have minimum eight (8) foot wide sidewalks/multi- use path, located as required by this Code.

2. *Local Streets*

Local streets shall have minimum five (5) foot wide sidewalks, located as required by this Code.

3. *Handicapped Ramps*

Sidewalk handicapped ramps shall be provided at all intersections.

RESPONSE: SW Brookman Road is classified as a County Arterial street. A 10-foot-wide paved sidewalk will ultimately be provided along the subject site's frontage on SW Brookman Road, with six-foot wide sidewalks provided along all local streets per City standards. Handicapped ramps will be provided as required by code. These criteria, as applicable, are met.

C. Pedestrian and Bicycle Paths

Provide bike and pedestrian connections on public easements or right-of-way when full street connections are not possible, with spacing between connections of no more than 330 feet except where prevented by topography, barriers such as railroads or highways, or environmental constraints such as rivers and streams.

RESPONSE: As shown on the submitted plan set, bicycle and pedestrian connections are provided along the northern and southern edge of the resource area as Community Trails. A small section of Community Trail will also be constructed behind Lot 40 which will (with future development to the east) connect to the trial stub proposed near lot 39 completing circulation to Redfern. with a connection to the east. A ped/bicycle accessway is proposed to connect the community trail to the public street system between lots 15 and 16. Accordingly, it is considered that the applicant has made every effort to provide pedestrian and bicycle connections wherever possible. Therefore, the criterion is met.

16.106.070 - Bike Lanes

If shown in Figure 13 of the Transportation System Plan, bicycle lanes shall be installed in public rights-of-way, in accordance with City specifications. Bike lanes shall be installed on both sides of designated roads, should be separated from the road by a twelve-inch stripe or other means approved by Engineering Staff, and should be a minimum of five (5) feet wide.

RESPONSE: Figure 13 of the City of Sherwood Transportation System Plan (TSP), identifies that bicycle lanes are required along SW Brookman Road. SW Brookman Road is under the jurisdiction of Washington County. The planned right-of-way dedication and improvements are in accordance with Washington County arterial standards, and will and provide adequate area for a bike lane within the proposed street section. Accordingly, this criterion is met.

16.106.080 - Traffic Impact Analysis (TIA)

A. Purpose

The purpose of this section is to implement Sections 660012-0045(2)(b) and -0045(2)(e) of the State Transportation Planning Rule (TPR), which require the City to adopt performance standards and a process to apply conditions to land use proposals in order to minimize impacts on and protect transportation facilities. This section establishes requirements for when a traffic impact analysis (TIA) must be prepared and submitted; the analysis methods and content involved in a TIA; criteria used to review the TIA; and authority to attach conditions of approval to minimize the impacts of the proposal on transportation facilities.

This section refers to the TSP for performance standards for transportation facilities as well as for projects that may need to be constructed as mitigation measures for a proposal's projected impacts. This section also relies on the City's Engineering Design Manual to provide street design standards and construction specifications for improvements and projects that may be constructed as part of the proposal and mitigation measures approved for the proposal.

B. Applicability

A traffic impact analysis (TIA) shall be required to be submitted to the City with a land use application at the request of the City Engineer or if the proposal is expected to involve one (1) or more of the following:

1. *An amendment to the Sherwood Comprehensive Plan or zoning map.*
2. *A new direct property approach road to Highway 99W is proposed.*
3. *The proposed development generates fifty (50) or more PM peak-hour trips on Highway 99W, or one hundred (100) PM peak-hour trips on the local transportation system.*
4. *An increase in use of any adjacent street or direct property approach road to Highway 99W by ten (10) vehicles or more per day that exceed the twenty thousand-pound gross vehicle weight.*

5. *The location of an existing or proposed access driveway does not meet minimum spacing or sight distance requirements, or is located where vehicles entering or leaving the property are restricted, or such vehicles are likely to queue or hesitate at an approach or access connection, thereby creating a safety hazard.*

6. *A change in internal traffic patterns that may cause safety problems, such as back up onto the highway or traffic crashes in the approach area.*

RESPONSE: A Transportation Impact Analysis (TIA) has been submitted with this application, prepared by Lancaster Mobley, and dated November 10, 2021. The TIA addresses the requirements of City of Sherwood Municipal Code Section 16.106.080 as well as applicable Washington County and ODOT review requirements. The study methodology, assumptions and scope were determined based on a review of existing travel patterns, the City of Sherwood's Development Code, and TIA prepared as part of the recently approved Middlebrook Residential Subdivision, the Reserve at Cedar Creek application and the Riverside at Cedar Creek application. The study intersections and requirements are the same as was required for the Middlebrook Residential Subdivision, The Reserve at Cedar Creek application and Riverside at Cedar Creek Application. This requirement is met.

G. Conditions of Approval

The City may deny, approve, or approve a development proposal with conditions needed to meet operations and safety standards and provide the necessary right-of-way and improvements to ensure consistency with the future planned transportation system. Improvements required as a condition of development approval, when not voluntarily provided by the applicant, shall be roughly proportional to the impact of the development on transportation facilities, pursuant to Section 16.106.090. Findings in the development approval shall indicate how the required improvements are directly related to and are roughly proportional to the impact of development.

RESPONSE: The Applicant understands that the City may deny, approve, or approve a development proposal with conditions. Any such conditions the City wishes to impose are required to be based upon an essential nexus and roughly proportional to an identified development impact on transportation facilities.

16.106.090 - Rough Proportionality

A. Purpose

The purpose of this section is to ensure that required transportation facility improvements are roughly proportional to the potential impacts of the proposed development. The rough proportionality requirements of this section apply to both frontage and non-frontage improvements. A proportionality analysis will be conducted by the

City Engineer for any proposed development that triggers transportation facility improvements pursuant to this chapter. The City Engineer will take into consideration any benefits that are estimated to accrue to the development property as a result of any required transportation facility improvements. A proportionality determination can be appealed pursuant to Chapter 16.76. The following general provisions apply whenever a proportionality analysis is conducted.

B. Mitigation of impacts due to increased demand for transportation facilities associated with the proposed development shall be provided in rough proportion to the transportation impacts of the proposed development. When applicable, anticipated impacts will be determined by the TIA in accordance with Section 16.106.080. When no TIA is required, anticipated impacts will be determined by the City Engineer.

C. The following shall be considered when determining proportional improvements:

1. Condition and capacity of existing facilities within the impact area in relation to City standards. The impact area is generally defined as the area within a one-half-mile radius of the proposed development. If a TIA is required, the impact area is the TIA study area.

2. Existing vehicle, bicycle, pedestrian, and transit use within the impact area.

3. The effect of increased demand on transportation facilities and other approved, but not yet constructed, development projects within the impact area that is associated with the proposed development.

4. Applicable TSP goals, policies, and plans.

5. Whether any route affected by increased transportation demand within the impact area is listed in any City program including school trip safety; neighborhood traffic management; capital improvement; system development improvement, or others.

6. Accident history within the impact area.

7. Potential increased safety risks to transportation facility users, including pedestrians and cyclists.

8. *Potential benefit the development property will receive as a result of the construction of any required transportation facility improvements.*

9. *Other considerations as may be identified in the review process pursuant to Chapter 16.72.*

RESPONSE: It is understood that the City will make appropriate proportionality findings in line with the above requirements for conditions of approval applied in the City's decision for this application.

Chapter 16.110 - SANITARY SEWERS

16.110.010 - Required Improvements

Sanitary sewers shall be installed to serve all new developments and shall connect to existing sanitary sewer mains. Provided, however, that when impractical to immediately connect to a trunk sewer system, the use of septic tanks may be approved, if sealed sewer laterals are installed for future connection and the temporary system meets all other applicable City, Clean Water Services, Washington County and State sewage disposal standards.

RESPONSE: The project will include necessary public sanitary sewer infrastructure as shown on the preliminary utility plans. The applicant is aware that a trunk sewer main is currently under construction that will serve the Brookman Addition Concept Plan area, including this project area. The Reserve at Cedar Creek will provide sanitary service to lots 1-8 in SW Yamell Terrace and will also be stubbing sanitary to the western boundary of the project site to be extended to serve lots 9 through 39. Sanitary will also be extended from a point west of Redfern Drive behind lot 40 for future extension to the south. A line will run along the norther boundary of lots 40 through 41 to serve those lots. Improvements will be designed and constructed in accordance with applicable City, Clean Water Services, and State standards. These criteria are met.

16.110.020 - Design Standards

A. Capacity

Sanitary sewers shall be constructed, located, sized, and installed at standards consistent with this Code, the Sanitary Sewer Service Plan Map in the Sanitary Sewer Master Plan, and other applicable Clean Water Services and City standards, in order to adequately serve the proposed development and allow for future extensions.

B. Over-Sizing

1. *When sewer facilities will, without further construction, directly serve property outside a proposed development, gradual reimbursement may be used to equitably distribute the cost of that over-sized system.*

2. *Reimbursement shall be in an amount estimated by the City to be a proportionate share of the cost for each connection made to the sewer by property owners outside of the development, for a period of ten (10) years from the time of installation of the sewers. The boundary of the reimbursement area and the method of determining proportionate shares shall be determined by the City. Reimbursement shall only be made as additional connections are made and shall be collected as a surcharge in addition to normal connection charges.*

RESPONSE: A trunk sewer main has been designed and is now being constructed. It will serve the Brookman Addition Concept Plan area, including this project area and the neighboring subdivisions. On site sanitary sewer infrastructure will be sized properly and oversized as necessary to serve potential future growth. The applicant will work with the City and Clean Water Services to identify the appropriate design solutions, and to determine appropriate reimbursement/SDC credits for any over-sized sanitary sewer system infrastructure where applicable. These criteria are met.

16.110.030 - Service Availability

Approval of construction plans for new facilities pursuant to Chapter 16.106, and the issuance of building permits for new development to be served by existing sewer systems shall include certification by the City that existing or proposed sewer facilities are adequate to serve the development.

RESPONSE: The applicant acknowledges that certification by the City as described above is required prior to approval of construction plans and issuance of building permits. The criterion will be met.

Chapter 16.112 - WATER SUPPLY

16.112.010 - Required Improvements

Water lines and fire hydrants conforming to City and Fire District standards shall be installed to serve all building sites in a proposed development. All waterlines shall be connected to existing water mains or shall construct new mains appropriately sized and located in accordance with the Water System Master Plan.

RESPONSE: The applicant will extend and loop water service through the site including water lines, hydrants, and connections, as shown on the submitted Preliminary Composite Utility Plan (Sheet P6). These improvements are shown to be extended from the proposed Reserve at Cedar Creek subdivision, and have been appropriately sized and designed to meet all applicable standards. The design also includes a 12-inch line in Brookman Road along the site frontage. Lots 40-41 will have banked meters at the end of Redfern with individual service lines to each of the lots. Therefore, the criterion is met.

16.112.020 - Design Standards

A. Capacity

Water lines providing potable water supply shall be sized, constructed, located and installed at standards consistent with this Code, the Water System Master Plan, the City's Design and Construction Manual, and with other applicable City standards and specifications, in order to adequately serve the proposed development and allow for future extensions.

B. Fire Protection

All new development shall comply with the fire protection requirements of Chapter 16.116, the applicable portions of Chapter 7 of the Community Development Plan, and the Fire District.

C. Over-Sizing

1. *When water mains will, without further construction, directly serve property outside a proposed development, gradual reimbursement may be used to equitably distribute the cost of that over-sized system.*

2. *Reimbursement shall be in an amount estimated by the City to be the proportionate share of the cost of each connection made to the water mains by property owners outside the development, for a period of ten (10) years from the time of installation of the mains. The boundary of the reimbursement area and the method of determining proportionate shares shall be determined by the City. Reimbursement shall only be made as additional connections are made and shall be collected as a surcharge in addition to normal connection charges.*

3. *When over-sizing is required in accordance with the Water System Master Plan, it shall be installed per the Water System Master Plan. Compensation for over-sizing may be provided through direct reimbursement, from the City, after mainlines have been accepted. Reimbursement of this nature would be utilized when the cost of over-sizing is for system wide improvements.*

RESPONSE: All components of the proposed water system will be sized properly and oversized where necessary to serve potential future growth within the area. The Applicant will work with the City to determine reimbursement/SDC credits as applicable for any oversized water supply infrastructure. The criteria are met.

16.112.030 - Service Availability

Approval of construction plans for new water facilities pursuant to Chapter 16.106, and the issuance of building permits for new development to be served by existing water systems shall include certification by the City that existing or proposed water systems are adequate to serve the development.

RESPONSE: The applicant acknowledges that certification by the City as described above is required prior to approval of construction plans and issuance of building permits. Therefore, this criterion will be met.

Chapter 16.114 - STORMWATER

16.114.010 - Required Improvements

Storm water facilities, including appropriate source control and conveyance facilities, shall be installed in new developments and shall connect to the existing downstream drainage systems consistent with the Comprehensive Plan and the requirements of the Clean Water Services water quality regulations contained in their Design and Construction Standards R&O 04-9, or its replacement.

RESPONSE: All components of the proposed stormwater facilities, as shown on the preliminary plan set and identified as Tracts A and C, have been appropriately sized and designed in accordance with all applicable City, State, DEQ and CWS standards. Lots 40-41 will have individual LIDA facilities to address stormwater needs. See also the Preliminary Storm Drainage Report submitted with this application. Therefore, this criterion is met.

16.114.020 - Design Standards

A. Capacity

Storm water drainage systems shall be sized, constructed, located, and installed at standards consistent with this Code, the Storm Drainage Master Plan Map, attached as Exhibit E, Chapter 7 of the Community Development Plan, other applicable City standards, the Clean Water Services Design and Construction standards R&O 04-9 or its replacement, and hydrologic data and improvement plans submitted by the developer.

B. On-Site Source Control

Storm water detention and groundwater recharge improvements, including but not limited to such facilities as dry wells, detention ponds, and roof top ponds shall be constructed according to Clean Water Services Design and Construction Standards.

C. Conveyance System

The size, capacity and location of storm water sewers and other storm water conveyance improvements shall be adequate to serve the development and accommodate upstream and downstream flow. If an upstream area discharges through the property proposed for development, the drainage system shall provide capacity to the receive storm water discharge from the upstream area. If downstream drainage systems are not sufficient to receive an increase in storm water caused by new development, provisions shall be made by the developer to increase the downstream capacity or to provide detention such that the new development will not increase the storm water caused by the new development.

RESPONSE: The proposed stormwater drainage system has been sized and designed in accordance with applicable City, State, DEQ and CWS standards. As shown in the attached Preliminary Storm Drainage Report, stormwater treatment will be provided on-site within Tracts A and C using water quality swales and detention, prior to being released to the adjacent Cedar Creek. Therefore, these criteria will be met.

16.114.030 - Service Availability

Approval of construction plans for new storm water drainage facilities pursuant to Chapter 16.106, and the issuance of building permits for new development to be served by existing storm water drainage systems shall include certification by the City that existing or proposed drainage facilities are adequate to serve the development.

RESPONSE: The applicant acknowledges that certification by the City as described above is required prior to approval of construction plans and issuance of building permits. As illustrated by the submitted plans and Preliminary Storm Drainage Report, these criteria will be met.

Chapter 16.116 - FIRE PROTECTION

16.116.010 - Required Improvements

When land is developed so that any commercial or industrial structure is further than two hundred and fifty (250) feet or any residential structure is further than five hundred (500) feet from an adequate water supply for fire protection, as determined by the Fire District, the developer shall provide fire protection facilities necessary to provide adequate water supply and fire safety.

RESPONSE: Proposed fire protection facilities are included on the Preliminary Composite Utility Plan (Sheet P10). These improvements are appropriately sized and designed in accordance with applicable Oregon Fire Code, City of Sherwood building standards, and Tualatin Valley Fire and Rescue standards. Therefore, this criterion is met.

16.116.020 - Standards

A. Capacity

All fire protection facilities shall be approved by and meet the specifications of the Fire District, and shall be sized, constructed, located, and installed consistent with this Code, Chapter 7 of the Community Development Plan, and other applicable City standards, in order to adequately protect life and property in the proposed development.

B. Fire Flow

Standards published by the Insurance Services Office, entitled "Guide for Determination of Required Fire Flows" shall determine the capacity of facilities required to furnish an adequate fire flow. Fire protection facilities shall be adequate to convey quantities of water, as determined by ISO standards, to any outlet in the system, at no less than twenty (20) pounds per square inch residual pressure. Water supply for fire protection purposes shall be restricted to that available from the City water system. The location of hydrants shall be taken into account in determining whether an adequate water supply exists.

C. Access to Facilities

Whenever any hydrant or other appurtenance for use by the Fire District is required by this Chapter, adequate ingress and egress shall be provided. Access shall be in the form of an improved, permanently maintained roadway or open paved area, or any combination thereof, designed, constructed, and at all times maintained, to be clear and unobstructed. Widths, height clearances, ingress and egress shall be adequate for District firefighting equipment. The Fire District, may further prohibit vehicular parking along private accessways in order to keep them clear and unobstructed, and cause notice to that effect to be posted.

D. Hydrants

Hydrants located along private, accessways shall either have curbs painted yellow or otherwise marked prohibiting parking for a distance of at least fifteen (15) feet in either direction, or where curbs do not exist, markings shall be painted on the pavement, or signs erected, or both, given notice that parking is prohibited for at least fifteen (15) feet in either direction.

RESPONSE: As described above, proposed fire protection facilities will be sized properly, constructed, located, and installed consistent with applicable Oregon Fire Code, City of Sherwood building standards, and Tualatin Valley Fire and Rescue standards. Therefore, this criterion is met.

16.116.030 - Miscellaneous Requirements

A. Timing of Installation

When fire protection facilities are required, such facilities shall be installed and made serviceable prior to or at the time any combustible construction begins on the land unless, in the opinion of the Fire District, the nature or circumstances of said construction makes immediate installation impractical.

B. Maintenance of Facilities

All on-site fire protection facilities, shall be maintained in good working order. The Fire District may conduct periodic tests and inspection of fire protection and may order the necessary repairs or changes be made within ten (10) days.

C. Modification of Facilities

On-site fire protection facilities, may be altered or repaired with the consent of the Fire District; provided that such alteration or repairs shall be carried out in conformity with the provisions of this Chapter.

RESPONSE: The applicant acknowledges the above in that Tualatin Valley Fire and Rescue may require installation of proposed fire protection facilities prior to or at the time of construction, may conduct inspections of fire protection facilities, and may consent to modification of fire protection facilities. These criteria are considered to be met.

Chapter 16.118 - PUBLIC AND PRIVATE UTILITIES

16.118.010 - Purpose

Public telecommunication conduits as well as conduits for franchise utilities including, but not limited to, electric power, telephone, natural gas, lighting, and cable television shall be installed to serve all newly created lots and developments in Sherwood.

16.118.020 - Standard

A. Installation of utilities shall be provided in public utility easements and shall be sized, constructed, located and installed consistent with this Code, Chapter 7 of the Community Development Code, and applicable utility company and City standards.

B. Public utility easements shall be a minimum of eight (8) feet in width unless a reduced width is specifically exempted by the City Engineer. An eight-foot wide public utility easement (PUE) shall be provided on

private property along all public street frontages. This standard does not apply to developments within the Old Town Overlay.

C. *Where necessary, in the judgment of the City Manager or his designee, to provide for orderly development of adjacent properties, public and franchise utilities shall be extended through the site to the edge of adjacent property(ies).*

D. *Franchise utility conduits shall be installed per the utility design and specification standards of the utility agency.*

E. *Public Telecommunication conduits and appurtenances shall be installed per the City of Sherwood telecommunication design standards.*

F. *Exceptions: Installation shall not be required if the development does not require any other street improvements. In those instances, the developer shall pay a fee in lieu that will finance installation when street or utility improvements in that location occur.*

RESPONSE: As illustrated on the submitted Preliminary Plat, all proposed lots along public streets are encumbered by an 8-foot-wide public utility easement along the adjacent street frontage. These easements provide sufficient area for franchise utility installation, and meet the requirements specified above. Therefore, this criterion can be met.

16.118.030 - Underground Facilities

Except as otherwise provided, all utility facilities, including but not limited to, electric power, telephone, natural gas, lighting, cable television, and telecommunication cable, shall be placed underground, unless specifically authorized for above ground installation, because the points of connection to existing utilities make underground installation impractical, or for other reasons deemed acceptable by the City.

16.118.040 - Exceptions

Surface-mounted transformers, surface-mounted connection boxes and meter cabinets, temporary utility service facilities during construction, high capacity electric and communication feeder lines, and utility transmission lines operating at fifty thousand (50,000) volts or more may be located above ground. The City reserves the right to approve location of all surface-mounted transformers.

RESPONSE: All new utility facilities are planned to be placed underground. It is noted that should a fee in lieu be required for construction of SW Brookman Road, overhead utilities may remain in place until such time as a County Capital Improvement Project completes required right-of-way improvements to ultimate line and grade, if deemed acceptable by the City. Therefore, these criteria can be met.

16.118.050 - Private Streets

The construction of new private streets, serving single family residential developments shall be prohibited unless it provides principal access to two or fewer residential lots or parcels i.e. flag lots. Provisions shall be made to assure private responsibility for future access and maintenance through recorded easements. Unless otherwise specifically authorized, a private street shall comply with the same standards as a public street identified in the Community Development Code and the Transportation System Plan. A private street shall be distinguished from public streets and reservations or restrictions relating to the private street shall be described in land division documents and deed records. A private street shall also be signed differently from public streets and include the words "Private Street".

RESPONSE: The application includes one private street located in Tract G. It will serve two single-family dwellings, and will be maintained, identified and recorded as required above. Access to all other howes within the development will be via private driveways. Therefore, these criteria are met.

Chapter 16.120 - SUBDIVISIONS

16.120.010 - Purpose

Subdivision regulations are intended to promote the public health, safety and general welfare; lessen traffic congestion; provide adequate light and air; prevent overcrowding of land; and facilitate adequate water supply, sewage and drainage.

16.120.020 - General Subdivision Provisions

A. Approval of a subdivision occurs through a two-step process: the preliminary plat and the final plat.

1. The preliminary plat shall be approved by the Approval Authority before the final plat can be submitted for approval consideration; and

2. The final plat shall reflect all conditions of approval of the preliminary plat.

RESPONSE: This application fulfills the requirement for the approval of the preliminary plat step of the two-step process. Following approval of the preliminary plat application, and subsequent engineering approvals as applicable, the applicant will submit a separate application for final plat approval that will demonstrate compliance with the conditions of approval from the preliminary plat approval. Therefore, these criteria can be met.

B. All subdivision proposals shall conform to all state regulations set forth in ORS Chapter 92, Subdivisions and Partitions.

RESPONSE The applicable subdivision and partition regulations contained in ORS Chapter 92 are implemented through the City's Municipal Code, and compliance with all applicable requirements is identified in this narrative. Therefore, this criterion is met.

C. Future re-division

When subdividing tracts into large lots, the Approval Authority shall require that the lots be of such size and shape as to facilitate future re-division in accordance with the requirements of the zoning district and this Division.

D. Future Partitioning

When subdividing tracts into large lots which may be resubdivided, the City shall require that the lots be of a size and shape, and apply additional building site restrictions, to allow for the subsequent division of any parcel into lots of smaller size and the creation and extension of future streets.

RESPONSE: No lots of a size or shape which would facilitate future re-division or future partitioning will be created through this development. These criteria are not applicable.

E. Lot averaging

Lot size may be averaged to allow lots less than the minimum lot size allowed in the underlying zoning district subject to the following regulations:

1. *The average lot area for all lots is not less than allowed by the underlying zoning district.*

2. *No lot created under this provision shall be less than 90 % of the minimum lot size allowed in the underlying zoning district.*

3. *The maximum lot size cannot be greater than 10 % of the minimum lot size.*

RESPONSE: As previously described, each of the lots meets the required dimensional standards of the MDRL Zone, with the exception that a small number of the lots (Lots 1, 7, 8, 23-30, 36 and 38) do not meet the minimum lot size for lot area and lots 24, 25 and 27-30 do not meet the minimum lot width at the building line. In accordance with Section 16.144.030.B.1., the applicant is requesting an exception to these dimensional standards for those lots which do not meet the minimum requirement, to the maximum permitted 10% reduction, to allow for some level of flexibility in Final Plat design. However, the minimum lot size proposed is 4,500 square feet with a minimum lot width at the building line of 45 feet (multiple lots). Please see the response to Section 16.144.030.B.1. for findings related to the exception criteria.

As the applicant is demonstrating compliance with the requirements of Section 16.144.030.B.1., the applicant is not utilizing the lot averaging standards of this Section.

F. Required Setbacks

All required building setback lines as established by this Code, shall be shown in the preliminary subdivision plat.

RESPONSE: Proposed building envelopes are shown on Sheet P3.1, Conceptual Building Setback Plan, of the submitted plan set. All of the 41 proposed lots are capable of supporting a detached single-family dwelling meeting the setbacks of the MDRL Zone. Therefore, this criterion is met.

G. Property Sales

No property shall be disposed of, transferred, or sold until required subdivision approvals are obtained, pursuant to this Code.

RESPONSE: The applicant acknowledges that individual lots may not be disposed of, transferred, or sold until the preliminary and final plat applications are approved and the final subdivision plat is recorded. This criterion will be met.

16.120.030 - Approval Procedure-Preliminary Plat

A. Approval Authority

1. *The approving authority for preliminary and final plats of subdivisions shall be in accordance with Section 16.72.010 of this Code.*

    a. *A subdivision application for 4-10 lots will follow a Type II review process.*
    b. *A subdivision application for 11-50 lots will follow a Type III review process.*
    c. *A subdivision application for over 50 lots will follow a Type IV review process.*

2. *Approval of subdivisions is required in accordance with this Code before a plat for any such subdivision may be filed or recorded with County. Appeals to a decision may be filed pursuant to Chapter 16.76.*

RESPONSE: The proposed subdivision includes 41 residential lots, and will therefore follow a Type III review process. The applicant acknowledges the requirement that approval from the City is required prior to recordation of the final plat with Washington County. These criteria are considered to be met.

B. Phased Development

1. *The Approval Authority may approve a time schedule for developing a subdivision in phases, but in no case shall the actual construction time period for any phase be greater than two years without reapplying for a preliminary plat.*

2. *The criteria for approving a phased subdivision review proposal are:*

    a. *The public facilities shall be scheduled to be constructed in conjunction with or prior to each phase to ensure provision of public facilities prior to building occupancy;*
    b. *The development and occupancy of any phase shall not be dependent on the use of temporary public facilities:*

        (1) For purposes of this subsection, a temporary public facility is an interim facility not constructed to the applicable City or district standard; and
        (2) The phased development shall not result in requiring the City or other property owners to construct public facilities that were required as a part of the approval of the preliminary plat.

3. *The application for phased development approval shall be reviewed concurrently with the preliminary plat application and the decision may be appealed in the same manner as the preliminary plat.*

RESPONSE: The applicant is requesting approval for construction of the site in 2 phases, although no particular order for completion has yet been determined. Phase 1 will consist of Lots 1 – 8, located at the north east corner of the site. These lots are accessed independently from the remainder of the subdivision and will rely on improvements provided by others, and as such the exact timing of Phase 1 will depend on the completion of adjoining developments. Phase 2 will consist of Lots 9 – 41. Access to Phase 2 will occur directly from Brookman Road, and as such construction is not dependent on others. Phase 2 may occur prior to, concurrently with, or subsequent to Phase 1, depending on available access.

16.120.040 - Approval Criteria: Preliminary Plat

No preliminary plat shall be approved unless:

A. *Streets and roads conform to plats approved for adjoining properties as to widths, alignments, grades, and other standards, unless the City determines that the public interest is served by modifying streets or road patterns.*

B. Streets and roads held for private use are clearly indicated on the plat and all reservations or restrictions relating to such private roads and streets are set forth thereon.

C. The plat complies with applicable zoning district standards and design standards in Division II, and all provisions of Divisions IV, VI, VIII and IX. The subdivision complies with Chapter 16.128 (Land Division Design Standards).

D. Adequate water, sanitary sewer, and other public facilities exist to support the use of land proposed in the plat.

E. Development of additional, contiguous property under the same ownership can be accomplished in accordance with this Code.

F. Adjoining land can either be developed independently or is provided access that will allow development in accordance with this Code.

G. Tree and woodland inventories have been submitted and approved as per Section 16.142.060.

H. The plat clearly shows the proposed lot numbers, setbacks, dedications and easements.

I. A minimum of five percent (5%) open space has been provided per Section 16.44.010.B.8 (Townhome-Standards) or Section 16.142.030 (Parks, Open Spaces and Trees-Single Family Residential Subdivisions), if applicable.

RESPONSE: This written narrative includes responses to the applicable criteria listed above, demonstrating compliance with this section. Compliance is further demonstrated by the submitted preliminary plan set, and the relevant attachments including the storm drainage report, arborist report and biologists report, upon which these compliance statements are based. Accordingly, these standards are considered to be met.

Chapter 16.128 - LAND DIVISION DESIGN STANDARDS

16.128.010 - Blocks

A. Connectivity

1. Block Size

The length, width, and shape of blocks shall be designed to provide adequate building sites for the uses proposed, and for convenient access, circulation, traffic control and safety.

RESPONSE: As described throughout this written narrative, blocks and overall street layouts have been designed to create convenient access and circulation, while creating lots suitable for the construction of single-family detached dwelling units which meet the intent and purpose of the MDRL Zone. This criterion is considered to be met.

2. *Block Length*

Block length standards shall be in accordance with Section 16.108.040. Generally, blocks shall not exceed five-hundred thirty (530) feet in length, except blocks adjacent to principal arterial, which shall not exceed one thousand eight hundred (1,800) feet. The extension of streets and the formation of blocks shall conform to the Local Street Network map contained in the Transportation System Plan.

RESPONSE: As previously described, only one new interior block is created as part of this development, being with the completion of frontage improvements on SW Yamel Terrace which is under construction at this time by the Reserve at Cedar Creek project. No new blocks can be created with this project however, the beginnings of a new block are being developed where the northern leg of Street B can extend further east and then directly south back to SW Brookman Road. This block will ultimately be about 1,500 feet in perimeter length. Due to the existence of natural resources on the property, the block created by Brookman Road, Street A, Street B and Street B's future extension back to Brookman Road results in a block more triangular in design. Measurements east/west and north south within this area result in block lengths of 510 feet and 520 feet at their widest points in compliance with the requirements of this section. This criterion is met.

3. *Pedestrian and Bicycle Connectivity. Paved bike and pedestrian accessways shall be provided on public easements or right-of-way consistent with Figure 7.401.*

RESPONSE: The subject site contains an extensive network of trails, providing connections to the north, east, south, and west as demonstrated on the submitted preliminary plan set. These accessways will be located within public pedestrian easements, to ensure public access. This criterion is met.

B. *Utilities Easements for sewers, drainage, water mains, electric lines, or other utilities shall be dedicated or provided for by deed. Easements shall be a minimum of ten (10) feet in width and centered on rear or side lot lines; except for tieback easements, which shall be six (6) feet wide by twenty (20) feet long on side lot lines at the change of direction.*

RESPONSE: All new public utility mains required to serve the proposed development will be located within the rights-of-way adjacent to individual lots or within easements when crossing open space areas. An 8-foot-wide public utility easement is provided along the frontage of the lots to accommodate necessary franchise utilities. Final easement locations will be determined in conjunction with the appropriate service providers based on the approved engineering designs. Therefore, this criterion is met.

C. Drainages

Where a subdivision is traversed by a watercourse, drainage way, channel or street, drainage easements or rights-of-way shall be provided conforming substantially to the alignment and size of the drainage.

RESPONSE: Tract B and D within the development and as shown on the preliminary plan set submitted with the application contains the Cedar Creek drainage and its associated riparian areas and floodplain along with two unnamed tributaries to Cedar Creek and their associated riparian areas. It is anticipated that the Tracts in their entirety will include stormwater drainage easements to Clean Water Services, in order to ensure accesses for public utility needs. It is anticipated that these easements will be required as a Condition of Approval. This criterion will be met.

16.128.020 - Pedestrian and Bicycle Ways

Pedestrian or bicycle ways may be required to connect cul-de-sacs, divide through an unusually long or oddly shaped block, or to otherwise provide adequate circulation.

RESPONSE: As described above, the proposed subdivision provides extensive pedestrian and bicycle circulation throughout the site, with sidewalks created on SW Yamel Terrace, Street A and Street B. Community trails located along the north and south side of the Cedar Creek significant natural resource area. A connection to the Community Trail is provided between lots 15 and 16 out to public streets. To the west, the Community Trails will connect directly to the Community Trails provided within the Reserve at Cedar Creek subdivision, which in turn links to an extensive network of trails and sidewalks. Each of these trails will be located with public pedestrian and bicycle access easements, as required. Therefore, this criterion is met.

16.128.030 - Lots

A. Size and Shape

Lot size, width, shape, and orientation shall be appropriate for the location and topography of the subdivision or partition, and shall comply with applicable zoning district requirements, with the following exception:

1. *Lots in areas not served by public sewer or water supply shall conform to any special County Health Department standards.*

RESPONSE: As discussed previously, and shown within the submitted preliminary plan set, lot dimension and orientation are proposed consistent with the requirements of the MDRL Zone, with the allowance for a 10% reduction in lot size (lot area and width at the building line), consistent with the exception criteria of Section 16.144.030.B.1. All lots within the subdivision are to be served by public sewer and water supply. These criteria are met.

B. Access

All lots in a subdivision shall abut a public street, except as allowed for infill development under Chapter 16.68.

RESPONSE: As shown on the preliminary plan set and described in this written narrative, all lots abut a public street. Therefore, this criterion is satisfied.

C. Double Frontage

Double frontage and reversed frontage lots are prohibited except where essential to provide separation of residential development from railroads, traffic arteries, adjacent nonresidential uses, or to overcome specific topographical or orientation problems. A five (5) foot wide or greater easement for planting and screening may be required.

RESPONSE: The proposed subdivision includes eight double frontage or reversed frontage lots. These lots are proposed along the frontage of SW Brookman Road which is a future arterial with limited access. Since they are providing separation of residential development from a traffic artery, they are permitted. Therefore, this criterion is met.

D. Side Lot Lines Side lot lines shall, as far as practicable, run at right angles to the street upon which the lots face, except that on curved streets side lot lines shall be radial to the curve of the street.

RESPONSE: To the extent practicable, all side lot lines are perpendicular or radial to the fronting street. Therefore, these criteria are met to the extent practicable.

E. Grading

Grading of building sites shall conform to the following standards, except when topography of physical conditions warrants special exceptions:

1. *Cut slopes shall not exceed one (1) and one-half (1 1/2) feet horizontally to one (1) foot vertically.*

2. *Fill slopes shall not exceed two (2) feet horizontally to one (1) foot vertically.*

RESPONSE: Proposed site grading is shown on the submitted Preliminary Grading and Erosion Control Plan Sheet P4 and P4.1. All site grading has been designed to comply with the above standards relating to cut and fill slopes, as will be demonstrated through the Grading Permit process. These criteria will be met.

Division VIII. - ENVIRONMENTAL RESOURCES

Chapter 16.134 - FLOODPLAIN (FP) OVERLAY

16.134.010 - Generally

Special resource zones are established to provide for preservation, protection, and management of unique natural and environmental resources in the City that are deemed to require additional standards beyond those contained elsewhere in this Code. Special resource zones may be implemented as underlying or overlay zones depending on patterns of property ownership and the nature of the resource. A property or properties may be within more than one resource zone. In addition, the City may identify special resource areas and apply a PUD overlay zone in advance of any development in order to further protect said resources.

The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled, "The Flood Insurance Study for Washington County, Oregon and Incorporated Areas," (flood insurance study) dated November 4, 2016, with accompanying Flood Insurance Maps are hereby adopted by reference and declared to be a part of this ordinance. The Flood Insurance Study is on file with the Sherwood City Engineer at Sherwood City Hall.

16.134.020 - Purpose

The purpose of this ordinance is to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by complying with the provisions of this chapter.

A. The FP zoning district is an overlay district that controls and regulates flood hazard areas in order to protect the public health, safety and general welfare; to reduce potential flood damage losses; and to protect floodways and natural drainageways from encroachment by uses which may adversely affect water quality and water flow and subsequent upstream or downstream flood levels. The FP zone shall be applied to all areas within the base flood, and shall supplement the regulations of the underlying zoning district.

B. FP zoning districts are areas within the base flood as identified by the Federal Emergency Management Agency (FEMA) in a Flood Insurance Study (FIS) and in Flood Insurance Rate Maps (FIRM) published for the City and surrounding areas, or as otherwise identified in accordance with Section 16.134.020C. These FEMA documents are adopted by reference as part of this Code, and are on file at the City.

C. *When base flood elevation data is not available from the FIS or FIRM, the City shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state, or other source, and standards developed by the FEMA, in order to administer the provisions of this Code.*

RESPONSE: The site currently drains to Cedar Creek running through the center of the project which conveys storm water easterly and then north eventually releasing into the Tualatin River. The base flood elevation of Cedar Creek as it enters the west edge of the site to SW Brookman Road is approximately 175.7 feet above MSL and where it leaves the site it is approximately 175 feet above MSL. The lowest elevation on the site is approximately 160 feet, at the northern boundary where Cedar Creek leaves the site. Therefore, these criteria are applicable.

16.134.030 – Greenways

The FP zoning districts overlaying the Rock Creek and Cedar Creek floodplains are designated greenways in accordance with Chapter 5 of the Community Development Plan. All development in these two floodplains shall be governed by the policies in Division V, Chapter 16.142 of this Code, in addition to the requirements of this Section and the Clean Water Services Design and Construction Standards R&O 07-20, or its replacement.

16.134.040 - Development Review and Floodplain Administrator Duties

A. *The City Engineer is the designated local Floodplain Administrator and is responsible for maintaining local floodplain management records for the City.*

B. *Provided land is not required to be dedicated as per Section 16.134.030, a conditional use permit (CUP) is required before any use, construction, fill, or alteration of a floodplain, floodway, or watercourse, or any other development begins within any FP zone, except as provided in Section 16.134.050.*

C. *Application for a CUP for development in a floodplain shall conform to the requirements of Chapter 16.82 and may include, but is not limited to, plans and scale drawings showing the nature, location, dimensions, and elevations of the area in question, existing or proposed structures, fill, storage of materials, and drainage facilities.*

D. *The following specific information is required in a floodplain CUP application and shall be certified and verified by a registered civil engineer or architect. The City shall maintain such certifications as part of the public record. All certifications shall be based on the as-built elevations of lowest building floors.*

1. *Elevations in relation to the current FIRM and FIS of the lowest floor (including basement) of all structures;*

2. *Elevations in relation to the current FIRM and FIS to which any structure has been flood proofed.*

3. *That the flood proofing methods for any structure meet the requirements of this section, Floodplain Structures.*

4. *Description of the extent to which any watercourse will be altered or relocated as a result of the proposed development.*

5. *A base flood survey and impact study made by a registered civil engineer.*

6. *Proof all necessary notifications have been sent to, and permits have been obtained from, those federal, state, or other local government agencies for which prior approval of the proposed development is required.*

7. *Any other information required by this section, by any applicable federal regulations, or as otherwise determined by the City to be necessary for the full and proper review of the application.*

E. *The floodplain administrator shall review all development permits to determine if the proposed development is located in the floodway. If located in the floodway, assure that the encroachment provisions of Section 16.134.070.F are met.*

F. *Where base flood elevation data is provided through the Flood Insurance Study, FIRM or required under Section 16.134.020.C the local Floodplain Administrator shall:*

1. *Obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures, and*

2. *If the structure has been floodproofed in accordance with Sections 16.134.090.A.3 and D.1.a, then obtain the elevation (in relation to mean sea level) to which the structure was floodproofed, and*

3. *Maintain all elevation and floodproofing certificates required under Section 16.134.040.D, and*

4. *Maintain for public inspection all records pertaining to the provisions of this ordinance.*

G. Where elevation data is not available as per subsection D of this section, or from other sources as per Section 16.134.020.C, a floodplain CUP shall be reviewed using other relevant data, as determined by the City, such as historical information, high water marks, and other evidence of past flooding. The City may require utility structures and habitable building floor elevations, and building flood proofing, to be at least two feet above the probable base flood elevation, in such circumstances where more definitive flood data is not available.

H. The floodplain administrator shall:

1. Notify adjacent communities, the Department of Land Conservation and Development and other appropriate state and federal agencies, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration as required in Section 16.134.100.C.

2. Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.

I. The floodplain administrator shall make interpretations where needed, as to exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation. Such appeals shall be granted consistent with the standards of Section 60.6 of the Rules and Regulations of the National Flood Insurance Program (44 CFR 59-76).

J. Variances to any standard within the floodplain overlay shall comply with the provisions of the Code of Federal Regulations (CFR) section 44 CFR 60.6(a)(1)—(7).

16.134.050 - Permitted Uses

In the FP zone the following uses are permitted outright, and do not require a CUP, provided that floodway flow, or floodplain capacity, will not be impeded, as determined by the City, and when greenway dedication is not required as per Section 16.134.030.

A. Agricultural uses, provided that associated structures are not allowed, except for temporary building and boundary fences that do not impede the movement of floodwaters and flood-carried materials.

B. Open space, park and recreational uses, and minor associated structures, if otherwise allowed in the underlying zoning district that do not impede the movement of floodwaters and flood-carried materials.

C. Public streets and appurtenant structures, and above and underground utilities, subject to the provisions of Sections 16.134.080 and 16.134.090.

D. Other accessory uses allowed in the underlying zoning district that do not involve structures, and will not, in the City's determination, materially alter the stability or storm drainage absorption capability of the floodplain.

16.134.060 - Conditional Uses

In the FP zone the following uses are permitted as conditional uses, subject to the provisions of this Section and Chapter 16.82, when greenway dedication is not required as per this Section.

Greenways:

A. Any permitted or conditional use allowed in the underlying zoning district, when located in the flood fringe only, as specifically defined by this Code.

16.134.070 - Prohibited Uses

In the FP zone the following uses are expressly prohibited:

A. The storage or processing of materials that are buoyant, flammable, contaminants, explosive, or otherwise potentially injurious to human, animal or plant life.

B. Public and private sewerage treatment systems, including drainfields, septic tanks and individual package treatment plants.

C. Any use or activity not permitted in the underlying zoning district.

D. Any use or activity that, in the City's determination, will materially alter the stability or storm drainage absorption capability of the floodplain.

E. Any use or activity that, in the City's determination, could create an immediate or potential hazard to the public health, safety and welfare, if located in the floodplain.

F. Any use, activity, or encroachment located in the floodway, including fill, new construction, improvements to existing developments, or other development, except as otherwise allowed by Section 16.134.050 and unless certification by a registered professional engineer or architect is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the use, activity, or encroachment will not result in any increase to flood levels during the occurrence of the base flood discharge.

a. If paragraph F of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard provisions of Sections 16.134.080 and .090, or ASCE 24, whichever is more stringent.

G. The storage of recreational vehicles. This is the most restrictive provision wherein.

16.134.080 - Floodplain Development

A. Floodplain Alterations

1. Floodplain Survey

The floodplain, including the floodway and flood fringe areas, shall be surveyed by a registered land surveyor or civil engineer, and approved by the City, based on the findings of the flood insurance study and other available data. Such delineation shall be based on the current FIRM and FIS data and be field-located from recognized valid benchmarks.

2. Grading Plan

Alteration of the existing topography of floodplain areas may be made upon approval of a grading plan by the City. The plan shall include both existing and proposed topography and a plan for alternate drainage. Contour intervals for existing and proposed topography shall be included and shall be not more than one foot for ground slopes up to five percent (5%) and for areas immediately adjacent to a stream or drainage way, two feet for ground slopes between five and ten percent (5% to 10%), and five feet for greater slopes.

3. Fill and Diked Lands

a. Proposed floodplain fill or diked lands may be developed if a site plan for the area to be altered within the floodplain is prepared and certified by a registered civil

engineer and approved by the Commission pursuant to the applicable provisions of this Code.

b. Vehicular access shall be provided from a street above the elevation of the base flood to any proposed fill or dike area if the area supports structures for human occupancy. Unoccupied fill or dike areas shall be provided with emergency vehicle access.

4. Alteration Site Plan

a. The certified site plan prepared by a registered civil engineer or architect for an altered floodplain area shall show that:

(1) Proposed improvements will not alter the flow of surface water during flooding such as to cause a compounding of flood hazards or changes in the direction or velocity of floodwater flow.

(2) No structure, fill, storage, impervious surface or other uses alone, or in combination with existing or future uses, will materially reduce the capacity of the floodplain or increase in flood heights.

(3) Proposed floodplain fill or diked areas will benefit the public health, safety and welfare and incorporate adequate erosion and storm drainage controls, such as pumps, dams and gates.

(4) No serious environmental degradation shall occur to the natural features and existing ecological balance of upstream and downstream areas.

(5) On-going maintenance of altered areas is provided so that flood-carrying capacity will not be diminished by future erosion, settling, or other factors.

b. Applicants must obtain a conditional letter of map revision (CLOMR) from FEMA before any encroachment, including fill, new construction, substantial improvement, or other development, in the regulatory floodway is permitted. Applicants are responsible for preparing technical data to support the CLOMR application and paying any processing or application fees to FEMA.

RESPONSE: The applicant has obtained the base flood elevation from FEMA Maps for the site and Cedar Creek, and has mapped the flood elevation on plans submitted with the application.

As designed, no permanent impacts to the Cedar Creek flood plain, which is proposed to be contained entirely within the boundaries of Tract B, are anticipated and therefore the requirements listed above generally are not applicable to the application. There are two areas where the City's required Community Trails cross the floodplain and those areas are shown on sheets P4.0 and P4.1. In order to install the trails, there is some fill necessary however that is being balanced with a slightly greater cut area. The total floodplain fill is 152 cubic yards and the total cut is 157 cubic yards resulting in a net cut of 5 cubic yards, which increases the floodplain storage capacity. Pedestrian and bicycle trails within the flood plain will utilize formed hard surface areas, which will utilize the existing driveway culvert crossing. Uses in the floodplain area will be limited to the pedestrian and Community Trails and temporary impacts to the flood plain for public utilities, both of which are identified as permitted uses under Section 16.134.050.B. and C. respectively. The above criteria, as applicable, can be met.

5. Subdivisions and Partitions

All proposed subdivisions or partitions including land within an FP zone must establish the boundaries of the base flood by survey and dedicate said land as per Section 16.134.030. The balance of the land and development must:

a. Be designed to include adequate drainage to reduce exposure to flood damage, and have public sewer, gas, electrical and other utility systems so located and constructed to minimize potential flood damage, as determined by the City.

b. Provide for each parcel or lot intended for structures, a building site which is at or above the base flood elevation, and meets all setback standards of the underlying zoning district.

c. Where base flood elevation data is not provided, or is not available from an authoritative source, it shall be generated by the applicant for subdivision proposals and other proposed developments which contain at least fifty (50) lots or five acres, whichever is less.

RESPONSE: As stated above, the applicant has obtained the base flood elevation from FEMA Maps for the site and Cedar Creek, and has mapped the flood elevation on plans submitted with the application. All aspects of the subdivision have been designed to include adequate drainage to reduce exposure to flood damage, and have public sewer, gas, electrical and other utility systems so located and constructed to minimize potential flood damage, as will be determined by the City and appropriate jurisdictional districts through the review of final engineering plans. Each residential lot within the subdivision contains a building site which is above the delineated base flood elevation, and meets all setback standards of the MDRL. These criteria will be met.

16.134.090 - Floodplain Structures

Structures in the FP zone permitted in accordance with this section, shall be subject to the following conditions, in addition to the standards of the underlying zoning district:

A. Generally

1. All structures, including utility equipment, and manufactured housing dwellings, shall be anchored to prevent lateral movement, floatation, or collapse during flood conditions, and shall be constructed of flood-resistant materials, to standards approved by the City, State Structural and Plumbing Specialty Codes and applicable building codes.

2. The lowest floor elevation of a structure designed for human occupancy must be at least one and one-half feet above the base flood elevation and the building site must comply with the provisions of Section 16.134.080.A.

3. The lower portions of all structures shall be flood proofed according to the provisions of the State Structural and Plumbing Specialty Code to an elevation of at least one and one-half feet above the base flood elevation.

4. The finished ground elevation of any under floor crawl space shall be above the grade elevation of an adjacent street, or natural or approved drainage way unless specifically approved by the City. A positive means of drainage from the low point of such crawl space shall be provided.

5. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.

RESPONSE: All residential structures located on the site will be situated such that all construction is located at least one and one-half feet above the base flood elevation. Utilities and other service structures such as outfall locations will either be elevated above the flood plain, or will be anchored to prevent lateral movement, floatation, or collapse during flood conditions, and will be constructed of flood-resistant materials. All on-site construction will minimize flood damage using appropriate construction techniques. These criteria will be met.

B. Utilities

1. Electrical, heating, ventilation, plumbing and air-conditioning equipment and other service facilities located within structures shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

2. *Electrical service equipment, or other utility structures, shall be constructed at or above the base flood elevation. All openings in utility structures shall be sealed and locked.*

3. *Water supply and sanitary sewer systems (not prohibited under section 16.134.070.B) shall be approved by the Washington County Health Department, and shall be designed to minimize or eliminate the infiltration of floodwaters into the systems, or any discharge from systems into floodwaters.*

    a. *On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding consistent with Washington County Health Authority and Oregon Department of Environmental Quality.*

RESPONSE: While the final design of utilities has not yet been reviewed or approved by the appropriate jurisdictional districts at this time, it is anticipated that utilities including sanitary sewer will be constructed within the area of the Cedar Creek flood plain. All sanitary sewer systems will be designed and permitted to meet or exceed the standards of the applicable jurisdictional district, and approved by the Washington County Health Department. These systems will be designed to minimize or eliminate the infiltration of floodwaters into the systems, or any discharge from systems into floodwaters. These criteria will be met.

C. *Residential Structures*

1. *All residential structures shall have the lowest floor, including basement, elevated to at least one and one-half feet above the base flood elevation.*

2. *Fully enclosed areas below the lowest floor that are subject to flooding are not permitted unless they are designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered engineer or architect, or must meet or exceed the following minimum criteria:*

    a. *A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.*

    b. *The bottom of all openings shall be no higher than one foot above grade.*

    c. *Openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic entry and exit of floodwaters.*

3. *Shall be constructed with materials resistant to flood damage.*

RESPONSE: All residential structures located on the site will be situated such that all construction is located at least one and one-half feet above the base flood elevation. This criterion is will be met, and will be confirmed at the time of building permit approval.

D. Non-Residential Construction

1. *All commercial, industrial or other non-residential structures shall have either the lowest floor, including basement, elevated to the level of the base flood elevation; or, together with attendant utility and sanitary facilities, shall:*

   a. *Be flood proofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water.*

   b. *Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.*

   c. *Be certified by a Registered Professional Engineer or Architect that the design and methods of construction are in accordance with accepted standards of practice for meeting all provisions of this Section. A record of such certificates shall be maintained by the Floodplain Administrator in accordance with Section 16.134.040.A.*

   d. *Nonresidential structures that are elevated and not flood proofed must meet the same standards for space below the lowest floor as per Section 16.134.090.C.2.*

RESPONSE: All structures proposed to be located on the site are for residential, rather than commercial, industrial or other non-residential uses. This criterion is not applicable.

E. Manufactured Dwellings

1. *Manufactured dwellings supported on solid foundation walls shall be constructed with flood openings that comply with paragraph C.2 of this section;*

2. *The bottom of the longitudinal chassis frame beam in A zones (excluding coastal A zones), shall be at or above BFE;*

3. *The manufactured dwelling shall be anchored to prevent flotation, collapse, and lateral movement during the base flood. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (Reference*

FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques), and;

4. *Electrical crossover connections shall be a minimum of 12 inches above BFE.*

RESPONSE: No manufactured dwellings are proposed to be located on the site. This criterion is not applicable.

F. Recreational Vehicles

Except where prohibited under Section 16.134.070.G Recreational vehicles placed on sites are required to:

1. *Be on the site for fewer than 180 consecutive days, and*

2. *Be fully licensed and ready for highway use, on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or*

3. *Meet the requirements of paragraph E of this section and the elevation and anchoring requirements for manufactured dwellings.*

RESPONSE: No recreational vehicles are proposed to be located on the site. This criterion is not applicable.

16.134.100 - Additional Requirements

A. Dimensional standards or developments in the FP zone are the same as in the underlying zoning district, except as provided in Section 16.134.100.

B. Approval of a site plan pursuant to Chapter 16.90 that includes portions of the FP overlay may be conditioned by the City to protect the best interests of the surrounding area or the community as a whole, and to carry out the terms of the Comprehensive Plan. These conditions may include, but are not limited to:

1. *Increasing the required lot sizes, yard dimensions, modifying street widths, or off-street parking spaces.*

2. *Limiting the height, size, or location of buildings.*

3. *Controlling the location and number of vehicle access points.*

4. *Limiting the number, size, location, or lighting of signs.*

5. *Requiring diking, fencing, screening, landscaping, or other facilities to protect the proposed development, or any adjacent or nearby property.*

6. *Designating sites for open space or water retention purposes.*

7. *Construction, implementation, and maintenance of special drainage facilities and activities.*

RESPONSE: No activities are proposed within the Cedar Creek floodplain which would necessitate the imposition of Conditions of Approval under provisions 1. through 5. and 7. above. The entirety of the delineated 100-year flood plain will be located within an open space tract(s), meeting the intent of 6. above. These criteria are met or are otherwise not applicable.

C. FEMA Notification.

1. *Notify FEMA within six months of project completion when a conditional letter of map revision (CLOMR) has been obtained from FEMA or when development altered a watercourse, modified floodplain boundaries, or modified base flood elevations. This notification shall be provided as a letter of map revision (LOMR).*

2. *The applicant is responsible for preparing technical data to support the LOMR application and paying any processing or application fees to FEMA. 3. The floodplain administrator is under no obligation to sign the Community Acknowledgement Form, which is part of the CLOMR/LOMR application, until the applicant demonstrates that the project will or has met the requirements of this Code and all applicable state and federal laws.*

RESPONSE: No activities are proposed within the Cedar Creek floodplain which would necessitate the requirement for a LOMA, CLOMR, or LOMR. This criterion is not applicable.

Chapter 16.142 - PARKS, TREES AND OPEN SPACES

16.142.010 - Purpose

This Chapter is intended to assure the provision of a system of public and private recreation and open space areas and facilities consistent with this Code and applicable portions of Chapter 5 of the Community Development Plan Part 2. The standards of this section do not supersede the open space requirements of a Planned Unit Development, found in Chapter 16.40 - Planned Unit Development (PUD).

RESPONSE: The subject site includes open space areas complying with the intent of this Code. This application is not submitted as a Planned Unit Development; therefore, the open space standards of this section apply.

16.142.030 - Single-Family or Duplex Residential Subdivisions

A. A minimum of five percent (5%) of the net buildable site (after exclusion of public right-of-way and environmentally constrained areas) shall be maintained as "open space". Open space must include usable areas such as public parks, swimming and wading pools, grass areas for picnics and recreational play, walking paths, and other like space. The following may not be used to calculate open space:

1. Required yards or setbacks.

2. Required visual corridors.

3. Required sensitive areas and buffers.

4. Any area required to meet a standard found elsewhere in this code.

RESPONSE: Based on the definition of Net Developable Area within the City of Sherwood Municipal Code, the net developable area of the site is approximately 291,266 square feet (6.69 acres). These areas are summarized below:

Gross Site Area = 870,698 Square Feet.
Right-of-way Dedication = 85,453 Square Feet.
Vegetated Corridor = 493,979 Square feet
Area Contained within Lots = 234,328 Square Feet.
Other Areas/Open Space (outside of VC) = 56,938 Square feet

The net developable site area is defined as the remaining area of a parent parcel after excluding present and future rights-of-way, environmentally constrained areas, public parks and other public uses. Accordingly, the net developable site area equals the 234,328 square feet of future lot areas plus 56,938 square feet of other developable areas/open space (outside of VC areas) for a total of 291,266 square feet, or 6.69 Acres.

Accordingly, this section requires the creation of 14,563 square feet (0.33 acres) of open space, which is 5% of the net developable area. The development, as illustrated on the Conceptual Open Space Plan (Sheet P3.2), is currently shown to include approximately 56,938 square feet (24% of net buildable area) of additional open space outside of required yards/setbacks, Sensitive Areas, Vegetated Corridor, Visual Corridor, and 100-Year Flood Plain. However, this open space area is required to be reduced by 2,485 square feet to accommodate the requirements of Section 16.144.030.B.1., for a total additional open space allocation of 54,453 square feet (18.7% of net buildable area = 1.25 acres).

These open space areas are located within and part of Tracts B, D, H, and I, including the pedestrian paths located adjacent to, but outside of, the natural resource areas associated with Cedar Creek, and the pocket park areas in the western portion of the site. The open space will primarily be improved with a network of connected pedestrian trails not otherwise required by the Code, consistent with Section 16.142.030.A., which includes walking paths as an approved improvement. In total, these areas will provide for approximately 0.33 lineal miles of pedestrian trails, not counting sidewalks, accessible to both residents and the wider community. Due to the creek crossing between the site and development to the west, and the multiple proposed links to properties to the north, east and west, it is anticipated that the trails will be heavily used by the public for circulation within and through the development. Due to the trail locations, numerous educational and recreational opportunities will also be available for passive enjoyment of Cedar Creek and its associated riparian areas. This requirement can and will be met.

B. Enhanced streetscapes such as "boulevard treatments" in excess of the minimum public street requirements may count toward a maximum of 10,000 square feet of the open space requirement.

1. Example: if a 52-foot-wide right-of-way [ROW] is required for a 1,000 foot-long street and a 62-foot wide ROW with 5-foot additional plantings/meandering pathway is provided on each side of the street, the additional 10-foot-wide area x 1,000 linear feet, or 10,000 square feet, counts toward the open space requirement.

RESPONSE: The subdivision and street designs do not include boulevard treatments. This criterion is not applicable.

C. The open space shall be conveyed in accordance with one of the following methods:

1. By dedication to the City as public open space (if acceptable to the City). Open space proposed for dedication to the City must be acceptable to the City Manager or the Manager's designee with regard to the size, shape, location, improvement, environmental condition, and budgetary and maintenance abilities;

2. By leasing or conveying title (including beneficial ownership) to a corporation, homeowners' association or other legal entity, with the City retaining the development rights to the open space. The terms of such lease or other instrument of conveyance must include provisions (e.g., maintenance, property tax payment, etc.) suitable to the City.

RESPONSE: In accordance with 2. above, the open space areas and other tracts, including Tracts B, D, and H are anticipated to be conveyed to a future homeowner's association per C.2. above. However, if requested by the City or other appropriate jurisdictional district, the open spaces could potentially be publicly dedicated. Therefore, this criterion can be met.

D. The density of a single-family residential subdivision shall be calculated based on the net buildable site prior to exclusion of open space per this Section.

1. Example: a 40,000 square foot net buildable site would be required to maintain 2,000 square feet (5%) of open space but would calculate density based on 40,000 square feet.

RESPONSE: The density of the proposed subdivision was calculated using the net buildable site area, prior to the removal of the 18.7% open space provided. This criterion is met.

E. If a proposed residential subdivision contains or is adjacent to a site identified as "parks" on the Acquisition Map of the Parks Master Plan (2006) or has been identified for acquisition by the Sherwood Parks and Recreation Board, establishment of open space shall occur in the designated areas if the subdivision contains the park site, or immediately adjacent to the parks site if the subdivision is adjacent to it.

RESPONSE: The Brookman Addition Concept Plan does not identify a park site within or immediately adjacent to the development site. This criterion can be met.

F. If the proposed residential subdivision does not contain or is not adjacent to a site identified on the Parks Master Plan map or otherwise identified for acquisition by the Parks and Recreation Board, the applicant may elect to convey off-site park/open space.

G. This standard does not apply to a residential partition provided that a development may not use phasing or series partitions to avoid the minimum open space requirement. A partition of land that was part of an approved partition within the previous five (5) years shall be required to provide the minimum five percent (5%) open space in accordance with subsection (A) above.

RESPONSE: The applicant has not elected to convey off site park/open space. However, it is noted that if requested by the City or other appropriate jurisdictional district, the open spaces within the development could potentially be publicly dedicated. The above criteria do not apply.

H. The value of the open space conveyed under Subsection (A) above may be eligible for Parks System Development Charges (SDCs) credits based on the methodology identified in the most current Parks and Recreation System Development Charges Methodology Report.

RESPONSE: Eligibility for System Development Charges (SDCs) credits will be assessed if and when open space is conveyed, using the methodology identified in the most current Parks and Recreation System Development Charges Methodology Report. The criterion can be met as applicable.

16.142.040 - Visual Corridors

A. Corridors Required

New developments located outside of the Old Town Overlay with frontage on Highway 99W, or arterial or collector streets designated on Figure 8-1 of the Transportation System Plan shall be required to establish a landscaped visual corridor according to the following standards:

Highway 99W: 25 feet
Arterial: 15 feet
Collector: 10 feet

In residential developments where fences are typically desired adjoining the above described major street the corridor may be placed in the road right-of-way between the property line and the sidewalk. In all other developments, the visual corridor shall be on private property adjacent to the right-of-way.

B. Landscape Materials

The required visual corridor areas shall be planted as specified by the review authority to provide a continuous visual and/or acoustical buffer between major streets and developed uses. Except as provided for above, fences and walls shall not be substituted for landscaping within the visual corridor. Uniformly planted, drought resistant street trees and ground cover, as specified in Section 16.142.060, shall be planted in the corridor by the developer. The improvements shall be included in the compliance agreement. In no case shall trees be removed from the required visual corridor.

C. Establishment and Maintenance

Designated visual corridors shall be established as a portion of landscaping requirements pursuant to Chapter 16.92. To assure continuous maintenance of the visual corridors, the review authority may require that the development rights to the corridor areas be dedicated to the City or that restrictive covenants be recorded prior to the issuance of a building permit.

D. Required Yard

Visual corridors may be established in required yards, except that where the required visual corridor width exceeds the required yard width, the visual corridor requirement shall take precedence. In no

case shall buildings be sited within the required visual corridor, with the exception of front porches on townhomes, as permitted in Section 16.44.010(E)(4)(c).

E. Pacific Highway 99W Visual Corridor

1. Provide a landscape plan for the highway median paralleling the subject frontage. In order to assure continuity, appropriate plant materials and spacing, the plan shall be coordinated with the City Planning Department and ODOT.

2.Provide a visual corridor landscape plan with a variety of trees and shrubs. Fifty percent (50%) of the visual corridor plant materials shall consist of groupings of at least five (5) native evergreen trees a minimum of ten (10) feet in height each, spaced no less than fifty (50) feet apart, if feasible. Deciduous trees shall be a minimum of four (4) inches DBH and twelve (12) feet high, spaced no less than twenty-five (25) feet apart, if feasible.

RESPONSE: SW Brookman Road is classified as an arterial street; therefore a 15-foot landscaped visual corridor is required. As shown on the preliminary plat, a 15-foot-wide visual corridor is provided along the SW Brookman Road frontage, except where Tracts B and D (containing Cedar Creek and associated flood plain and riparian areas) intersects the SW Brookman Road right-of-way. These visual corridors are identified as Tracts F and E on the Preliminary Plat, as opposed to being provided within required yards, and are proposed to be landscaped in accordance with the requirements of this section. Therefore, this criterion is met.

16.142.050 - Park Reservation

Areas designated on the Natural Resources and Recreation Plan Map, in Chapter 5 of the Community Development Plan, which have not been dedicated pursuant to Section 16.142.030 or 16.134.020, may be required to be reserved upon the recommendation of the City Parks Board, for purchase by the City within a period of time not to exceed three (3) years.

RESPONSE: The Community Development Plan does not include the Brookman Addition area. However, the site is located within the adopted Brookman Addition Concept Plan Area which illustrates the conceptual location of natural resource areas. If requested by the City or other appropriate jurisdictional district, the open spaces within the development could however potentially be publicly dedicated or purchased. The criterion can be met.

16.142.060 - Street Trees

A. Installation of Street Trees on New or Redeveloped Property.

Trees are required to be planted to the following specifications along public streets abutting or within any new development or re-development. Planting of such trees shall be a condition of development approval. The City shall be subject to the same standards for any developments involving City-owned property, or when constructing or reconstructing City streets. After installing street trees, the property owner shall be responsible for maintaining the street trees on the owner's property or within the right-of-way adjacent to the owner's property.

1. *Location: Trees shall be planted within the planter strip along a newly created or improved streets. In the event that a planter strip is not required or available, the trees shall be planted on private property within the front yard setback area or within public street right-of-way between front property lines and street curb lines or as required by the City.*

2. *Size: Trees shall have a minimum trunk diameter of two (2) caliper inches, which is measured six inches above the soil line, and a minimum height of six (6) feet when planted.*

3. *Types: Developments shall include a variety of street trees. The trees planted shall be chosen from those listed in 16.142.080 of this Code.*

4. *Required Street Trees and Spacing:*

    a. *The minimum spacing is based on the maximum canopy spread identified in the recommended street tree list in section 16.142.080 with the intent of providing a continuous canopy without openings between the trees. For example, if a tree has a canopy of forty (40) feet, the spacing between trees is forty (40) feet. If the tree is not on the list, the mature canopy width must be provided to the planning department by a certified arborist.*
    b. *All new developments shall provide adequate tree planting along all public streets. The number and spacing of trees shall be determined based on the type of tree and the spacing standards described in a. above and considering driveways, street light locations and utility connections. Unless exempt per c. below, trees shall not be spaced more than forty (40) feet apart in any development.*

c. A new development may exceed the forty-foot spacing requirement under section b. above, under the following circumstances:

(1) Installing the tree would interfere with existing utility lines and no substitute tree is appropriate for the site; or
(2) There is not adequate space in which to plant a street tree due to driveway or street light locations, vision clearance or utility connections, provided the driveways, street light or utilities could not be reasonably located elsewhere so as to accommodate adequate room for street trees; and
(3) The street trees are spaced as close as possible given the site limitations in (1) and (2) above.
(4) The location of street trees in an ODOT or Washington County right-of-way may require approval, respectively, by ODOT or Washington County and are subject to the relevant state or county standards.
(5) For arterial and collector streets, the City may require planted medians in lieu of paved twelve foot wide center turning lanes, planted with trees to the specifications of this subsection.

RESPONSE: The Preliminary Street Tree and Open Space Planting Plan (Sheet L1) of the submitted plan set shows the location, spacing, and species of street trees proposed within the development. The Preliminary Street Tree and Open Space Planting Plan demonstrates compliance with the above requirements. Accordingly, these criteria are met.

B. Removal and Replacement of Street Trees.

The removal of a street tree shall be limited and in most cases, necessitated by the tree. A person may remove a street tree as provided in this section. The person removing the tree is responsible for all costs of removal and replacement. Street trees less than five (5) inches DBH can be removed by right by the property owner or his or her assigns, provided that they are replaced. A street tree that is removed must be replaced within six (6) months of the removal date.

1. Criteria for All Street Tree Removal for trees over five (5) inches DBH. No street tree shall be removed unless it can be found that the tree is:

a. *Dying, becoming severely diseased, or infested or diseased so as to threaten the health of other trees, or*
b. *Obstructing public ways or sight distance so as to cause a safety hazard, or*
c. *Interfering with or damaging public or private utilities, or*

d. *Defined as a nuisance per City nuisance abatement ordinances.*

2. *Street trees between five (5) and ten (10) inches DBH may be removed if any of the criteria in 1. above are met and a tree removal permit is obtained.*

   a. The Tree Removal Permit Process is a Type I land use decision and shall be approved subject to the following criteria:

   (1) The person requesting removal shall submit a Tree Removal Permit application that identifies the location of the tree, the type of tree to be removed, the proposed replacement and how it qualifies for removal per Section 1. above.
   (2) The person shall post a sign, provided by the City, adjacent to the tree for ten (10) calendar days prior to removal that provides notice of the removal application and the process to comment on the application.
   (3) If an objection to the removal is submitted by the City or to the City during the ten (10) calendar day period, an additional evaluation of the tree will be conducted by an arborist to determine whether the tree meets the criteria for street tree removal in Section 1. above. The person requesting the Tree Removal Permit shall be responsible for providing the arborist report and associated costs.
   (4) Upon completion of the additional evaluation substantiating that the tree warrants removal per Section 1. above or if no objections are received within the ten-day period, the tree removal permit shall be approved.
   (5) If additional evaluation indicates the tree does not warrant removal, the Tree Removal Permit will be denied.

3. *Street trees over ten (10) inches DBH may be removed through a Type I review process subject to the following criteria.*

   a. The applicant shall provide a letter from a certified arborist identifying:

   (1) The tree's condition,
   (2) How it warrants removal using the criteria listed in Section 1. above, and identifying any reasonable actions that could be taken to allow the retention of the tree.

   b. The applicant shall provide a statement that describes whether and how the applicant sought assistance from

the City, HOA or neighbors to address any issues or actions that would enable the tree to be retained.

c. The person shall post a sign, provided by the City, adjacent to the tree for ten (10) calendar days prior to removal that provides notice of the removal application and the process to comment on the application.

d. Review of the materials and comments from the public confirm that the tree meets the criteria for removal in Section 1. above.

RESPONSE: The application does not include the removal of existing street trees. The above criteria are not applicable. However, it is noted that future homeowners will be subject to the requirements of this section.

C. Homeowner's Association Authorization.

The Planning Commission may approve a program for the adoption, administration and enforcement by a homeowners' association (HOA) of regulations for the removal and replacement of street trees within the geographic boundaries of the association.

1. An HOA that seeks to adopt and administer a street tree program must submit an application to the City. The application must contain substantially the following information:

a. The HOA must be current and active. The HOA should meet at least quarterly and the application should include the minutes from official HOA Board meetings for a period not less than eighteen (18) months (six (6) quarters) prior to the date of the application.

b. The application must include proposed spacing standards for street trees that are substantially similar to the spacing standards set forth in 16.142.060.A above.

c. The application must include proposed street tree removal and replacement standards that are substantially similar to the standards set forth in 16.142.060.B above.

d. The application should include a copy of the HOA bylaws as amended to allow the HOA to exercise authority over street tree removal and replacement, or demonstrate that such an amendment is likely within ninety (90) days of a decision to approve the application.

e. The application should include the signatures of not less than seventy-five (75) percent of the homeowners in the HOA in support of the application.

2. An application for approval of a tree removal and replacement program under this section shall be reviewed by

the City through the Type IV land use process. In order to approve the program, the City must determine:

a. The HOA is current and active.
b. The proposed street tree removal and replacement standards are substantially similar to the standards set forth in 16.142.060.B above.
c. The proposed street tree spacing standards are substantially similar to the standards set forth in 16.142.060.A above.
d. The HOA has authority under its bylaws to adopt, administer and enforce the program.
e. The signatures of not less than seventy-five (75) percent of the homeowners in the HOA in support of the application.

3. A decision to approve an application under this section shall include at least the following conditions:

a. Beginning on the first January 1 following approval and on January 1 every two (2) years thereafter, the HOA shall make a report to the city planning department that provides a summary and description of action taken by the HOA under the approved program. Failure to timely submit the report that is not cured within sixty (60) days shall result in the immediate termination of the program.

b. The HOA shall comply with the requirements of Section 12.20 of the Sherwood Municipal Code.

4. The City retains the right to cancel the approved program at any time for failure to substantially comply with the approved standards or otherwise comply with the conditions of approval.

a. If an HOA tree removal program is canceled, future tree removals shall be subject to the provisions of section 16.142.060.
b. A decision by the City to terminate an approved street tree program shall not affect the validity of any decisions made by the HOA under the approved program that become final prior to the date the program is terminated.
c. If the city amends the spacing standards or the removal and replacement standards in this section (SZCDC 16.142.060) the City may require that the HOA amend the corresponding standards in the approved street tree program.

5. An approved HOA tree removal and replacement program shall be valid for five (5) years; however the authorization

may be extended as approved by the City, through a Type II Land Use Review.

RESPONSE: No street trees are proposed for removal as part of this development. In the future, a tree removal and replacement program managed by a homeowners' association (HOA), may be desirable, but it is not part of this application. The street trees are planned to be in public rights-of-way and by law become the responsibility of the future abutting property owner to maintain, unless another legal entity such as a HOA assumes responsibility. These criteria do not apply to this application.

D. Exemption from Replacing Street Trees.

A street tree that was planted in compliance with the Code in effect on the date planted and no longer required by spacing standards of section A.4. above may be removed without replacement provided:

1. *Exemption is granted at the time of street tree removal permit or authorized homeowner's association removal per Section 16.142.060.C. above.*

2. *The property owner provides a letter from a certified arborist stating that the tree must be removed due to a reason identified in the tree removal criteria listed in Section 16.142.060.B.1. above, and*

3. *The letter describes why the tree cannot be replaced without causing continued or additional damage to public or private utilities that could not be prevented through reasonable maintenance.*

E. Notwithstanding any other provision in this section, the city manager or the manager's designee may authorize the removal of a street tree in an emergency situation without a tree removal permit when the tree poses an immediate threat to life, property or utilities. A decision to remove a street tree under this section is subject to review only as provided in ORS 34.100.

F. Trees on Private Property Causing Damage.

Any tree, woodland or any other vegetation located on private property, regardless of species or size, that interferes with or damages public streets or utilities, or causes an unwarranted increase in the maintenance costs of same, may be ordered removed or cut by the City Manager or his or her designee. Any order for the removal or cutting of such trees, woodlands or other vegetation, shall be made and reviewed under the applicable City nuisance abatement ordinances.

G. Penalties. The abuse, destruction, defacing, cutting, removal, mutilation or other misuse of any tree planted on public property or along a public street as per this Section, shall be subject to the penalties defined by Section 16.02.040, and other penalties defined by applicable ordinances and statutes, provided that each tree so abused shall be deemed a separate offense.

RESPONSE: As a greenfield site, this development application does not include the removal of street trees, as none currently exist. The Applicant is aware of the penalty for illegal abuse, destruction, or removal of street trees. The criteria, as applicable, are met.

16.142.070 - Trees on Property Subject to Certain Land Use Applications

A. Generally

The purpose of this Section is to establish processes and standards which will minimize cutting or destruction of trees and woodlands within the City. This Section is intended to help protect the scenic beauty of the City; to retain a livable environment through the beneficial effect of trees on air pollution, heat and glare, sound, water quality, and surface water and erosion control; to encourage the retention and planting of tree species native to the Willamette Valley and Western Oregon; to provide an attractive visual contrast to the urban environment, and to sustain a wide variety and distribution of viable trees and woodlands in the community over time.

B. Applicability

All applications including a Type II - IV land use review, shall be required to preserve trees or woodlands, as defined by this Section to the maximum extent feasible within the context of the proposed land use plan and relative to other codes, policies, and standards of the City Comprehensive Plan.

RESPONSE: The proposed subdivision is being reviewed through a Type IV land use review procedure. As such, the criteria of this section apply.

C. Inventory

1. To assist the City in making its determinations on the retention of trees and woodlands, land use applications including Type II - IV development shall include a tree and woodland inventory and report. The report shall be prepared by a qualified professional and must contain the following information:

a. Tree size (in DBH and canopy area)

b. Tree species
c. The condition of the tree with notes as applicable explaining the assessment
d. The location of the tree on the site
e. The location of the tree relative to the planned improvements
f. Assessment of whether the tree must be removed to accommodate the development
g. Recommendations on measures that must be taken to preserve trees during the construction that are not proposed to be removed.

2. In addition to the general requirements of this Section, the tree and woodland inventory's mapping and report shall also include, but is not limited to, the specific information outlined in the appropriate land use application materials packet.

3. Definitions for the inventory purposes of this Section

a. A tree is a living woody plant having a trunk diameter as specified below at Diameter at Breast Height (DBH). Trees planted for commercial agricultural purposes, and/or those subject to farm forest deferral, such as nut and fruit orchards and Christmas tree farms, are excluded from this definition and from regulation under this Section, as are any living woody plants under six (6) inches at DBH. All trees six (6) inches or greater shall be inventoried.
b. A woodland is a biological community dominated by trees covering a land area of 20,000 square feet or greater at a density of at least fifty (50) trees per every 20,000 square feet with at least fifty percent (50%) of those trees of any species having a six (6) inches or greater at DBH. Woodlands planted for commercial agricultural purposes and/or subject to farm forest deferral, such as nut and fruit orchards and Christmas tree farms, are excluded from this definition, and from regulation under this Section.
c. A large stature tree is over 20 feet tall and wide with a minimum trunk diameter of 30 inches at DBH.

RESPONSE: The applicant has submitted an Arborist Report, including a tree inventory, prepared by Teragan & Associates, dated January 21, 2022, with this application. As described in the Arborist Report, in August and September 2021 Teragan completed the inventory of existing trees at the project site. The surveyed trees were individually evaluated in terms of common name, scientific name, trunk diameter (DBH), crown radius, crown area (canopy), health condition, structural condition, pertinent comments, whether the tree is offsite, treatment recommendations (remove or retain), and whether the tree is a retained tree that is outside environmentally constrained lands. Using the criteria described above and the locations of the

trees relative to grading, paving, construction, and other site improvements as shown in the included plans, of the 1,579 trees on site, 838 trees are recommended for retention and 702 trees are recommended for removal. These criteria, as applicable, are met.

D. Retention requirements

1. Trees may be considered for removal to accommodate the development including buildings, parking, walkways, grading etc., provided the development satisfies of D.2 or D.3, below.

RESPONSE: As shown on the Existing Conditions and Demolition Plan (Sheets P4.0 and P4.1) and Tree Preservation and Removal Plans (Sheets P2.2 and P2.3), and within the Arborist Report, there are 1,579 trees located on the subject site. Of these, 702 trees (approximately 44.5%) are slated for removal, meaning 55.5% of existing trees on site will be retained.

As is typical with greenfield developments, removal of trees is necessary to accommodate the required site improvements, including utility installation, earthwork, and grading necessary for street construction, proper drainage, and future home construction. It is noted, however, that Pioneer Design Group and Teragan & Associates consulted on recommended adjustments, in particular regarding the provision of open space on site, which resulted in significantly reduced tree impacts and better tree protection. Section D.2 is satisfied. Therefore, this criterion is met.

2. Required Tree Canopy - Residential Developments (Single Family Attached, Single Family Detached and Two - Family)

Each net development site shall provide a variety of trees to achieve a minimum total tree canopy of 40 percent. The canopy percentage is based on the expected mature canopy of each tree by using the equation πr 2 to calculate the expected square footage of canopy for each tree. The expected mature canopy is counted for each tree regardless of an overlap of multiple tree canopies.

The canopy requirement can be achieved by retaining existing trees or planting new trees. Required street trees can be used toward the total on site canopy required to meet this standard. The expected mature canopy spread of the new trees will be counted toward the needed canopy cover. A certified arborist or other qualified professional shall provide the estimated tree canopy of the proposed trees to the planning department for review.

RESPONSE: The Preliminary Tree Preservation and Removal Plan (Sheets P2.2 and P2.3) and Preliminary Street Tree and Open Space Planting Plan (L1), in combination with the submitted Arborist Report, detail the required compliance with this section. The minimum canopy requirement for residential development is 40%. With a net developable area of 291,266 square feet, 116,506 square feet of canopy cover is required.

The canopy area for each of the 83 retained trees outside of environmentally constrained areas is provided in the tree inventory in Attachment 2 of the provided Arborist Report. Their total combined canopy area is 60,812 square feet. Since retained trees receive double canopy credit, the credit from preservation of the trees is 121,624 square feet. This represents 41.75% of the net buildable area, and alone exceeds the tree canopy requirement of this Section.

In addition to retained trees, however, Pioneer Design Group's Registered Landscape Architect has developed a proposed planting plan for new trees on-site. Sheet L2 provides the canopy credit calculation for 35 proposed street and open space trees, which totals 43,960 square feet of new canopy. Therefore, the application further exceeds the minimum required tree canopy by an additional 15.09% (43,960 planted / 291,266 = 15.09%). Numerous other trees are also proposed for planting within the storm water facility.

Accordingly, the total calculated tree canopy for the site is 165,584 square feet, or 56.85% (121,624 retained + 43,960 planted = 165,584 / 291,266 = 56.85%). This greatly exceeds the required minimum tree canopy of 40%, and represents an additional 43,960 square feet (just over 1 acre) of tree canopy on the site.

The trees to be retained will be adequately protected by adhering to the recommendations in the submitted Tree Plan. Any change to the tree protection plan will be approved by the project arborist to ensure that the trees to be retained are adequately protected. This criterion is met.

3. *Required Tree Canopy - Non-Residential and Multi-family Developments*

   Each net development site shall provide a variety of trees to achieve a minimum total tree canopy of 30 percent. The canopy percentage is based on the expected mature canopy of each tree by using the equation πr^2 to calculate the expected square footage of each tree. The expected mature canopy is counted for each tree even if there is an overlap of multiple tree canopies.

   The canopy requirement can be achieved by retaining existing trees or planting new trees. Required landscaping trees can be used toward the total on site canopy required to meet this standard. The expected mature canopy spread of the new trees will be counted toward the required canopy cover. A certified arborist or other qualified professional shall provide an estimated tree canopy for all proposed trees to the planning department for review as a part of the land use review process.

RESPONSE: This application involves the creation of a 41-Lot residential subdivision for future detached single-family homes. The criteria of D.3. above do not apply.

4. *The City may determine that, regardless of D.1 through D.3, that certain trees or woodlands may be required to be*

retained. The basis for such a decision shall include; specific findings that retention of said trees or woodlands furthers the purposes and goals of this Section, is feasible and practical both within the context of the proposed land use plan and relative to other policies and standards of the City Comprehensive Plan, and are:

a. Within a Significant Natural Area, 100-year floodplain, City greenway, jurisdictional wetland or other existing or future public park or natural area designated by the City Comprehensive Plan, or

RESPONSE: The site includes jurisdictional wetlands, flood plain, vegetated corridor, and additional natural open space areas to be retained. The trees within these areas are planned to be protected and retained within Tracts, with minimal disturbance to these resource areas proposed. Land within Tracts B, D, H, and I comprise approximately 61% of the gross site area. The retention of trees outside of these areas would require additional developable land area to remain undeveloped in excess of the 60%, at which point it is considered that the impact of development of less than 40% of the site (approximately 27% when considering net developable area outside of open space areas) would not be proportional to the impact of the development. Further, it is noted that total tree canopy provided is equal to 56.85% of the net developable area. This already represents 16.85% of additional tree canopy proposed over the 40% requirement, or an additional 43,960 square feet of tree canopy.

Public comments at the neighborhood meeting requested elimination of the lots adjacent to SW Redfern Drive (Lots 40 and 41), and the applicant has responded to these and staff comments by eliminating Lot 42 from this area. However, with the exception of a small portion of driveway crossing, the vast majority of this area is outside of Significant Natural Areas, 100-year floodplain, City greenway, jurisdictional wetland or other existing or future public park or natural area designated by the City Comprehensive Plan, and is designated as MDRL developable land. As such, no additional tree retention is appropriate under the requirements of this Section. It is also noted that by eliminating Lot 42, the applicant has already retained approximately 25 additional trees on the site.

b. A landscape or natural feature as per applicable policies of the City Comprehensive Plan, or are necessary to keep other identified trees or woodlands on or near the site from being damaged or destroyed due to windfall, erosion, disease or other natural processes, or

RESPONSE: The site includes the Cedar Creek wetlands, flood plain, and vegetated corridor areas as well as two unnamed tributaries containing wetlands and vegetated corridor areas. The trees within these areas are planned to be protected and retained within Tracts B, D, H, and I, as described above. All tree removal has been reviewed by the site Arborist, and tree removal will be undertaken in accordance with the applicable recommendations in the submitted Tree Plan. No additional tree retention is appropriate under the requirements of this Section.

c. Necessary for soil stability and the control of erosion, for managing and preserving surface or groundwater quantities or quality, or for the maintenance of a natural drainageway, as per Clean Water Services stormwater management plans and standards of the City Comprehensive Plan, or

RESPONSE: The application meets all CWS requirements for preserving surface water quality, and for protecting and maintaining the natural drainageway of Cedar Creek. In doing so, the application also complies with the standards of the comprehensive plan. A site Development Permit will be obtained from CWS prior to commencing work on the site, which along with the issued SPL for the site, demonstrates compliance with this section.

d. Necessary in required buffers between otherwise incompatible land uses, or from natural areas, wetlands and greenways, or

RESPONSE: The abutting properties are proposed to include compatible residential uses with low to medium density residential zoning designations, as contained within the Brookman Area Concept Plan. Natural areas, wetlands and greenways associated with Cedar Creek have been provided buffers/vegetated corridors, and preserved within Tracts B, D, H, and I. Therefore, no additional tree retention is appropriate under the requirements of this Section.

e. Otherwise merit retention because of unusual size, size of the tree stand, historic association or species type, habitat or wildlife preservation considerations, or some combination thereof, as determined by the City.

RESPONSE: The proposed subdivision preserves a substantially large area of open space along the Cedar Creek riparian corridor, including flood plain, wetland, vegetated corridor, open space along two unnamed tributaries to Cedar Creek and their associated wetlands and Vegetated Corridor and additional upland areas. The result is the preservation of a significant tree stand through the center of the site, preserved within Tracts B and D. Tract H preserves Vegetated Corridor areas adjacent to offsite wetlands on its southern boundary, as does Tract I depending on the final neighborhood park design. There are no known historic associations or species located on the site. Wildlife habitat preservation is also provided through the preservation of natural areas within Tracts B, D, H, and I. No additional tree retention is appropriate under the requirements of this Section.

5. Tree retention requirements for properties located within the Old Town Overlay or projects subject to the infill standards of Chapter 16.68 are only subject to retention requirements identified in D.4. above.

RESPONSE: The subject site is not within the Old Town Overlay and is not subject to the infill standards of Chapter 16.68. This criterion is not applicable.

6. The Notice of Decision issued for the land use applications subject to this Section shall indicate which trees and

woodlands will be retained as per subsection D of this Section, which may be removed or shall be retained as per subsection D of this Section and any limitations or conditions attached thereto.

RESPONSE: The applicant acknowledges that the Notice of Decision for the project will indicate which trees and woodlands will be retained as per subsection D, which may be removed or shall be retained as per subsection D of this Section and any limitations or conditions attached thereto. Based on the written responses above, the applicant expects tree retention or removal will be consistent with the submitted Tree Plan, as no basis for any additional tree retention is warranted or required by this Code.

7. *All trees, woodlands, and vegetation located on any private property accepted for dedication to the City for public parks and open space, greenways, Significant Natural Areas, wetlands, floodplains, or for storm water management or for other purposes, as a condition of a land use approval, shall be retained outright, irrespective of size, species, condition or other factors. Removal of any such trees, woodlands, and vegetation prior to actual dedication of the property to the City shall be cause for reconsideration of the land use plan approval.*

RESPONSE: All trees described in the criterion of this section, not effected by the installation of approved features such as trails and utilities, will be preserved in their entirety.

E. Tree Preservation Incentive

Retention of existing native trees on site which are in good health can be used to achieve the required mature canopy requirement of the development. The expected mature canopy can be calculated twice for existing trees. For example, if one existing tree with an expected mature canopy of 10 feet (78.5 square feet) is retained it will count as twice the existing canopy (157 square feet).

F. Additional Preservation Incentives

1. *General Provisions. To assist in the preservation of trees, the City may apply one or more of the following flexible standards as part of the land use review approval. To the extent that the standards in this section conflict with the standards in other sections of this Title, the standards in this section shall apply except in cases where the City determines there would be an unreasonable risk to public health, safety, or welfare. Flexibility shall be requested by the applicant with justification provided within the tree preservation and protection report as part of the land use review process and is only applicable to trees that are eligible for credit towards the effective tree canopy cover of*

the site. A separate adjustment application as outlined in Section 16.84.030.A is not required.

2. *Flexible Development Standards. The following flexible standards are available to applicants in order to preserve trees on a development site. These standards cannot be combined with any other reductions authorized by this code.*

   a. *Lot size averaging. To preserve existing trees in the development plan for any Land Division under Division VII, lot size may be averaged to allow lots less than the minimum lot size required in the underlying zone as long as the average lot area is not less than that allowed by the underlying zone. No lot area shall be less than 80 percent of the minimum lot size allowed in the zone;*
   b. *Setbacks. The following setback reductions will be allowed for lots preserving existing trees using the criteria in subsection (1) below. The following reductions shall be limited to the minimum reduction necessary to protect the tree.*

   (1) Reductions allowed:

      (a.) Front yard - up to a 25 percent reduction of the dimensional standard for a front yard setback required in the base zone. Setback of garages may not be reduced by this provision.
      (b.) Interior setbacks - up to a 40 percent reduction of the dimensional standards for an interior side and/or rear yard setback required in the base zone.
      (c.) Perimeter side and rear yard setbacks shall not be reduced through this provision.

   c. *Approval criteria:*

      (1.) A demonstration that the reduction requested is the least required to preserve trees; and
      (2.) The reduction will result in the preservation of tree canopy on the lot with the modified setbacks; and
      (3.) The reduction will not impede adequate emergency access to the site and structure.

3. *Sidewalks. Location of a public sidewalk may be flexible in order to preserve existing trees or to plant new large stature street trees. This flexibility may be accomplished through a curb-tight sidewalk or a meandering public sidewalk easement recorded over private property and shall be reviewed on a case by case basis in accordance with the*

provisions of the Engineering Design Manual, Street and Utility Improvement Standards. For preservation, this flexibility shall be the minimum required to achieve the desired effect. For planting, preference shall be given to retaining the planter strip and separation between the curb and sidewalk wherever practicable. If a preserved tree is to be utilized as a street tree, it must meet the criteria found in the Street Tree section, 16.142.060.

4. *Adjustments to Commercial and Industrial development Standards. Adjustments to Commercial or Industrial Development standards of up to 20 feet additional building height are permitted provided;*

    a. *At least 50% of a Significant Tree stand's of canopy within a development site (and not also within the sensitive lands or areas that areas dedicated to the City) is preserved;*
    b. *The project arborist or qualified professional certifies the preservation is such that the connectivity and viability of the remaining significant tree stand is maximized;*
    c. *Applicable buffering and screening requirements are met;*
    d. *Any height adjustments comply with state building codes;*
    e. *Significant tree stands are protected through an instrument or action subject to approval by the City Manager or the City manager's designee that demonstrates it will be permanently preserved and managed as such;*

        (1.) A conservation easement;
        (2.) An open space tract;
        (3.) A deed restriction; or
        (4.) Through dedication and acceptance by the City.

RESPONSE: The Applicant is not pursuing the Tree Preservation Incentive to qualify for the use of lot averaging within the development.

G. Tree Protection During Development

The applicant shall prepare and submit a final Tree and Woodland Plan prior to issuance of any construction permits, illustrating how identified trees and woodlands will be retained, removed or protected as per the Notice of Decision. Such plan shall specify how trees and woodlands will be protected from damage or destruction by construction activities, including protective fencing, selective pruning and root treatments, excavation techniques, temporary drainage systems, and like methods. At a minimum, trees to be protected shall have the area within the drip line of the tree protected from grading, stockpiling, and all other construction

related activity unless specifically reviewed and recommended by a certified arborist or other qualified professional. Any work within the dripline of the tree shall be supervised by the project arborist or other qualified professional onsite during construction.

RESPONSE: The applicant has submitted an updated Preliminary Tree Plan including tree protection recommendations, prepared by Teragan & Associates, Inc. dated May 10, 2022, with this application, meeting the requirements of this section. Final plans will be submitted prior to issuance of any construction permits for the site. This criterion is met.

H. Penalties

Violations of this Section shall be subject to the penalties defined by Section 16.02.040, provided that each designated tree or woodland unlawfully removed or cut shall be deemed a separate offense.

RESPONSE: The applicant recognizes the penalty for the unlawful removal of trees protected by this ordinance.

Chapter 16.144 - WETLAND, HABITAT AND NATURAL AREAS

16.144.010 - Generally

Unless otherwise permitted, residential, commercial, industrial, and institutional uses in the City shall comply with the following wetland, habitat and natural area standards if applicable to the site as identified on the City's Wetland Inventory, the Comprehensive Plan Natural Resource Inventory, the Regionally Significant Fish and Wildlife Habitat Area map adopted by Metro, and by reference into this Code and the Comprehensive Plan. Where the applicability of a standard overlaps, the more stringent regulation shall apply.

RESPONSE: The Applicant's Site Assessment and supplemental memorandum, prepared by Environmental Science and Assessment (ESA) and submitted with this application, identifies and describes those significant resources located within the boundaries and within 50 feet of the site, as described below.

16.144.020 - Standards

A. The applicant shall identify and describe the significance and functional value of wetlands on the site and protect those wetlands from adverse effects of the development. A facility complies with this standard if it complies with the criteria of subsections A.1.a and A.1.b, below:

1. The facility will not reduce the area of wetlands on the site, and development will be separated from such wetlands by an area determined by the Clean Water Services Design and Construction Standards R&O 00-7 or its replacement

provided Section 16.140.090 does not require more than the requested setback.

a. A natural condition such as topography, soil, vegetation or other feature isolates the area of development from the wetland.

RESPONSE: As described in the Cedar Creek Gardens Site Assessment submitted with this application, ESA have identified Sensitive Area (SA) onsite to include a large wetland complex associated with the Cedar Creek floodplain, which is connected via an intermittent drainage to a second wetland area in the southeast site corner and to two unnamed tributaries: one flowing through the southwest site corner before the confluence with Cedar Creek near the western boundary, and one flowing through the northeast site corner to a confluence with Cedar Creek at the northern site boundary. Onsite SA totals 278,813 square feet (6.4 AC) and continues offsite to both the east and north.

The Cedar Creek floodplain wetlands and stream (242,722 SF/5.6 AC) extends south to north through the site. The Cedar Creek channel ranges from 15 to 20 feet wide at the Ordinary High-Water Line (OHWL) and flows perennially in a meandering path through a broad floodplain. The wetlands bordering both creek banks are Palustrine Emergent (PEM), Palustrine Scrub Shrub (PSS), and Palustrine Forested (PFO). Cedar Creek is mapped as coastal cutthroat (Oncorhynchus clarki clarki) and potential pacific lamprey (Entosphenus tridentatus) habitat (DSL).

Headwaters of Cedar Creek originate within the southern ridge of the Chehalem Mountains, mostly from the steep slopes and ravines of Parrett Mountain to the south. The Cedar Creek drainage basin moves through the upper two-thirds of the basin through steeper topography and generally slow down as they enter the lower one-third of this basin in the segment flowing through site, north of SW Brookman Road. While further east, the floodplain includes upland and riparian areas, onsite portions of the Cedar Creek floodplain are almost entirely wetlands.

The vegetative community within the Cedar Creek floodplain is characterized by dense thickets of red-osier dogwood, ninebark, and gooseberry under a canopy of Oregon ash. Slough sedge is present throughout.

The wetland mapping and site assessment prepared for the CWS sanitary trunk line (SPL 19-001036) details the Cedar Creek channel due west of the site, showing how the floodplain transitions from a mixed upland wetland community into mostly wetland area.

Wetland A (35,283 SF/0.81 AC) is a PFO seasonally flooded wetland located in a relatively flat area within the southeast site corner. Source hydrology is primarily from surface runoff entering the wetland from a culvert under SW Brookman Road, and secondarily from direct precipitation and high seasonal groundwater.

The Wetland A plant community is a canopy of Oregon ash and red alder, with a dense understory of ninebark, red elderberry, and swamp rose (Rosa pisocarpa). The herbaceous stratum is slough sedge, stinging nettle, hedge nettle, lady fern, water parsley, and piggyback plant (Tolmiea menziesii).

This wetland extends offsite to the east, and surface flow from the wetland flows intermittently to the north reaching the Cedar Creek floodplain.

Wetland B (808 SF) is just a small portion of a larger wetland to the south and is associated with a drainage flowing from a culvert under SW Brookman Road to the east. Flow from the culvert creates an intermittent drainage about one to two feet wide with wetland areas flanking it to the north and south in broad, flat areas. The intermittent drainage is wholly offsite and flows into the Northeast Cedar Creek Tributary approximately 150-feet to the south.

The intermittent drainage extending north from wetland A is generally within a 12-footwide swale with a dense layer of duff. Water flows seasonally through this swale in various shallow channels in the duff but does not appear to flow with enough velocity or volume at any point to form a well-defined channel into the soil substrate, except in a few areas where the wider swale flows into a steeper gradient nearest to the Cedar Creek floodplain.

Near the north-central portion of the intermittent drainage, much of the flow enters a subsurface channel, emerging approximately 60-feet to the north into a seasonal spring. From the spring, flow continues in the broad swale as an intermittent drainage until reaching the Cedar Creek floodplain.

The intermittent Southwest Cedar Creek Tributary identified in the Assessment Report originates onsite at a culvert under SW Brookman Road at the southwest site corner and flows north through an incised channel, about two to three feet wide, along the western site boundary. Though flow is intermittent, wetland conditions within the channel are perennial.

An additional intermittent Northeast Cedar Creek Tributary identified in the assessment report originates at an offsite culvert under SW Brookman Road approximately 200-feet east of the southeast site corner and flows north to its onsite confluence with Cedar Creek near the northeast site corner. The tributary flows onsite for only approximately 150-feet before it flows into Cedar Creek. Surrounding vegetative community is similar to that of the Cedar Creek channel and floodplain, discussed above.

The total area of Vegetated Corridor (VC) within the site is 205,186 square feet, with a portion of this area within the CWS trunk line project area in the northwest corner of the site. The VC plot data indicates most of the VC is in good condition (129,090 SF) (VC-2 to VC-5, VC-7), with some marginal area in the parts of the VC nearest to the existing home and maintained yard (33,040 square feet, VC-1 & VC-6), primarily due to a cleared understory.

The VC in the northwest site corner is described in CWS SPL19-002989, and per the terms of that SPL a portion was temporarily disturbed for installation of a sanitary sewer line (10,834 SF) with the remainder remaining in good condition (32,222 SF). Because the replanting of the VC in this area had not yet taken place at the time of submittal, the temporary impact area is considered to be in degraded condition.

Other than the marginal condition VC near the home and degraded area surrounding the sewer line, the VC is an intact remnant of riparian and upland forest, with a closed canopy of Douglas fir, Oregon ash, grand fir, and red alder. The understory is overwhelmingly native, with 50-100% cover of diverse native shrubs including red elderberry, snowberry, western beaked hazelnut, osoberry, ninebark, and many large (DBH >12") open-structure vine maple. Individual English

holly and Himalayan blackberry plants were noted throughout, but none had become dense monocultures other than in areas near the site boundaries (along SW Brookman Road and near the north site boundary nearest the existing homes). Swordfern is represented throughout the good condition VC as both dense patches and diffuse individual plants, with populations of fringe cup (Tellima grandiflora), piggyback plant, trillium (Trillium ovatum), trailing blackberry (Rubus ursinus), vanilla leaf (Achylls triphylla), and pacific waterleaf (Hydrophyllum tenuipes) throughout in the herbaceous community.

The marginal community is characterized by less than 100% canopy cover of Douglas fir and red alder, with an understory cleared of vegetation or with a dense community of Himalayan blackberry. Herbaceous community in the marginal VC is either absent with a dense duff layer dominating, or a mowed lawn community consisting mostly of bluegrass (Poa sp.), with a low, weedy community towards the edges sloping towards the Sensitive Area consisting of shining geranium (Geranium lucidum), yellow archangel (Lamiastrum galeobdolon), oxeye daisy (Leucanthemum vulgare), selfheal (Prunella vulgaris), and creeping buttercup (Ranunculus repens).

There are two short sections of wetland boundary where the slope measurements exceed 25 percent within the first 50 feet of the VC. In these locations, VC width was determined with a combination of a 15-foot offset and a 35-foot offset beyond the 25 percent break in slope line. A 25 percent break in slope line was determined based on CWS methodology (R&O 19-5 as amended by R&O 19-22) using a professional topographic survey provided by Pioneer Design Group.

Please see the submitted Assessment Report for additional information, data sheets, and figures.

b. Impact mitigation measures will be designed, implemented, and monitored to provide effective protection against harm to the wetland from sedimentation, erosion, loss of surface or ground water supply, or physical trespass.

RESPONSE: No wetland impacts will result from the subdivision development as discussed in the Site Assessment report. The future Brookman Road improvement will impact wetland and waterway along Cedar Creek and these impacts will be evaluated and mitigated by the City of Sherwood and Washington County as part of the overall future SW Brookman Road ROW improvements. It is noted that while the City of Sherwood has allowed the developer, in this case, to defer improvements and mitigation for encroachment into wetland and waters within the Cedar Creek floodplain, CWS is requiring that any potential impacts to the vegetated corridor due to the road dedication need to be accounted for at this time. The proposed subdivision project avoids all impacts to the Cedar Creek wetlands and floodplain in the middle of the site, north of the existing and proposed SW Brookman Road right-of-way. Compliance with this standard is evidenced by the CWS service provider letter issued for the development, and included with this application. This criterion is met.

c. A lesser setback complies with federal and state permits, or standards that will apply to state and federal permits, if required.

RESPONSE: As required by Conditions of Clean Water Services Sensitive Area Service Provider Letter No. 21-002919, prior to any work within the sensitive areas onsite the applicant must obtain authorization from the United States Army Corp of Engineers, and the State of Oregon Department of State Lands. The applicant will comply with all such requirements.

2. *If existing wetlands are proposed to be eliminated by the facility, the applicant shall demonstrate that the project can, and will develop or enhance an area of wetland on the site or in the same drainage basin that is at least equal to the area and functional value of wetlands eliminated.*

RESPONSE: As described in the Assessment Report prepared by ESA, the development will result in 6,567 square feet of wetland impacts, and impacts to 26,360 square feet of the 50-foot Wide VC. These impacts require a Tier 2 Alternatives Analysis under CWS district standards (CWS 3.07.4).

The proposed VC impacts (26,360 SF) will be mitigated at a 1:1.6 ratio onsite. Replacement mitigation is located throughout the site directly adjacent to existing VC area to preserve functions and values to the highest quality habitat on site. The VC mitigation will also maximize the size of natural riparian habitat in open space within the site. The crossings proposed ultimately cut through the contiguous corridor of habitat along the eastern site boundary, but these VC impact areas (26,360 SF/0.60 AC) are a small portion of the overall site (20 AC). The negative function impacts from the impacts are mitigated by increasing the overall ecosystem support values through invasive removal, plantings, and a 1:1.6 mitigation ratio to increase both total habitat area and value.

A total of 144,370 square feet of existing VC will be enhanced through invasive removal and plantings throughout the site VC. Of this total, the marginal portion (33,040 SF) will be planted with 100% shrub density and 20% of tree density after invasive removal. VC in in good condition will be enhanced by invasive removal only.

For the proposed wetland impacts, wetland mitigation credits will be purchased, and buffer associated with purchased credits can be considered additional offsite mitigation area. Impacts to VC due to SW Brookman Road frontage improvements are mitigated through this development, but wetland impacts within the frontage improvements will be accounted for later as part of a joint Capital Improvement Project by the City of Sherwood and Washington County. The CWS service provider letter for the site provides concurrence with this assessment. Therefore, this criterion is met.

B. *The applicant shall provide appropriate plans and text that identify and describe the significance and functional value of natural features on the site (if identified in the Community Development Plan, Part 2) and protect those features from impacts of the development or mitigate adverse effects that will occur. A facility complies with this standard if:*

1. *The site does not contain an endangered or threatened plant or animal species or a critical habitat for such species identified by Federal or State government (and does not contain significant*

natural features identified in the Community Development Plan, Part 2, Natural Resources and Recreation Plan).

RESPONSE: The Site Assessment prepared by ESA describes and delineates the significance and functional value of natural features on the site. The Site Assessment did not identify endangered or threatened plant or animal species or a critical habitat for such species on the subject site. Therefore, this criterion does not apply.

2. *The facility will comply with applicable requirements of the zone.*

RESPONSE: As demonstrated within the compliance narrative and submitted plans and exhibits, the proposed development complies with the applicable requirements of the MDRL Zone. This criterion is met.

3. *The applicant will excavate and store topsoil separate from subsurface soil, and shall replace the topsoil over disturbed areas of the site not covered by buildings or pavement or provide other appropriate medium for re-vegetation of those areas, such as yard debris compost.*

RESPONSE: Topsoil removed during the initial construction phases will be stored on site in a manner that protects it from erosion while grading operations are underway. The topsoil will be placed in a location where it will not suffocate root systems of trees that may remain. The topsoil will be restored after construction to provide a suitable base for seeding and planting of areas of the site not covered by buildings or pavement. This criterion does not apply.

4. *The applicant will retain significant vegetation in areas that will not be covered by buildings or pavement or disturbed by excavation for the facility; will replant areas disturbed by the development and not covered by buildings or pavement with native species vegetation unless other vegetation is needed to buffer the facility; will protect disturbed areas and adjoining habitat from potential erosion until replanted vegetation is established; and will provide a plan or plans identifying each area and its proposed use.*

RESPONSE: As described by ESA, the total area of Sensitive Areas on the site is approximately 272,246 square feet, with an additional Vegetated Corridor (VC) of approximately 174,782 square feet. The proposed site plan minimizes encroachment by clustering the lot development around the Cedar Creek floodplain open space and reducing the lot sizes where feasible. The site plan maximizes the open space area in the middle of the site and maintains a direct connection to off-site habitat east, west, and north of the site. With approximately two-thirds of the total site consisting of SA and VC, and only 3.75% of this area proposed to be impacted, the preferred plan minimizes incursion into the VC to only where required to meet transportation, trail, and storm facility requirements.

As described throughout this written narrative, areas of the site with significant vegetation as described above are planned to be retained in the areas preserved within Tract B of the preliminary plat. The Preliminary Street Tree and Open Space Planting Plan (Sheet L1) shows

proposed planting on the site. Appropriate erosion and sediment control methods will be utilized through the development phase. This criterion is met.

> *5. Development associated with the facility will be set back from the edge of a significant natural area by an area determined by the Clean Water Services Design and Construction standards R&O 00-7 or its replacement, provided Section 16.140.090A does not require more than the requested setback. Lack of adverse effect can be demonstrated by showing the same sort of evidence as in subsection A.1 above.*

RESPONSE: The proposed subdivision preserves a substantially large area of open space along the Cedar Creek riparian corridor, including flood plain, wetland, vegetated corridor, and additional upland areas. The result is the preservation of a significant natural area in the center of the site, preserved within Tract B and D and a smaller area in the northeast corner within Tract H. Evidence of the appropriateness of Tracts B, D, H, and I and associated setbacks from the resource is provided by the CWS service provider letter issued for the development, and included with this application. This criterion is met.

> *C. When the Regionally Significant Fish and Wildlife Habitat map indicates there are resources on the site or within 50 feet of the site, the applicant shall provide plans that show the location of resources on the property. If resources are determined to be located on the property, the plans shall show the value of environmentally sensitive areas using the methodologies described in Sections 1 and 2 below.*

RESPONSE: The subject site is outside the study area for the Sherwood Local Wetlands Inventory (LWI) map. The National Wetland Inventory (NWI) maps Cedar Creek as a Freshwater Forested/Shrub wetland (PFO1). Additionally, the Brookman Addition Concept Plan maps Class 1 Riparian areas along the Cedar Creek corridor with wetlands located within the floodplain area. Plans submitted with the application, including the Conceptual Open Space Plans (Sheets P3.1 and P3.2) identify these areas, and the Site Assessment prepared by ESA has determined the value of environmentally sensitive areas. The accuracy of these determinations is demonstrated by the CWS service provider letter issued for the development, and included with this application. This criterion is met.

> *16.144.030 - Exceptions to Standards*
>
> *In order to protect environmentally sensitive areas that are not also governed by floodplain, wetland and Clean Water Services vegetated corridor regulations, the City allows flexibility of the specific standards in exchange for the specified amount of protection inventoried environmentally sensitive areas as defined in this code.*
>
> *A. Process*
>
> *The flexibility of standards is only applicable when reviewed and approved as part of a land use application and shall require no additional fee or permit provided criteria is addressed. In the absence of a land use*

application, review may be processed as a Type 1 administrative interpretation.

B. Standards modified

1. Lot size — Not withstanding density transfers permitted through Chapter 16.40, when a development contains inventoried regionally significant fish and wildlife habitats as defined in Section 16.144.020 above, lot sizes may be reduced up to ten percent (10%) below the minimum lot size of the zone when an equal amount of inventoried resource above and beyond that already required to be protected is held in a public or private open space tract or otherwise protected from further development.

RESPONSE: As described above and detailed in the *Cedar Creek Gardens – Assessment* prepared by Environmental Science and Assessment and submitted with this application, the subject site contains inventoried regionally significant fish and wildlife habitat associated with the Cedar Creek drainage and associated flood plain and wetland areas. Accordingly, the applicant requests the ability to reduce lot sizes by up to 10% to reduce the minimum lot area within the development from 5,000 square feet to 4,500 square feet (actual minimum preliminary measurement is Lots 8 and 25 at 4,500 square feet), and to reduce the lot width at the building line from 50 feet to 45 feet (multiple lots).

In total, 11 of the 41 Lots are proposed to be reduced in area to between 4,500 square feet and 5,000 square feet. The total area of these lots is a combined 62,515 square feet, against a minimum of 65,000 square feet for 13 standard 5,000 square foot lots. Accordingly, the 2,485 square foot shortfall in lot area is required to be accommodated within open space areas on the site above and beyond that already required to be protected.

As indicated on the Preliminary Plat (Sheet P3.0), 529,735 square feet of open space area is proposed to be designated for inclusion and protection within Tracts B, D, H, and I. This area includes 56,938 square feet (18.7% of net buildable area) of additional open space outside of required yards/setbacks, Sensitive Areas, Vegetated Corridor, Visual Corridor, and 100-Year Flood Plain. However, this open space area is required to be reduced by 2,485 square feet to accommodate the requirements of Section 16.144.030.B.1., for a total additional open space allocation of 54,453 square feet (18.7% of net buildable area = 1.25 acres), greatly exceeding the applicable 5% requirement. These requirements can and will be met, and therefore the applicant meets the requirements for a 10% reduction in minimum lot area and lot width at the building line.

2. Setbacks — For residential zones, the setback may be reduced up to thirty percent (30%) for all setbacks except the garage setback provided the following criteria are satisfied:

a. The setback reduction must result in an equal or greater amount of significant fish and/or wildlife habitat protection. Protection shall be guaranteed with deed restrictions or public or private tracts.
b. In no case shall the setback reduction supersede building code and/or Tualatin Valley Fire and Rescue separation requirements.

c. *In no case shall the setback be reduced to less than five feet unless otherwise provided for by the underlying zone.*

3. *Density — per Section 16.10.020 (Net Buildable Acre definition), properties with environmentally sensitive areas on site may opt to exclude the environmentally sensitive areas from the minimum density requirements provided the sensitive areas are protected via tract or restrictive easement. A proposal to remove said area from the density calculation must include: a delineation of the resource in accordance with Section 16.144.020C, the acreage being protected, and the net reduction below the normally required minimum for accurate reporting to Metro.*

4. *Parking — Per Section 16.94.020.B.6, 10-25% of the required parking spaces may be reduced in order to protect inventoried regionally significant fish and wildlife habitat areas, provided these resources are protected via deed restrictions or held in public or private tracts.*

5. *Landscaping Per Section 16.92.030.B.6, exceptions may be granted to the landscaping standards in certain circumstances as outlined in that section.*

RESPONSE: The applicant is not requesting exceptions to setbacks, density, parking, or landscaping requirements; therefore, these criteria are not applicable.

Chapter 16.156 - ENERGY CONSERVATION

16.156.010 - Purpose

This Chapter and applicable portions of Chapter 5 of the Community Development Plan provide for natural heating and cooling opportunities in new development. The requirements of this Chapter shall not result in development exceeding allowable densities or lot coverage, or the destruction of existing trees.

16.156.020 - Standards

A. *Building Orientation - The maximum number of buildings feasible shall receive sunlight sufficient for using solar energy systems for space, water or industrial process heating or cooling. Buildings and vegetation shall be sited with respect to each other and the topography of the site so that unobstructed sunlight reaches the south wall of the greatest possible number of buildings between the hours of 9:00 AM and 3:00 PM, Pacific Standard Time on December 21st.*

RESPONSE: Within the development, the street alignment is determined by natural resource boundaries limiting the number of lots that can be oriented for sunlight. The design does however maximize to the greatest extent feasible the number of units that can meet this orientation standard. In all, 21 Lots (1-3, 8, 19-31 and 36-39) of the 41 lots on the site achieve sufficient solar access or approximately 51%, which can be considered to meet the requirement for maximum solar access. Therefore, this criterion is met.

B. Wind - The cooling effects of prevailing summer breezes and shading vegetation shall be accounted for in site design. The extent solar access to adjacent sites is not impaired vegetation shall be used to moderate prevailing winter wind on the site.

RESPONSE: The site design of the proposed subdivision, including significant open space surrounding the lots as well as compliance with building setbacks, will allow for adequate air circulation and cooling. There is sufficient room for the addition of landscaping to regulate prevailing winter winds from the south and east. The criterion is met.

16.156.030 - Variance to Permit Solar Access

Variances from zoning district standards relating to height, setback and yard requirements approved as per Chapter 16.84 may be granted by the Commission where necessary for the proper functioning of solar energy systems, or to otherwise preserve solar access on a site or to an adjacent site.

RESPONSE: The application does not include a variance from applicable standards. This criterion does not apply.

IV. Conclusion

The required findings have been made, and this written narrative and submitted materials demonstrate the application is consistent with the applicable provisions of the City of Sherwood Zoning and Community Development Code. Accordingly, the applicant respectfully requests approval of the 41-Lot subdivision, "Cedar Creek Gardens", as submitted.

Exhibit A7

CITY OF SHERWOOD

PRE APPLICATION MEETING SIGN-IN SHEET			
Project:	PAC 2021-005 Westwood Homes	**Meeting Date:**	April 29, 2021
Facilitator:	Eric Rutledge, Associate Planner	**Place/Room:**	Conference Call (Microsoft Teams)

Name	Agency or Representation	Email Address
Eric Rutledge, Associate Planner	City of Sherwood	rutledgee@sherwoodoregon.gov
Craig Christensen, P.E.	City of Sherwood	christensenc@sherwoodoregon.gov
Naomi Vogel	Washington County	naomi_vogel@co.washington.or.us
Matt Sprague	Pioneer Design Group	msprague@pd-grp.com
Wayne Hayson	Pioneer Design Group	wyhayson@pd-grp.com
Brent Fitch	Pioneer Design Group	bfitch@pd-grp.com

Pre-Application Conference Notes
File # PAC 2021-005 Westwood Homes
Meeting Date – April 29, 2021
Conference Call via Microsoft Teams
Staff Contact - Eric Rutledge
rutledgee@sherwoodoregon.gov
503-625-4242

Type III Subdivision

The pre-application conference and notes cannot cover all code requirements and aspects that apply to the proposal. Failure of staff to provide information required by the code does not constitute a waiver of the applicable standards or requirements. It is recommended that a prospective applicant obtain and read the Zoning and Community Development Code and/or ask any questions of City staff relative to code requirements prior to submitting an application.

PROJECT SUMMARY

Proposed Project Name:	Westwood Homes Subdivision
Proposal Description:	The applicant is proposing a 40-lot subdivision in the Medium Density Residential Low (MDRL) zone. The development site is located on two lots totaling 20.03-acres. Both lots are in the Brookman Addition Concept Plan area and have been annexed into the City of Sherwood. Cedar Creek runs through the site and meets a creek tributary near the site's northern boundary. Access to the lots is proposed from various locations including a new intersection with SW Brookman Rd., an existing public street within the Reserve at Cedar Creek subdivision, and a southern extension of SW Red Fern Drive. The proposed lots will average greater than 5,000 SF in size. The narrative states an exception to the minimum lot width may be requested.
Applicant:	Westwood Homes 12700 NW Cornell Rd. Portland, OR 97229
Owner: **TL 3S1060000107**	Wayne and Linda Chronister PO Box 1474 Sherwood, OR 97140

Owner: Charles and Louise Bissett
TL 3S106000107 16871 SW Brookman Rd.
Sherwood, OR 97140

APPLICATION TYPE, TIMELINE & FEES

Full details on application type, noticing, and public hearing procedures listed under 16.72

Application Type and Hearing Authority
Type III Subdivision

- The Type III Hearing Authority is the Hearings Officer and the Appeal Authority is the Planning Commission

Estimated Approval Timeline

- 30 day completeness review
- 30-60 days for public hearing date after application is deemed complete
- 14 day appeal period for all land use decisions

Land Use Fees
Fees as of July 1, 2020. Please confirm fees with staff prior to submittal as fee schedule is revised annually. Engineering plan review, building permit, and SDC fees separate.

- Subdivision $6,708.96 + 21.14 per lot
- Final Plat (subdivision) $1,188.56
- Publication and Distribution of Type III-V Notice $466

APPLICATION SUBMITTAL REQUIREMENTS

See attached "Application for Land Use Action" and "Application Materials Required for Subdivision Plat".

A neighborhood meeting is required prior to submitting a Type III application. Please see the attached Neighborhood Meeting and Virtual Neighborhood Meeting packets.

Note: Applicants are encouraged to submit 4 full and reduced size paper copies and one electronic copy for completeness review. The full number of paper copies (15) and one updated electronic copy will be required after the application is deemed complete.

SUMMARY OF APPLICABLE CODE CRITERIA (SZCDC Title 16)

*These sections **must** be addressed in the narrative submitted with the land use application*

Division II. - LAND USE AND DEVELOPMENT		**Division VI. - PUBLIC INFRASTRUCTURE**	
Chapter 16.12 - RESIDENTIAL LAND USE DISTRICTS	**X**	Chapter 16.104 - GENERAL PROVISIONS	
Chapter 16.22 - COMMERCIAL LAND USE DISTRICTS		Chapter 16.106 - TRANSPORTATION FACILITIES	**X**
Chapter 16.31 - INDUSTRIAL LAND USE DISTRICTS		Chapter 16.108 - IMPROVEMENT PLAN REVIEW	**X**
Chapter 16.36 - INSTITUTIONAL AND PUBLIC (IP) LAND USE DISTRICT		Chapter 16.110 - SANITARY SEWERS	**X**
Chapter 16.38 - SPECIAL USES		Chapter 16.112 - WATER SUPPLY	**X**
Chapter 16.40 - PLANNED UNIT DEVELOPMENT (PUD)		Chapter 16.114 - STORM WATER	**X**
Chapter 16.42 - HOME OCCUPATIONS		Chapter 16.116 - FIRE PROTECTION	**X**
Chapter 16.44 - TOWNHOMES		Chapter 16.118 - PUBLIC AND PRIVATE UTILITIES	**X**
Chapter 16.46 - MANUFACTURED HOMES			
Chapter 16.48 - NON-CONFORMING USES		**Division VII. - LAND DIVISIONS, SUBDIVISIONS, PARTITIONS, LOT LINE ADJUSTMENTS AND MODIFICATIONS**	
Chapter 16.50 - ACCESSORY STRUCTURES, ARCHITECTURAL FEATURES AND DECKS	**X**	Chapter 16.120 - SUBDIVISIONS	**X**
Chapter 16.52 - ACCESSORY DWELLING UNITS		Chapter 16.122 - LAND PARTITIONS	
Chapter 16.54 - ADULT ENTERTAINMENT		Chapter 16.124 - PROPERTY LINE ADJUSTMENTS AND LOT CONSOLIDATIONS	
Chapter 16.56 - OTHER LAND USE ACTIONS		Chapter 16.126 - REPLATTING, LOT CONSOLIDATIONS AND VACATION OF PLATS	
Chapter 16.58 - CLEAR VISION AND FENCE STANDARDS	**X**	Chapter 16.128 - LAND DIVISION DESIGN STANDARDS	**X**
Chapter 16.60 - YARD REQUIREMENTS	**X**		
Chapter 16.62 - CHIMNEYS, SPIRES, ANTENNAS, AND SIMILAR STRUCTURES		**Division VIII. - ENVIRONMENTAL RESOURCES**	
Chapter 16.64 - DUAL USE OF REQUIRED SPACE		Chapter 16.134 - FLOODPLAIN (FP) OVERLAY	**X**
Chapter 16.66 - TRANSPORTATION FACILITIES AND IMPROVEMENTS		Chapter 16.136 - PROCEDURES	
Chapter 16.68 - INFILL DEVELOPMENT STANDARDS		Chapter 16.138 - MINERAL RESOURCES	
		Chapter 16.140 - SOLID WASTE	
Division III. - ADMINISTRATIVE PROCEDURES		Chapter 16.142 - PARKS, TREES AND OPEN SPACES	**X**
Chapter 16.70 - GENERAL PROVISIONS		Chapter 16.144 - WETLAND, HABITAT AND NATURAL AREAS	**X**
Chapter 16.72 - PROCEDURES FOR PROCESSING DEVELOPMENT PERMITS	**X**	Chapter 16.146 - NOISE	
Chapter 16.76 - APPEALS		Chapter 16.148 - VIBRATIONS	
		Chapter 16.150 - AIR QUALITY	
Division IV. - PLANNING PROCEDURES		Chapter 16.152 - ODORS	
Chapter 16.80 - PLAN AMENDMENTS		Chapter 16.154 - HEAT AND GLARE	
Chapter 16.82 - CONDITIONAL USES		Chapter 16.156 - ENERGY CONSERVATION	**X**
Chapter 16.84 - VARIANCES			
Chapter 16.86 - TEMPORARY USES		**Division IX. - HISTORIC RESOURCES**	
Chapter 16.88 - INTERPRETATION OF SIMILAR USES		Chapter 16.160 - SPECIAL RESOURCE ZONES	
		Chapter 16.162 - OLD TOWN (OT) OVERLAY DISTRICT	
Division V. - COMMUNITY DESIGN		Chapter 16.164 - LANDMARK REVIEW	
Chapter 16.90 - SITE PLANNING		Chapter 16.166 - LANDMARK DESIGNATION	
Chapter 16.92 - LANDSCAPING	**X**	Chapter 16.168 - LANDMARK ALTERATION 16.168.010 - PROCEDURES	
Chapter 16.94 - OFF-STREET PARKING AND LOADING	**X**	16.168.020 - ALTERATION STANDARDS	
Chapter 16.96 - ON-SITE CIRCULATION	**X**	16.168.030 - VARIANCES TO ALTERATION STANDARDS	
Chapter 16.98 - ON-SITE STORAGE			
Chapter 16.100 - PERMANENT SIGNS			
Chapter 16.102 - TEMPORARY, PORTABLE AND BANNER SIGNS			

SUMMARY OF KEY CONSIDERATIONS AND ISSUES

The following comments are based on staff's review of the information provided on the pre-application form and accompanying attachments.

Summary of Required Land Use Permits

- Type III Subdivision
- Type II Street Design Modification (if applicable)

Zoning & Proposed Land Uses

- The property is zoned Medium Density Residential Low (MDRL). The MDRL zone allows for a density of 5.6 to 8 dwelling units per acre including single-family attached / detached and two-family residences. See method below for calculating density.
- The minimum lot size in the MDRL zone is 5,000 SF. Full development standards provided in the table below.
- Lot sizes may be averaged to allow less than the minimum lot size per SZCDC § 16.12.020(E) and SZCDC § 16.144.030(B)(1). Specific criteria must be met to obtain the reduction allowed by each section.

Density definition - SZCDC § 16.10.020 "Density": The intensity of residential land uses per acre, stated as the number of dwelling units per net buildable acre. Net buildable acre means an area measuring 43,560 square feet after excluding present and future rights-of-way and environmentally constrained areas.

Land Division Standards

- All lots in a subdivision shall abut a public street (SZCDC § 16.128.030(B)). The conceptual plans show multiple lots that do not meet this standard.
- Side lot lines shall, as far as practicable, run at right angles to the street upon which the lots face, except that on curved streets side lot lines shall be radial to the curve of the street (SZCDC 16.128.030(D).
- Complete land division standards are located under SZCDC Division VII.

Development Standard by Residential Zone	MDRL
Minimum Lot areas:(in square ft.)	
• Single-Family Detached	5,000
• Single Family Attached	5,000
• Two or Multi-Family: for the first 2 units	10,000
• Multi-Family: each additional unit after first 2	X
Minimum Lot width at front property line: (in feet)	25
Minimum Lot width at building line[1]: (in feet)	
• Single-Family	50
• Two-Family	60
• Multi-family	X
Lot Depth	80
Maximum Height[2] (in feet)	30 or 2 stories
• Amateur Radio Tower	70
• Chimneys, Solar or Wind Devices, Radio and TV aerials[3]	50
Setbacks (in feet)	
• Front yard[4]	14
• Face of garage	20
• Interior side yard	
• Single-Family Detached	5
• Single-Family Attached	10
• Two Family	5
• Multi-Family	
• 18 ft. or less in height	X
• Between 18—24 ft. in height	X
• If over 24 ft. in height	X
• Corner lot street side	
• Single Family or Two Family	15
• Multi-Family	X
• Rear yard	20
Footnote: If the lot is an irregular shape see definition for Lot Line, Rear, Section 16.10 Definitions	

[1]Minimum lot width at the building line on cul-de-sac lots may be less than that required in this Code if a lesser width is necessary to provide for a minimum rear yard.

[2]Maximum height is the lesser of feet or stories

[3]Some accessory structures, such as chimneys, stacks, water towers, radio or television antennas, etc. may exceed these height limits with a conditional use permit, per Chapter 16.62 (Chimneys, Spires, Antennas and Similar Structures).

[4]Reductions in front yard setbacks for architectural features as described in 16.50.050 are not permitted in the MDRL, MDRH, or HDR zoning districts.

Transportation

- Comprehensive Plan Chapter 8, Section D2, Subsection D, Policy 4.4 identifies SW Red Fern Drive as an area of special concern, and allows an extension of the street for bicycle, pedestrian, and emergency access only due to the constraint of the existing street design. The policy was adopted as part of Ordinance 2009-004 including findings to support Policy 4.4.
    - In addition, Figure 5 "Functional Street Classification" of the Brookman Addition Concept Plan identifies a SW Red Fern Drive connection to the Brookman area as pedestrian, bicycle, and emergency access only
- A future street connectivity map is required with the subdivision application. Requirements for street connectivity and future street systems are addressed in SZCDC § 16.106.030(B). The connectivity map shall incorporate Figure 18 of the City's Transportation System Plan, "Local Street Connectivity".
- Block lengths shall not exceed 530 ft. (SZCDC § 16.106.030(B)(3)
- Dead end streets less than 100 ft. in length must comply with the Engineering Design Manual
- All cul-de-sacs shall be used only when exceptional topographical constraints, existing development patterns, or compliance with other standards in this code preclude a street extension and circulation. A cul-de-sac shall not be more than two hundred (200) feet in length and shall not provide access to more than 25 dwelling units (SZCDC § 16.106.040(E).
- Please refer to the City of Sherwood Engineering and Oregon Department of Transportation comments for full transportation comments.

Pedestrian Circulation

- Paved bike and pedestrian accessways shall be provided when full street connections are not possible, with spacing between connections of no more than 300 ft. (SZCDC 16.106.030(B)(6))

Trees and Landscaping

- SW Brookman Road is an arterial street and requires a 15 ft. wide landscaped visual corridor on private property along the street frontage (SZCDC § 16.142.040)
- A 40% tree canopy over the net development site is required for single-family residential development. Preservation of existing native trees in good health can be used to achieve the required canopy. The canopy of preserved trees can be counted twice in obtaining the 40% minimum (SZCDC § 16.142.070(E).
- All trees on the site shall be inventories and described per SZCDC § 16.142.070.

Environmental

- Figure 7 of the Brookman Addition Concept Plan indicates wetlands may be located on the site. The City's wetland inventory has not been updated to included the Brookman Addition. An environmental assessment is required to map the extent of wetlands. Mapping and protection standards are located in SZCDC § 16.144.020(A).

- Regionally significant fish and wildlife habitat is located on the site. Habitat protection requirements are located in SZCDC § 16.144.020(C).
- FEMA regulated floodway and 100-year floodplain are located on the site. Floodplain regulations are located in SZCDC § 16.134.

Public Improvements

- Please refer to the Engineering Comments for details regarding public/private utilities and traffic/transportation requirements.

Relevant Long Range Planning Documents

- The adopted Brookman Addition Concept Plan (2009) provides key development guidelines for the project area. The site is located in the "east sub-area" of the concept plan.

APPLICANT QUESTIONS

- We expect to have a comprehensive discussion on utilities including sanitary, water, and stormwater and how to best address the needs for the entire project

Response: The City of Sherwood engineering comments provide details on utilities. Additional discussion will occur as part of the pre-application conference. City staff is also available for follow up questions after the pre-application.

- Brookman Rd. will be a topic of discussion regarding improvements and we would like to know how the City Engineer would like us to approach analysis to these improvements to provide as much frontage improvement as possible given future conditions as an arterial street

Response: The City of Sherwood engineering comments provide details on the requirements for Brookman Rd. Additional discussion will occur as part of the pre-application conference. City staff is also available for follow up questions after the pre-application.

- We believe the design exception for the length of the cul-de-sac will need to be processed by engineering and included within the land use application? Please confirm.

Response: Any transportation related design modifications are a Type II land use action and should be submitted concurrently with the subdivision application.

AGENCY COMMENTS

City of Sherwood Engineering Comments
Please refer to the engineering comments from Craig Christensen, P.E. included in the pre-application packet.

City of Sherwood Building Comments
No written comments provided. Please contact Scott McKie, Building Official, with building code questions at 503-625-4217 or mckies@sherwoodoregon.gov

Tualatin Valley Fire & Rescue Comments
Please refer to the fire comments from Tom Mooney, Deputy Fire Marshal, included in the pre-application packet.

Washington County Land Use & Transportation Comments
No written comments provided. Please contact Naomi Vogel, Associate Planner, with any questions related to County requirements.

Contact Information and Helpful Links

PLANNING DEPARTMENT INFORMATION

Colleen Resch, Planning Technician	reschc@sherwoodoregon.gov / 503-625-4223
Eric Rutledge, Associate Planner	rutledgee@sherwoodoregon.gov / 503-625-4242
Joy Chang, Senior Planner	changj@sherwoodoregon.gov / 503-625-4214

Current Project Page:
https://www.sherwoodoregon.gov/projects?tid=All&field_project_status_value=All&field_project_type_tid=93&keys=&=Apply

Planning Applications and Checklists:
https://www.sherwoodoregon.gov/planning/page/land-use-applications-and-checklists

ENGINEERING DEPARTMENT INFORMATION

Jo Guediri, Engineering Program Associate	guedirij@sherwoodoregon.gov / 503-925-2309
Craig Christensen, Civil Engineer P.E.	christensenc@sherwoodoregon.gov / 503-925-2301
Bob Galati, City Engineer P.E.	galatib@sherwoodoregon.gov / 503-925-2303

Engineering Department Home Page: https://www.sherwoodoregon.gov/engineering

Permit Process Packet: www.sherwoodoregon.gov/engineering/page/eng-permit-process-packet-forms

System Development Charges (SDC) Information:
https://www.sherwoodoregon.gov/engineering/page/system-development-charges-sdc

BUILDING DEPARTMENT INFORMATION

Karen Abdill, Lead Building Permit Specialist	abdillk@sherwoodoreong.gov / 503-625-4226
Scott McKie, Building Official	mckies@sherwoodoregon.gov / 503-625-4217

Building Department Home Page: https://www.sherwoodoregon.gov/building

Building Permit Forms: https://www.sherwoodoregon.gov/building/page/permit-forms

Engineering Pre-Application Comments

To:	Eric Rutledge, Associate Planner
From:	Craig Christensen, P.E., Engineering Department
Project:	PAC 21-005 Westwood Homes
Date:	April 27, 2021

Engineering staff has reviewed the information provided for the above cited project. Final construction plans will need to meet the standards established by the City of Sherwood Engineering Department and Public Works Department, Clean Water Services (CWS) and Tualatin Valley Fire & Rescue in addition to requirements established by other jurisdictional agencies providing land use comments. City of Sherwood Engineering Department comments are as follows:

Sanitary Sewer

There is an existing 15-inch diameter public sanitary sewer just north of the northern property line of the subject property. There will be a 21-inch diameter public sanitary sewer constructed along the west side of Cedar Creek through the subject property as part of the Middlebrook Subdivision. There will be an 8-inch diameter public sanitary sewer within a future street that will be constructed just west of the western line of the subject development (north end) as part of the Reserve at Cedar Creek Subdivision. There is an existing 8-inch diameter public sanitary sewer within SW Redfern Drive just north of the northern property line of the subject property.

The subject property will likely need to extend the 15-inch diameter sanitary sewer that is on the east side of Cedar Creek to the south approximately 70 feet to provide access to public sanitary sewer for the property to the east of the subject property.

The 9 lots along the northwest corner of the site will need to wait until a public sanitary sewer is constructed and accepted within the Reserve at Cedar Creek Subdivision to the west in order to have public sanitary sewer service. The subject development will need to install sanitary laterals to each lot.

The existing 8-inch diameter public sanitary sewer within SW Redfern Drive north of the northern property line of the subject property will likely only be extended on an as needed basis.

The subject development will need to install public sanitary sewer within new streets to provide service for new lots. The public sanitary sewer will likely extend to the eastern property line within a public street for future extension by the property to the east.

The subject development will likely need to extend the sanitary sewer from the manhole east of Lot 9 beneath the creek to provide public sanitary sewer service to the lots at the south end of the subject property. There may be other options available. Developer may submit sketches for review.

The subject development will likely need to construct a maintenance access road over the sanitary trunk line within the open space on the west side of the subject property as all manholes need to have access for maintenance. Any public sanitary sewer located within private property will need to have a public sanitary sewer easement dedicated to the city.

Septic systems within the subject property will need to be abandoned/removed in compliance with all regulations.

Water

There will be an 8-inch diameter public water main within a future street that will be constructed just west of the western line of the subject development (north end) as part of the Reserve at Cedar Creek Subdivision. There will be a 12-inch diameter public water main within SW Brookman Road that will be constructed to the western line of the subject development (south end) as part of the Reserve at Cedar Creek Subdivision. There is an existing 8-inch diameter public water main within SW Redfern Drive just north of the northern property line of the subject property.

The 9 lots along the northwest corner of the site will need to wait until a public water main is constructed accepted within the Reserve at Cedar Creek Subdivision to the west in order to have public water service. The subject development will need to install water services to each lot.

The subject property will likely need to extend the 8-inch water main that is stubbed within SW Redfern Drive to the south approximately 70 feet to provide access to public water for the property to the east of the subject property.

The subject development will need to install a public water main within SW Brookman Road along the full length of the subject property frontage. This line will need to connect to the water main within SW Brookman Road to the west. No public water will be available to the southern lots without this connection. Depending on timing of development projects to the west, the developer may need to extend the water main further than the frontage of the subject property to make the water connection for public water service for the southern lots.

The subject development will need to install public water mains within new streets to provide service for new lots. The public water line will likely extend to the eastern property line within a public street for future extension by the property to the east.

At this time it is unknown if the public water system within the Brookman Development area has the capacity to provide public water to the subject development. An analysis of the water system accounting for developments that have submitted for land use in this area (Middlebrook, Riverside, Reserve at Cedar Creek, Etc.) will need to performed to determine the adequacy of the current public water system to provide public water to the subject development.

Any well on the site well will either need to be abandoned or maintained in accordance with all applicable regulations.

Storm Sewer

There is no public storm sewer available for the subject development. However, Cedar Creek and tributaries thereof are within the subject property providing for storm sewer discharge for the subject development.

The subject development will need to install public storm sewer within new streets to provide service for new lots and street improvements.

Water quality treatment and hydromodification will likely be required for all new impervious area in compliance with Clean Water Services (CWS) standards. Detention may also be required depending on downstream constraints.

A storm water report meeting CWS standards will be required.

Transportation

The subject property has frontage along SW Brookman Road (Arterial – Washington County) to the south. Dedication of right-of-way will be required along SW Brookman Road to bring the street up to a 53-foot half street right-of-way width along the subject property's frontage of SW Brookman Road. This would match the requirements of the Reserve at Cedar Creek subdivision west of the subject property. The subject development shall construct street improvements as required by Washington County. Any improvements not required to be constructed will likely require a payment in lieu at 125% of the estimated deferred frontage improvement construction cost.

The subject property will have frontage along a future public local street along the west side at the north end. This section of street is not being constructed to full street width. The subject development will need to construct street widening improvements and right-of-way dedications to bring this section of street up to a standard local street section requirements.

Existing SW Redfern Drive is stubbed to the northern property line of the subject property. Due to Ordinances 2009-004 & 2021-001 (Brookman Concept Plan) no

extension of SW Redfern Drive will be allowed. SW Redfern Drive will be only available for pedestrian, bicycle and emergency vehicle access. It is unlikely that ingress/egress will be allowed onto SW Brookman Road (Arterial Street) in this area, therefore it appears that Lots 38-40 have no access to the public street system.

The concept plan shows an intersection with SW Brookman Road for accessing the southern portion of the site with another intersection immediately to the north with approximately 194 feet of distance between the centerlines of the 2 intersections. This is slightly less than the 200 feet required and would need an approved design modification request. The developer shall have the sight distance at the proposed intersection with SW Brookman Road analyzed to insure adequate sight distance. A traffic impact analysis will likely be required for the subdivision.

The proposed interior street layout on the concept plan shows a street paralleling SW Brookman Road which would continue in the future to the property to the east and a long cul-de-sac in excess of city standards. The cul-de-sac as laid out would require an approved design modification request. The developer will need to show a future street plan for properties to the east to show how the street layout proposed will work with surrounding properties as part of land use submittal. It appears to me that the cul-de-sac should be extended eastward to the eastern property line. This will allow the sanitary sewer to be installed in a manner to provide service to the property to the east at the low end of the property and allow street connectivity.

A Traffic Impact Analysis will likely be required to determine the subject development's proportionate share towards intersections affected by the subject development.

A minimum 8-foot wide PUE will be required along all right-of-way lines.

Natural Resources:

Cedar Creek and other environmentally sensitive lands exist within the subject property. Restoration of the vegetative corridor may be required by Clean Water Services (CWS). CWS will establish conditions for vegetative corridor in the Service Provider Letter.

Any filling of wetlands will require the developer to get the appropriate agency approvals (City of Sherwood, CWS, DSL and COE).

Other Engineering Issues:
A CWS Service Provider Letter is required.

A CWS Storm Water Connection Permit Authorization is required.

The subject development disturbance exceeds 5 acres, therefore a DEQ NPDES 1200-C permit will be required.

There is an As-Built Request Form on the City of Sherwood website for acquisition of as-built plans.

A Design Modification Request Form is available on the City of Sherwood website. Design Modification Requests need to be approved prior to land use Notice of Decision.

A System Development Charge spreadsheet is available for use in the forms section on the City of Sherwood website.
There does not appear to be overhead utility lines along the subject property frontage of SW Brookman Road. All new franchise utilities shall be installed underground.

Sherwood Broadband utilities shall be installed along the subject property's frontage on interior streets and Brookman Road as per requirements set forth in City Ordinance 2005-017 and City Resolution 2005-074.

END OF COMMENTS

DISCLAIMER: The comments provided above are initial in nature and are in no way binding as to what conditions may or may not be imposed upon the development in the Notice of Decision.

Tualatin Valley Fire & Rescue

April 29, 2021

Eric Rutledge
Associate Planner
City of Sherwood
22560 SW Pine Street
Sherwood, Oregon 97140

Re: Westwood Homes
Tax Lot I.D: 3S1060000102, 3S1060000107

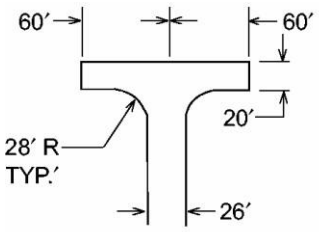
Dear Eric,

Thank you for the opportunity to review the proposed site plan surrounding the above named development project. These notes are provided in regards to the pre-application meeting held on April 29, 2021. There may be more or less requirements needed based upon the final project design, however, Tualatin Valley Fire & Rescue will endorse this proposal predicated on the following criteria and conditions of approval.

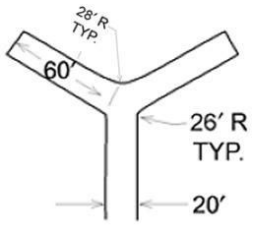
FIRE APPARATUS ACCESS:

1. **FIRE APPARATUS ACCESS ROAD DISTANCE FROM BUILDINGS AND FACILITIES:** Access roads shall be within 150 feet of all portions of the exterior wall of the first story of the building as measured by an approved route around the exterior of the building or facility. An approved turnaround is required if the remaining distance to an approved intersecting roadway, as measured along the fire apparatus access road, is greater than 150 feet. (OFC 503.1.1)

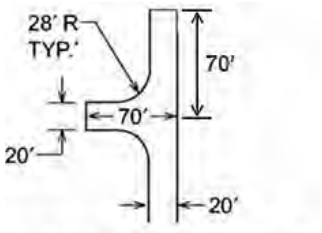
2. DEAD END ROADS AND TURNAROUNDS: Dead end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved turnaround. Diagrams of approved turnarounds are shown below: (OFC 503.2.5 & D103.1)



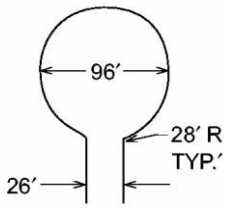
120′ HAMMERHEAD



60-FOOT "Y"



ACCEPTABLE ALTERNATIVE TO 120′ HAMMERHEAD



96′ DIAMETER CUL-DE-SAC

3. **ADDITIONAL ACCESS ROADS – ONE- OR TWO-FAMILY RESIDENTIAL DEVELOPMENTS:** Developments of one- or two-family dwellings, where the number of dwelling units exceeds 30, shall be provided with separate and approved fire apparatus access roads and shall meet the requirements of Section D104.3. Exception: Where there are more than 30 dwelling units on a single public or private fire apparatus access road and all dwelling units are equipped throughout

with an approved automatic sprinkler system in accordance with section 903.3.1.1, 903.3.1.2, or 903.3.1.3 of the International Fire Code, access from two directions shall not be required. (OFC D107)

4. **MULTIPLE ACCESS ROADS SEPARATION:** Where two access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the area to be served (as identified by the Fire Marshal), measured in a straight line between accesses. (OFC D104.3)

5. **FIRE APPARATUS ACCESS ROAD WIDTH AND VERTICAL CLEARANCE:** Fire apparatus access roads shall have an unobstructed driving surface width of not less than 20 feet (26 feet adjacent to fire hydrants (OFC D103.1)) and an unobstructed vertical clearance of not less than 13 feet 6 inches. (OFC 503.2.1)

6. **FIRE APPARATUS ACCESS ROADS FOR INDIVIDUAL ONE- AND TWO-FAMILY DWELLINGS AND ACCESSORY STRUCTURES:** The fire district will approve access roads of 12 feet for up to three dwelling units (Group R-3) and accessory (Group U) buildings. (OFC 503.1.1)

7. **NO PARKING SIGNS:** Where fire apparatus roadways are not of sufficient width to accommodate parked vehicles and 20 feet of unobstructed driving surface, "No Parking" signs shall be installed on one or both sides of the roadway and in turnarounds as needed. Signs shall read "NO PARKING - FIRE LANE" and shall be installed with a clear space above grade level of 7 feet. Signs shall be 12 inches wide by 18 inches high and shall have red letters on a white reflective background. (OFC D103.6)

8. **NO PARKING:** Parking on emergency access roads shall be as follows (OFC D103.6.1-2):
   1. 20-26 feet road width – no parking on either side of roadway
   2. 26-32 feet road width – parking is allowed on one side
   3. Greater than 32 feet road width – parking is not restricted

9. **PAINTED CURBS:** Where required, fire apparatus access roadway curbs shall be painted red (or as approved) and marked "NO PARKING FIRE LANE" at 25 foot intervals. Lettering shall have a stroke of not less than one inch wide by six inches high. Lettering shall be white on red background (or as approved). (OFC 503.3)

10. **FIRE APPARATUS ACCESS ROADS WITH FIRE HYDRANTS:** Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet and shall extend 20 feet before and after the point of the hydrant. (OFC D103.1)

11. **TURNOUTS:** Where access roads are less than 20 feet and exceed 400 feet in length, turnouts 10 feet wide and 30 feet long may be required and will be determined on a case by case basis. (OFC 503.2.2)

12. **SURFACE AND LOAD CAPACITIES:** Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced as to provide all-weather driving capabilities. (OFC 503.2.3)

13. **TURNING RADIUS:** The inside turning radius and outside turning radius shall not be less than 28 feet and 48 feet respectively, measured from the same center point. (OFC 503.2.4 & D103.3)

14. **ACCESS ROAD GRADE:** Fire apparatus access roadway grades shall not exceed 15%.

15. **ANGLE OF APPROACH/GRADE FOR TURNAROUNDS:** Turnarounds shall be as flat as possible and have a maximum of 5% grade with the exception of crowning for water run-off. (OFC 503.2.7 & D103.2)

16. **ANGLE OF APPROACH/GRADE FOR INTERSECTIONS:** Intersections shall be level (maximum 5%) with the exception of crowning for water run-off. (OFC 503.2.7 & D103.2)

17. **AERIAL APPARATUS OPERATING GRADES:** Portions of aerial apparatus roads that will be used for aerial operations shall be as flat as possible. Front to rear and side to side maximum slope shall not exceed 10%.

18. **GATES:** Gates securing fire apparatus roads shall comply with all of the following (OFC D103.5, and 503.6):
    1. Minimum unobstructed width shall be not less than 20 feet (or the required roadway surface width).
    2. Gates serving three or less single-family dwellings shall be a minimum of 12 feet in width.
    3. Gates shall be set back at minimum of 30 feet from the intersecting roadway or as approved.
    4. Electric gates shall be equipped with a means for operation by fire department personnel
    5. Electric automatic gates shall comply with ASTM F 2200 and UL 325.

19. **ACCESS DURING CONSTRUCTION:** Approved fire apparatus access roadways shall be installed and operational prior to any combustible construction or storage of combustible materials on the site. Temporary address signage shall also be provided during construction. (OFC 3309 and 3310.1)

20. **TRAFFIC CALMING DEVICES:** Shall be prohibited on fire access routes unless approved by the Fire Marshal. (OFC 503.4.1). Traffic calming measures linked here: http://www.tvfr.com/DocumentCenter/View/1578

FIREFIGHTING WATER SUPPLIES:

21. **FIREFIGHTING WATER SUPPLY FOR INDIVIDUAL ONE- AND TWO-FAMILY DWELLINGS:** The minimum available fire flow for one and two-family dwellings served by a municipal water supply shall be 1,000 gallons per minute. If the structure(s) is (are) 3,600 square feet or larger, the required fire flow shall be determined according to OFC Appendix B. (OFC B105.2)

22. **FIRE FLOW WATER AVAILABILITY:** Applicants shall provide documentation of a fire hydrant flow test or flow test modeling of water availability from the local water purveyor if the project includes a new structure or increase in the floor area of an existing structure. Tests shall be conducted from a fire hydrant within 400 feet for commercial projects, or 600 feet for residential development. Flow tests will be accepted if they were performed within 5 years as long as no adverse modifications have been made to the supply system. Water availability information may not be required to be submitted for every project. (OFC Appendix B)

23. **WATER SUPPLY DURING CONSTRUCTION IN MUNICIPAL AREAS:** In areas with fixed and reliable water supply, approved firefighting water supplies shall be installed and operational prior to any combustible construction or storage of combustible materials on the site. (OFC 3312.1)

FIRE HYDRANTS:

24. **FIRE HYDRANTS – ONE- AND TWO-FAMILY DWELLINGS & ACCESSORY STRUCTURES:** Where the most remote portion of a structure is more than 600 feet from a hydrant on a fire apparatus access road, as measured in an approved route around the exterior of the structure(s), on-site fire hydrants and mains shall be provided. (OFC 507.5.1)

25. **FIRE HYDRANT NUMBER AND DISTRIBUTION:** The minimum number and distribution of fire hydrants available to a building shall not be less than that listed in Table C 105.1. (OFC Appendix C)

26. **FIRE HYDRANT(S) PLACEMENT:** (OFC C104)
    - Existing hydrants in the area may be used to meet the required number of hydrants as approved. Hydrants that are up to 600 feet away from the nearest point of a subject building that is protected with fire sprinklers may contribute to the required number of hydrants. (OFC 507.5.1)
    - Hydrants that are separated from the subject building by railroad tracks shall not contribute to the required number of hydrants unless approved by the Fire Marshal.
    - Hydrants that are separated from the subject building by divided highways or freeways shall not contribute to the required number of hydrants. Heavily traveled collector streets may be considered when approved by the Fire Marshal.
    - Hydrants that are accessible only by a bridge shall be acceptable to contribute to the required number of hydrants only if approved by the Fire Marshal.

27. **PRIVATE FIRE HYDRANT IDENTIFICATION:** Private fire hydrants shall be painted red in color. Exception: Private fire hydrants within the City of Tualatin shall be yellow in color. (OFC 507)

28. **FIRE HYDRANT DISTANCE FROM AN ACCESS ROAD:** Fire hydrants shall be located not more than 15 feet from an approved fire apparatus access roadway unless approved by the Fire Marshal. (OFC C102.1)

29. **REFLECTIVE HYDRANT MARKERS:** Fire hydrant locations shall be identified by the installation of blue reflective markers. They shall be located adjacent and to the side of the center line of the access roadway that the fire hydrant is located on. In the case that there is no center line, then assume a center line and place the reflectors accordingly. (OFC 507)

30. **PHYSICAL PROTECTION:** Where fire hydrants are subject to impact by a motor vehicle, guard posts, bollards or other approved means of protection shall be provided. (OFC 507.5.6 & OFC 312)

31. **CLEAR SPACE AROUND FIRE HYDRANTS:** A 3 foot clear space shall be provided around the circumference of fire hydrants. (OFC 507.5.5)

BUILDING ACCESS AND FIRE SERVICE FEATURES

32. **PREMISES IDENTIFICATION:** New and existing buildings shall have approved address numbers; building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property, including monument signs. These numbers shall contrast with their background. Numbers shall be a minimum of 4 inches high with a minimum stroke width of 1/2 inch. (OFC 505.1)

If you have questions or need further clarification or would like to discuss any alternate methods and/or materials, please feel free to contact me at 503-259-1419.

Sincerely,

Tom Mooney

Tom Mooney
Deputy Fire Marshal II

Thomas.mooney@tvfr.com

Cc: File
City of Sherwood

A full copy of the New Construction Fire Code Applications Guide for Residential Development is available at https://www.tvfr.com/DocumentCenter/View/1438

P★R★I★D★E
DISPOSAL COMPANY
P.O. Box 820 Sherwood, OR 97140
Phone: (503) 625-6177 Fax: (503) 625-6179

Waste Disposal / Enclosure Requirements Before Occupancy

- The enclosure must be 10 feet deep by 20 feet wide (2 commercial containers). Measurements given are for the inside walls of the enclosure.
- There should be NO CENTER POST AT ACCESS POINT.
- Gates need to be hinged in *front* of walls not inside the walls. This will allow for the extra 120-150 degrees in opening angle needed.
- Full swing gates required.
- Space between containers in enclosure allows access to glass recycling totes.
- Gates must be able to be pinned in the open and closed positions (lock backs) – to keep the gates from potentially swinging into vehicles.
- There must be 75' of unobstructed access to the front of the enclosure (no parking island, parked vehicles, light pole, buildings, etc.).
- There must be 25' of overhead clearance.
- Enclosure location must allow the truck(s) to safely re-enter traffic.

Please Note: This information is to be used for guidelines during the construction of enclosures. These recommendations do not signify our approval of the construction; actual plans must be submitted for approval.

Case No. _____
Fee _____
Receipt #_____
Date _____
TYPE_____

City of Sherwood
Oregon
Home of the Tualatin River National Wildlife Refuge

City of Sherwood

Application for Land Use Action

Type of Land Use Action Requested: (check all that apply)

- ☐ Annexation
- ☐ Plan Amendment (Proposed Zone _____)
- ☐ Planned Unit Development
- ☐ Site Plan (square footage of building and parking area)
- ☐ Variance (list standards to be varied in description)
- ☐ Conditional Use
- ☐ Partition (# of lots _____)
- ☐ Subdivision (# of lots _____)
- ☐ Other: _____

By submitting this form the Owner, or Owner's authorized agent/ representative, acknowledges and agrees that City of Sherwood employees, and appointed or elected City Officials, have authority to enter the project site at all reasonable times for the purpose of inspecting project site conditions and gathering information related specifically to the project site.

Note: See City of Sherwood current Fee Schedule, which includes the "Publication/Distribution of Notice" fee, at **www.sherwoodoregon.gov.** Click on Government/Finance/Fee Schedule.

Owner/Applicant Information:

Applicant:_____ Phone: _____
Applicant Address: _____ Email: _____
Owner:_____ Phone: _____
Owner Address: _____ Email: _____
Contact for Additional Information: _____

Property Information:

Street Location: _____
Tax Lot and Map No: _____
Existing Structures/Use: _____
Existing Plan/Zone Designation: _____
Size of Property(ies) _____

Proposed Action:

Purpose and Description of Proposed Action:

Proposed Use: _____

Proposed No. of Phases (one year each): _____

Continued on Reverse

LAND USE APPLICATION FORM

Authorizing Signatures:

I am the owner/authorized agent of the owner empowered to submit this application and affirm that the information submitted with this application is correct to the best of my knowledge.

I further acknowledge that I have read the applicable standards for review of the land use action I am requesting and understand that I must demonstrate to the City review authorities compliance with these standards prior to approval of my request.

_____ _____

Applicant's Signature Date

_____ _____

Owner's Signature Date

The following materials must be submitted with your application or it will not be accepted at the counter. Once taken at the counter, the City has up to 30 days to review the materials submitted to determine if we have everything we need to complete the review. Applicant can verify submittal includes specific materials necessary for the application per checklist.

☐ **3 Copies of Application Form*** completely filled out and signed by the property owner (or person with authority to make decisions on the property.

☐ **Copy of Deed** to verify ownership, easements, etc.

☐ **At least 3 folded** sets of plans*

☐ **At least 3 copies** of narrative addressing application criteria*

☐ **Fee** (along with calculations utilized to determine fee if applicable)

☐ **Neighborhood Meeting Verification** including affidavit, sign-in sheet and meeting summary (required for Type III, IV and V projects)

* **Note** that the required numbers of copies identified on the checklist are required for completeness; however, upon initial submittal applicants are encouraged to submit only 3 copies for completeness review. Prior to completeness, the required number of copies identified on the checklist and one full electronic copy will be required to be submitted.

APPLICATION MATERIALS REQUIRED FOR

SUBDIVISION PLAT

Submit the following to the City of Sherwood Planning Department, 22560 SW Pine St., Sherwood, OR 97140: (503) 925-2308.

It is strongly suggested that you have a pre-application meeting with the City prior to submitting for a Subdivision. (See *Pre-application Process* form for information.)

Note: The Clean Water Services (CWS) requires a pre-screening to determine if water quality sensitive areas exist on the property. If these sensitive areas exist, a Site Assessment and Service Provider Letter is required prior to submitting for a subdivision or minor land partition or undertaking any development. **This application will not be accepted without a completed Pre-Screening Form and if required a Service Provider Letter.** Please contact CWS at (503) 681-3600.

If the proposal is next to a Washington County roadway, the applicant must submit an Access Report (Traffic Study) to Washington County Department of Land Use and Transportation (503) 846-8761. **This application will not be accepted until an Access Report (Traffic Study) is submitted to Washington County and the Access Report is deemed complete by the County; or written verification from Washington County that an Access Report is not required is provided.**

I. **Fee -** See City of Sherwood current Fee Schedule, which includes the "Publication/Distribution of Notice" fee, at **www.sherwoodoregon.gov.** Click on Departments/Planning/ Fee Schedule.

Note: The above fee is required at the time you submit for a subdivision. Additional fees will be charged for building permit, system development charges, impact fees and other fees applicable to the development. These fees will be charged when you make application for building permit. Building permit application will not be accepted until the final plat is recorded.

II. **BACKGROUND INFORMATION** (all materials collated and folded (not rolled) to create fifteen (15) sets)

*****Note that the *final* application must contain fifteen (15) folded sets of the above, however, upon initial submittal of the application and prior to completeness review, the applicant may submit three (3) complete folded sets with the application in lieu of fifteen (15), with the understanding that fifteen (15) complete sets of the application materials will be required before the application is deemed complete and scheduled for review.

- ☐ **Application Form –** One original and fourteen (14) copies of a completed **City of Sherwood Application for Land Use Action** form. Original signatures from all owners must be on the application form.

- ☐ **Documentation of Neighborhood Meeting** - Affidavits of mailing, sign-in sheets and a summary of the meeting notes shall be included with the application.

- ☐ **Tax Map** - Fifteen (15) copies of the latest Tax Map available from the Washington County Assessor's Office showing property within at least 300 feet with scale (1"=100' or 1"= 200') north point, date and legend.

- ☐ **Mailing Labels –** Two (2) sets of mailing labels for property owners within 1,000 feet of the subject site, including a map of the area showing the properties to receive notice. Mailing labels are available from the Washington County Assessors office or a private title insurance company. . Ownership records shall be based on the most current available information from the Tax Assessor's office. *It is the applicant's responsibility to provide mailing labels that accurately reflect all property owners that reside within 1,000 feet of the subject site.*

- ☐ **Vicinity Map –** Fifteen (15) copies of a vicinity map. A photocopy of the Thomas Guide is adequate, showing the City limits and the Urban Growth Boundary.

- ☐ **Narrative –** Fifteen (15) copies and **an electronic copy** of a narrative explaining the proposal in detail and a response to the Required Findings for Subdivision, located in Chapter 16 of the Municipal Code/Zoning & Development, Section 16.120. The Municipal Code/Zoning & Development is available online at www.sherwoodoregon.gov, City Government/Records.

- ☐ **Electronic Copy –** An electronic copy of the entire application packet. This should include all submittal materials (narrative, vicinity map, mailing labels, site plan, preliminary plat, etc.).

III. REQUIRED PLANS

Submit fifteen (15) sets of the following folded full-size plans and **an electronic copy in PDF format**. Plans must have:

1) The proposed name of the development. If a proposed project name is the same as or similar to other existing projects in the City of Sherwood, the applicant may be required to modify the project name.
2) The name, address and phone of the owner, developer, applicant and plan producer.
3) North arrow,
4) Legend,
5) Date plans were prepared and date of any revisions
6) Scale clearly shown. Other than architectural elevations, all plans must be drawn to an engineer scale.
7) All dimensions clearly shown.

- ☐ **Existing Conditions Plan** - Existing conditions plan drawn to scale showing: property lines and dimensions, existing structures and other improvements such as streets and utilities, existing vegetation including trees, any floodplains or wetlands and any easements on the property. The existing conditions plan shall also include the slope of the site at 5-foot contour intervals

☐ **Preliminary Development Plans-** Plans must be sufficient for the Hearing Authority to determine compliance with applicable standards. The following information is typically needed for adequate review:

1. The subject parcel(s), its dimensions and area and the buildable area of each lot.

2. The location and dimensions of proposed development, including the following:

Transportation

a. Public and private streets with proposed frontage improvements including curb, gutters, sidewalks, planter strip, street lighting, distances to street centerline, pavement width, right-of-way width, bike lanes and driveway drops.
b. Public and private access easements, width and location.
c. General circulation plan showing location, widths and direction of existing and proposed streets, bicycle and pedestrian ways and transit routes and facilities.
d. Show the location and distance to neighboring driveways and the width and locations of driveways located across the street.
e. The location and size of accesses, sight distance and any fixed objects on collectors or arterial streets.
f. Emergency accesses.

Grading and Erosion Control

g. Indicate the proposed grade at two (2)-foot contour intervals.
h. Indicate the proposed erosion control measures to CWS standards (refer to CWS R&O 07-20).
i. Show areas of cut and fill with areas of structural fill.
j. Show the location of all retaining walls, the type of material to be used, the height of the retaining wall from the bottom of the footing to the top of the wall and the exposed height of the wall.

Utilities

k. Utilities must be shown after proposed grade with 2-foot contour intervals.
l. Map location, purpose, dimensions and ownership of easements.
m. Fire hydrant locations and fire flows.
n. Water, sewer and stormwater line locations, types and sizes.
o. Clearly indicate the private and public portions of the system.
p. Above-ground utilities and manhole locations

Preliminary Stormwater Plan

q. Show location, size and slope of water quality facility.
r. Preliminary calculations justifying size of facility.
s. The total square footage of the new and existing impervious area.
t. Indicate a stormwater facility to CWS standards (CWS R&O 07-20).

Sensitive Areas

u. Show any and all streams, ponds, wetlands and drainage ways.
v. Indicate the vegetative corridor for sensitive areas to CWS standards. (R&O 07-20).
w. Indicate measures to avoid environmental degradation that meet CWS, DSL and Army Corp requirements.
x. Flood elevation.
y. Wetland delineation and buffering proposed.

Land Use

z. The square footage of each building and a break down of square footage by use. (i.e. retail, office, industrial, residential, etc.).
aa. Net buildable acres. (The land remaining after unbuildable areas are taken out, such as the floodplain and wetland areas.)
bb. Net density calculation for residential use.
cc. Existing trees proposed to remain and trees to be removed and the drip-lines of trees proposed to remain.
dd. Street tree location, size and type. (refer to Ch. 8, Section 8.304.06 of the Community Development Code).
ee. Location, size and height of proposed free-standing signs.
ff. Location, height and type of fencing and walls.
gg. For each lot indicated the building envelope.

☐ **Reduced - Proposed Development Plans –** One (1) reduced copy of the Proposed Development Plans on 8 1/2" by 11" sheets and fifteen (15) reduced copies on 11" by 17" sheets.

☐ **Lighting Plan** – Photometric lighting plan indicating foot candle power on and along the perimeter of the site. Proposed locations, height and size of lights. (If outdoor lighting is proposed).

☐ **Surrounding Land Uses –** Existing land use including nature, size and location of existing structures within 300 feet. .

IV. DOCUMENTS REQUIRED

☐ **Title Report** – Two (2) copies of a current preliminary title report available from a private title insurance company.

☐ **CWS Service Provider Letter** – Four (4) copies of the CWS service provider letter.

☐ **Soils Analysis and/or Geotechnical Report** – Four (4) copies completed by a registered Soils Engineer or Geologist including measures to protect natural hazards. (If required by the City Engineer).

☐ **Traffic Study –** Four (4) copies of a traffic study. (If required by the City Engineer

V. ADDITIONAL DOCUMENTS THAT MAY BE REQUIRED

☐ **Army Corps and DSL wetland applications and/or permits –** Four (4) copies of required Divisions of State Lands and/or Army Corp of Engineers permits and/or permit applications if applicable.

☐ **Trip Analysis** - verifying compliance with the Capacity Allocation Program, if required per 16.108.070.

☐ **Tree Report –** Two (2) copies of a tree report prepared by an arborist, forester, landscape architect, botanist or other qualified professional. (If trees are on-site).

- ☐ **Natural Resource Assessment –** If required by Clean Water Services (CWS). The CWS Pre-Screening indicates as to whether this report is required or not.

- ☐ **Wetland Delineation Study –** if required by Oregon Division of State Lands (DSL) or the Army Corps of Engineers.

- ☐ **Other Special Studies and/or Reports –** if required by the Planning Director or the City Engineer to address issues identified in the pre-application meeting or during project review.

- ☐ Verification of compliance with other agency standards such as CWS, DSL, Army Corps of Engineers, ODOT, PGE, BPA, Washington County

PLANNING DEPARTMENT NEIGHBORHOOD MEETING PACKET

(Required for all Type III, IV or V projects)

Submit the following with land use application materials to the City of Sherwood Planning Department, 22560 SW Pine St., Sherwood, OR 97140: (503) 625-5522.

The purpose of the neighborhood meeting is to solicit input and exchange information about the proposed development per Sherwood Zoning and Community Development Code 16.70.020. The meeting must be held in a public location **prior** to submitting a land use application.

☐ Affidavits of mailing to adjacent property owners that are within 1,000 feet of the subject application.

☐ Sign-in sheet(s)

☐ Summary of the meeting notes

(Projects requiring a neighborhood meeting in which the City or Urban Renewal District is the property owner or applicant shall also provide published and posted notice of the neighborhood meeting consistent with the notice requirements in 16.72.020.)

Affidavit of Mailing

DATE:

STATE OF OREGON)
)
Washington County)

I, _____, representative for the _____ proposed development project do hereby certify that the attached notice to adjacent property owners and recognized neighborhood organizations that are within 1,000 feet of the subject project, was placed in a U.S. Postal receptacle on _____.

_____
Representatives Name:
Name of the Organization:

NEIGHBORHOOD MEETING SIGN IN SHEET

Proposed Project: _____

Proposed Project Location: _____

Project Contact: _____

Meeting Location: _____

Meeting Date: _____

Name	**Address**	**E-Mail**	**Please identify yourself (check all that apply)**			
			Resident	Property owner	Business owner	Other

Continued sign-in sheet for proposed project:_____ Date:_____

Name	Address	E-Mail	Please identify yourself (check all that apply)			
			Resident	Property owner	Business owner	Other

NEIGHBORHOOD MEETING LOCATIONS

Neighborhood meetings must be held in the City of Sherwood, preferably near the proposed project location. The following is a list of potential meeting locations but is not all inclusive.

Chamber of Commerce (tentative) – 16065 SW Railroad Street ……..…503-625-7800
(Contact the Chamber of Commerce for more information.)

Sherwood School District
Archer Glen Elementary School -16155 SW Sunset Blvd
Edy Ridge Elementary School - 21472 SW Copper Terrace
Hopkins Elementary School - 21920 SW Sherwood Blvd
Laurel Ridge Middle School - 21416 SW Copper Terrace
Middleton Elementary School - 23505 SW Old Hwy 99W
Sherwood Charter School - 23264 SW Main Street
Sherwood Middle School - 21970 SW Sherwood Blvd
Sherwood High School - 16956 SW Meinecke Road

Contact Liz Gally……503-825-5922
The school district rents their facilities. The fee schedule is available on their website at http://sherwood.k12.or.us/

Marjory Stewart Senior Center – 21907 SW Sherwood Blvd…….503-625-5644

Sherwood City Hall - 22560 SW Pine Street……503-625-5522

Sherwood Police Department - 20495 SW Borchers Drive……..…503-625-5523

Tualatin Valley Fire & Rescue - 15440 SW Oregon Street…….503-649-8577
(Contact administrative office and request to set up a meeting at Sherwood fire department.)

YMCA – 23000 SW Pacific Highway 503-625-9622
(Contact Lauren O'Halloran)

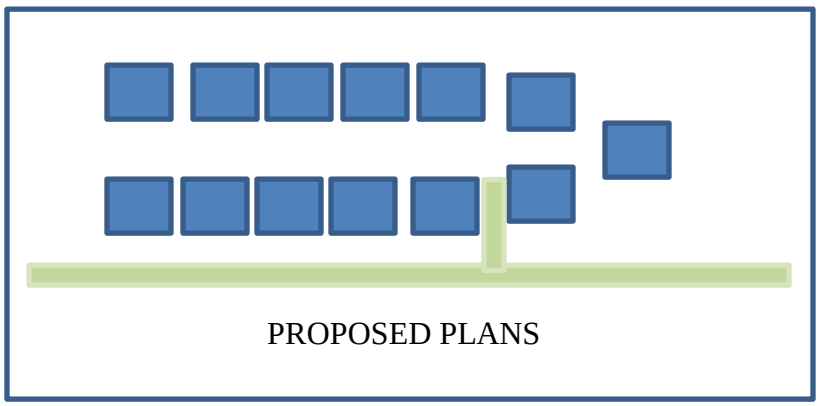
Other locations could include churches, coffee shops, developer's office, onsite, etc. provided they are open to the public to attend, conveniently located and are within the City of Sherwood.

EXAMPLE NOTICE A

NOTICE OF NEIGHBORHOOD MEETING

A Neighborhood Meeting will be held on January 1, 2011 at 123 SW Local Street (Subject site) to inform the community about our proposed subdivision. Interested community members are encouraged to attend this meeting. Please contact John Doe at 555-555-5555 for additional information.

PROJECT PROPOSAL: The ABC Group is proposing a thirteen (13) Lot subdivision at 123 Local Street. The subdivision will have single family homes that are all constructed in one phase. We are also proposing a pathway connecting this subdivision to the adjacent neighborhoods.



PROPOSED PLANS

Agenda

6:30PM – Welcome
7 PM - Project Presentation
8 PM – Question and Answer
9 PM – Meeting Adjourn

Meeting Information

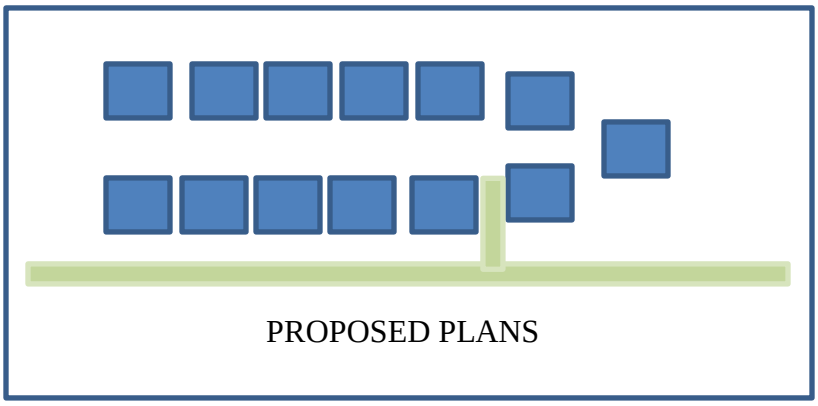
DATE: January 1, 2011
TIME: 7 PM
LOCATION: 123 SW Local Street (Subject site)
CONTACT: John Doe, Project Manager at ABC Group 555-555-5555

EXAMPLE NOTICE B

NOTICE OF NEIGHBORHOOD MEETING

A Neighborhood Meeting will be held on January 1, 2011 at 123 SW Local Street (Subject site) to inform the community about our proposed subdivision. Interested community members are encouraged to attend the open house. Please contact John Doe at 555-555-5555 for additional information.

PROJECT PROPOSAL: The ABC Group is proposing a thirteen (13) Lot subdivision at 123 Local Street. The subdivision will have single family homes that are all constructed in one phase. We are also proposing a pathway connecting this subdivision to the adjacent neighborhoods.



PROPOSED PLANS

Open House Information

DATE: January 1, 2011
TIME: 7 – 9PM
LOCATION: 123 SW Local Street (Subject site)
CONTACT: John Doe, Project Manager at ABC Group 555-555-555

CITY OF SHERWOOD
COVID-19 VIRTUAL NEIGHBORHOOD MEETING REQUIREMENTS

May 11, 2020

Effective immediately due to the Coronavirus (Covid-19) outbreak, the City of Sherwood Planning Department will accept a virtual meeting alternative in place of an in-person Neighborhood Meeting. This option will allow land use applications to move forward while still providing an opportunity for community members to provide valuable input on development projects. The virtual meeting alternative will be in effect until the City determines it is no longer necessary based on official County and State restrictions related to Covid-19.

This is a temporary option for holding a Neighborhood Meeting during the time covered by the Governor's order and does not permanently replace any portion of current Sherwood Zoning and Community Development Code's requirements for Neighborhood Meetings under SZCDC § 16.70.020. The Virtual Neighborhood Meeting Requirements are described below.

1. The applicant's Virtual Neighborhood Meeting notice materials shall be mailed to property owners and recognized neighborhood organizations within 1,000 ft. of the subject application site and shall include all the following:

    - A written narrative explaining the development proposal.
    - A legible (preferably rendered) site plan.
    - A URL for the virtual meeting (to be held on Zoom, Skype, Go-to-Meeting, Microsoft Teams, or other similar online platform), and information on how members of the public can access the virtual meeting.
    - A toll-free phone number providing an alternative for participation by phone.
    - Addresses where written comments and questions can be submitted via email and US Postal Service prior to the meeting.
    - A URL for a website, Dropbox, or other online platform hosted by the applicant providing public access to a copy of the mailing materials and other typical neighborhood meeting materials (grading plan, landscape plan, renderings, etc.). These materials shall be posted online the same day the meeting notice is mailed.

2. In executing the Virtual Neighborhood Meeting, the applicant shall:

    - Hold the online meeting at the time and virtual location posted in the notice.
    - During the meeting, collect names and contact information of all participants and provide that information with the meeting summary (in lieu of a sign-in sheet).
    - During the meeting, solicit input and exchange information about the proposed development

- During the meeting address all questions and comments submitted prior to the meeting by email or USPS.

3. The following information is required to be submitted with the land use application:

- An affidavit of mailing to adjacent property owners and recognized neighborhood organizations within 1,000 ft. of the subject application site
- A sign in sheet (name and contact info of participants collected during the meeting)
- Any correspondence (email or USPS) the applicant receives regarding the meeting
- A summary of the meeting notes

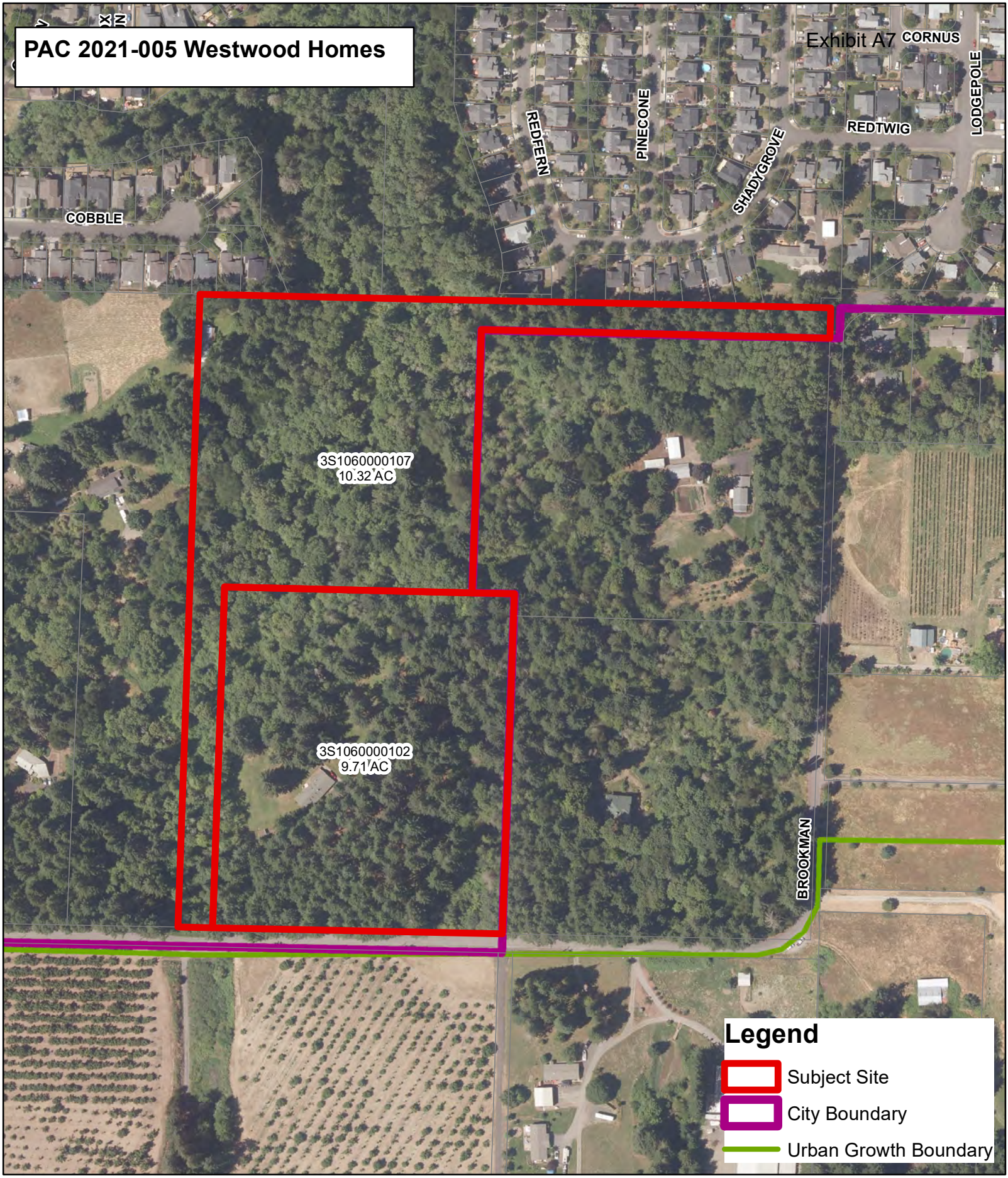
Please note that if the virtual meeting is to be recorded, all participants shall be notified that the meeting is being recorded.

Sherwood Zoning and Community Development Code (for reference)
16.70.020 - Neighborhood Meeting

A. The purpose of the neighborhood meeting is to solicit input and exchange information about the proposed development.

B. Applicants of Type III, IV and V applications are required to hold a meeting, at a public location for adjacent property owners and recognized neighborhood organizations that are within 1,000 feet of the subject application, prior to submitting their application to the City. Affidavits of mailing, sign-in sheets and a summary of the meeting notes must be included with the application when submitted. Applicants for Type II land use action are encouraged, but not required to hold a neighborhood meeting.

1. Projects requiring a neighborhood meeting in which the City or Urban Renewal District is the property owner or applicant shall also provide published and posted notice of the neighborhood meeting consistent with the notice requirements in 16.72.020.



N

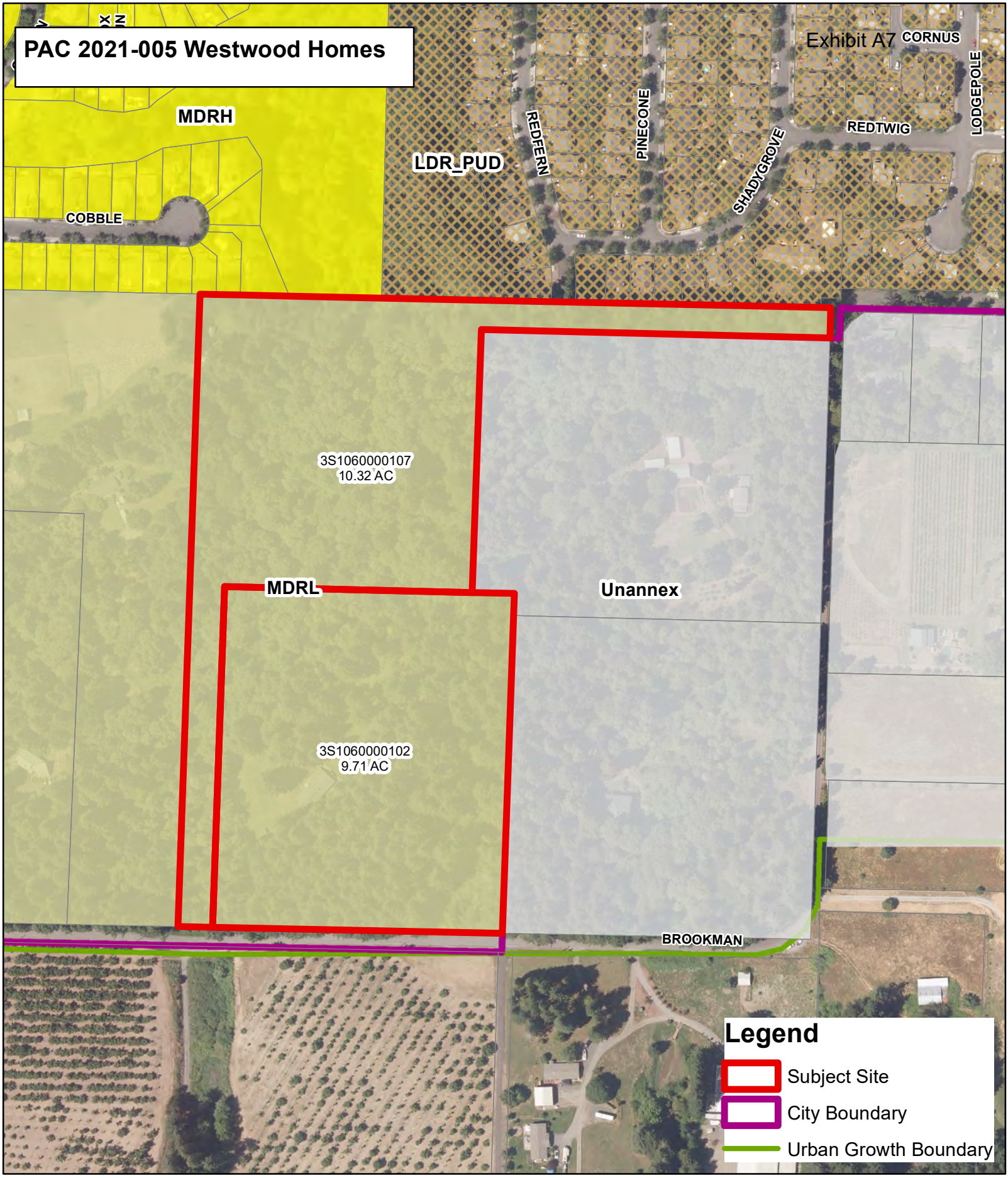
0 100 200 400

Feet

City of Sherwood Oregon

Date: 4/25/2021

Map data provided by METRO and the City of Sherwood. The City of Sherwood's infrastructure records,drawings, and other documents have been gathered over many years, using many different formats and standards. While the data provided is generally believed to be accurate, occasionally it proves to be incorrect; thus its accuracy is not guaranteed.



N

0 100 200 400

Feet

City of Sherwood Oregon

Date: 4/25/2021

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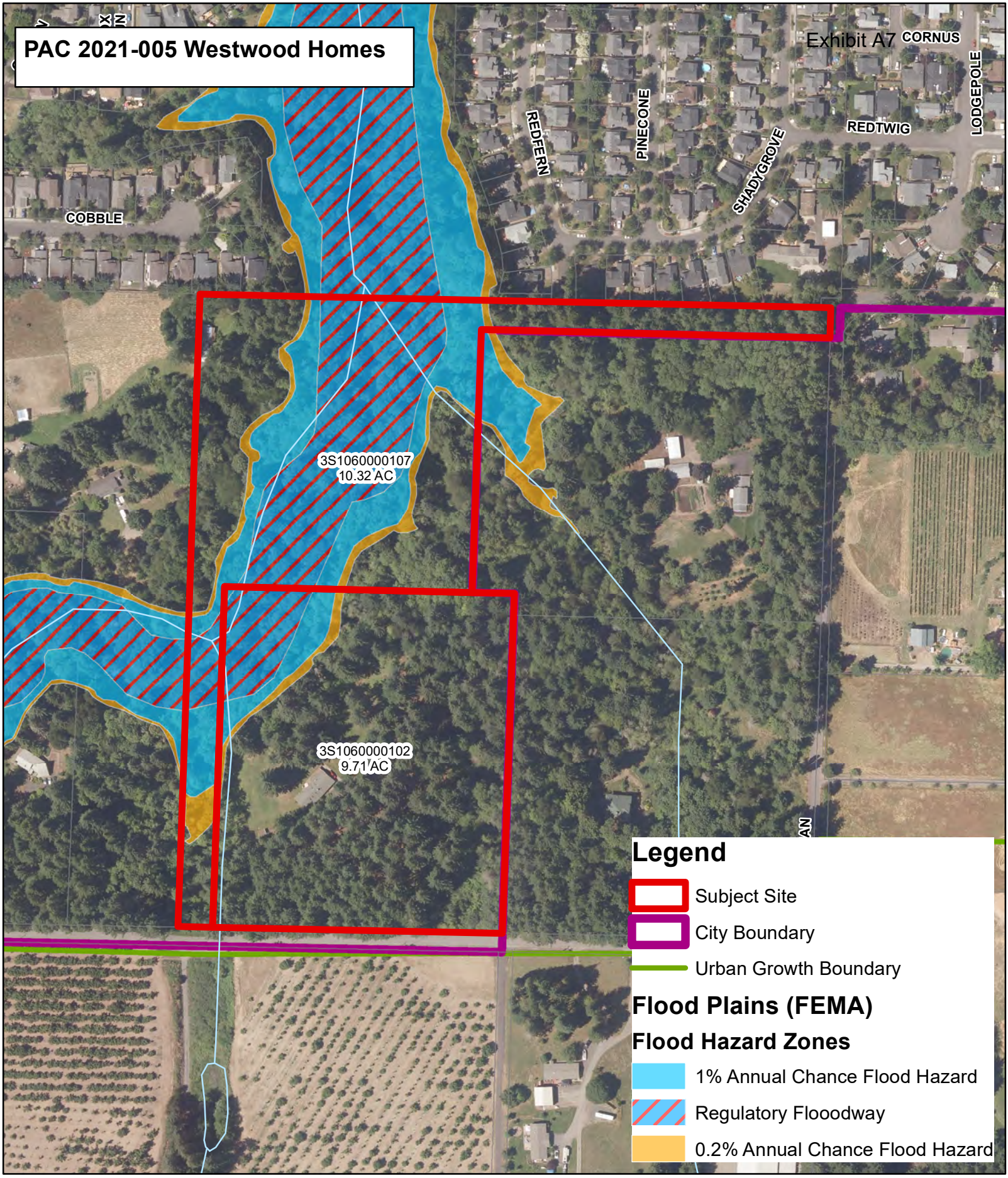

N

0 100 200 400

Feet

City of Sherwood Oregon

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Exhibit A7

Community Development Division
22560 SW Pine St.
Sherwood, OR 97140
Planning: 503-925-2308
Engineering: 503-925-2309
Building: 503-625-4226

Home of the Tualatin River National Wildlife Refuge

INTERDEPARTMENTAL TRANSMITTAL

Date:	March 14, 2021
To:	Scott McKie, Building Official COS Bob Galati / Craig Christensen, Engineering Dept. COS Rich Sattler, Utility Manager COS Tom Mooney, Deputy Fire Marshall TVF&R Naomi Vogel, Washington County Land Use & Transportation
From:	Eric Rutledge, Associate Planner
Project Name:	**Westwood Homes (Brookman Addition)**
LU Case No.:	**PAC 2021-005 Westwood Homes**
COS Job No.:	192222
Project Status:	Pre-application
Application Date:	Thursday April 9, 2021
Comment Date:	Thursday April 29, 2021
Internal Meeting:	Tuesday April 27, 2021 1:30pm (Microsoft Teams, virtual)
Pre-App Conference:	Thursday April 29, 2021 at 1:30pm (Microsoft Teams, virtual)
Subject:	Please provide pre-application comments

Items Enclosed:

Quantity	*Date*	*Name and/or Description*
1	4/9/21	Pre-application submittal

Exhibit A7

RECEIVED
APR 09 2021
City of Sherwood
Planning Dept.

Case No. PAC 2021-005
Fee 400.00
Receipt # 071122
Date 4.9.21
TYPE PAC

City of Sherwood Oregon
Home of the Tualatin River National Wildlife Refuge

Pre-application Form

Type of Land Use Action(s) Proposed:

- ☐ Annexation
- ☐ Plan Amendment
- ☐ Variance
- ☐ Planned Unit Development
- ☐ Sign Permit
- ☐ Conditional Use
- ☐ Minor Partition
- ☒ Subdivision
- ☐ Site Plan
- ☐ Other: _____

Owner/Applicant Information:

Applicant(s): Westwood Homes Phone: 503-715-2383

Address(s): 12700 NW Cornell Rd, Portland OR 97229

Owner(s): Wayne L. & Linda A. Chronister, Charles & Louise Bissett Phone: _____

Address: 17033 & 16871 SW Brookman Rd, Sherwood, OR 97140

Contact for Additional Information: Matt Sprague, Pioneer Design Group

9020 SW Washington Sq. Rd., #170 Portland OR 97223 971-708-6249 msprague@pd-grp.com

Property Information:

Street Location: 17033 & 16871 SW Brookman Rd

Tax Lot and Map No: Tax Lots 102 & 107 Map 3S1 06

Existing Structures/Use: 2 existing homes on large parcels

Existing Plan/Zone Designation: Medium Density Residential / MDRL

Proposed Action:

Proposed Use: 40 lot, single family detached subdivision

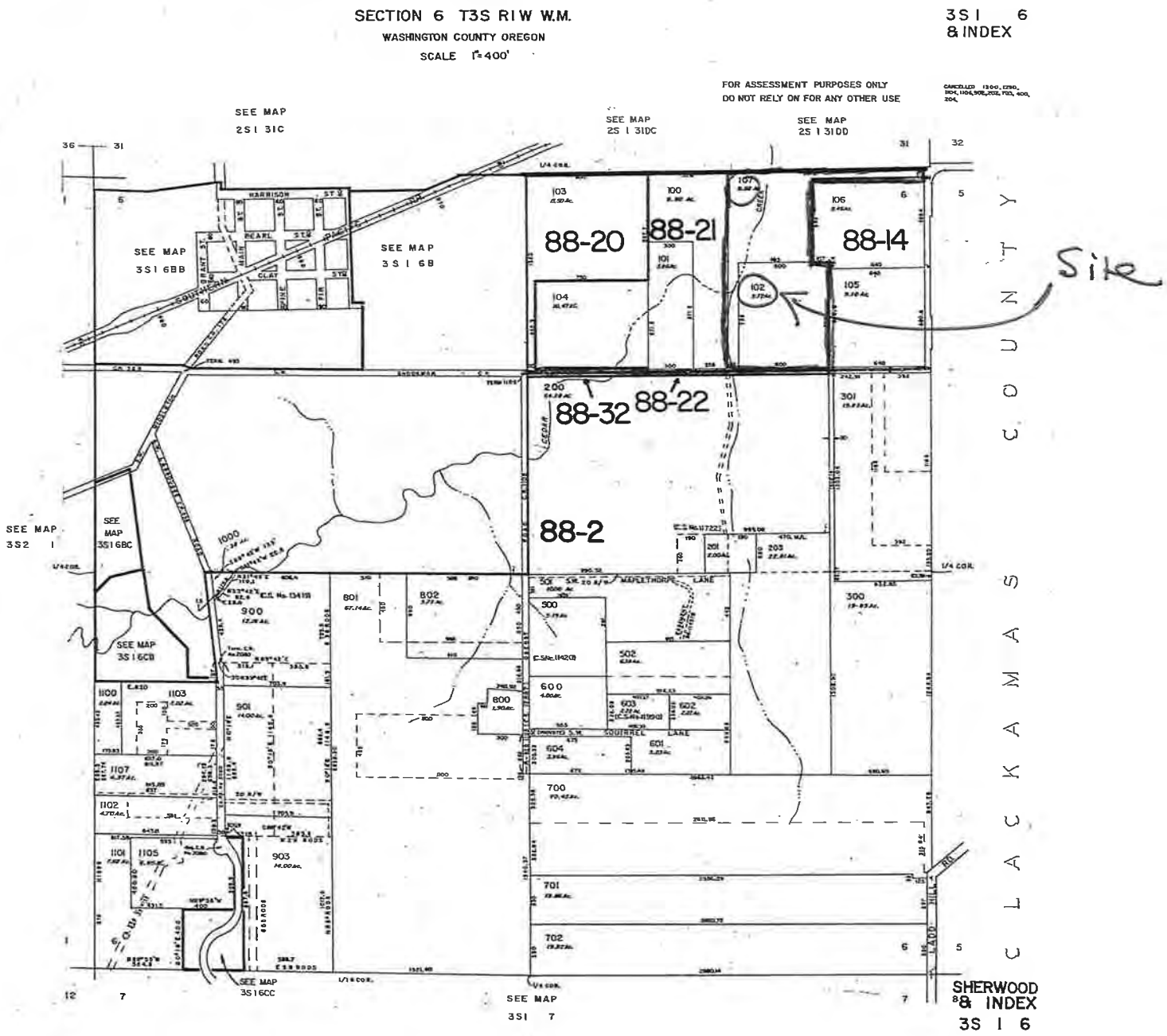
Proposed Plan/Zone Designation: NO change

Proposed No. of Phases (one year each): 1 to 2

Standard to be Varied & the amount of the variance Varied (Variance Only):

Possibly lot width reduction & DE for cul-de-sac length.

Exhibit A7


SECTION 6 T3S R1W W.M.
WASHINGTON COUNTY OREGON
SCALE 1"=400'
3S1 6
& INDEX
FOR ASSESSMENT PURPOSES ONLY
DO NOT RELY ON FOR ANY OTHER USE
SEE MAP 2S1 31C
SEE MAP 2S1 31DC
SEE MAP 2S1 31DD
SEE MAP 3S1 6BB
SEE MAP 3S1 6B
SEE MAP 3S2 1
SEE MAP 3S16BC
SEE MAP 3S16CB
SEE MAP 3S16CC
SEE MAP 3S1 7
88-20
88-21
88-14
88-32
88-22
88-2
Site
HARRISON ST.
PEARL ST.
MAIN
BANT
CLAY
SPRUCE
FIR
SOUTHERN PACIFIC R.R.
CEDAR CREEK
MAPLETHORPE LANE
SOUTHEAST LANE
SHERWOOD
CLACKAMAS COUNTY
SEE MAP 3S1 INDEX

PRE-APPLICATION CONFERENCE NARRATIVE AND QUESTIONS
CEDAR CREEK GARDEN
4-9-21

PROJECT DESCRIPTION:

The applicant is seeking preliminary approval for a 40-lot subdivision on an extremely complex site based on existing conditions related to the property shape, wetlands and drainageways as well as community trails.

Its apparent that the site is substantially different in nature than contemplated by the master planning process and Brookman Concept plan. As such, flexibility is going to be necessary to address those plans as best we can.

The proposed lots will average greater than 5,000 SF in size. There may be a request to reduce the width of some of the lots to not less than 45 feet in width. The subdivision is broken into 3 distinct areas. 9 lots in the northeast corner, 3 lots in the northwest corner and 28 lots in the southern area nearest Brookman Road.

One access is proposed to Brookman Road with a street to be extended to the east stopping at the edge of the resource for improvements until development to the east occurs. A fee in lieu of those improvements is proposed and the proposal is in direct response to the Division of State Lands requirement to provide only one permit for a drainage/wetland impact as proposed. As such, this will be a deferred improvement but costs will be taken into account.

The cul-de-sac will extend to the north and terminate rather than impacting the resource again with a full public street crossing. Instead, a 20-foot-wide private drive is proposed to reduce the impact to wetlands and cross at its narrowest location to provide access to smaller developable areas in the middle of the site along the eastern edge. An additional private street is proposed with a 20-foot paved width to access lots 10 and 11. A sidewalk is proposed in this location to provide access to the Community Trail.

Redfern is intended to be extended through the site as well in the northeast area.

All local streets will be proposed with a 52-foot right-of-way and 28 feet of pavement.

Brookman Road will have a half street dedication. We look forward to working with the City Engineer to make improvements that the project is capable of making. Until we complete the survey work, we won't have a good idea what kind of situations we are dealing with that may be similar to what has occurred with the two projects approved west of this site that front on Brookman Road.

PIONEER DESIGN GROUP
9020 SW Washington Square Rd
Suite 170
Portland, Oregon 97223
p 503.643.8286
f 844.715.4743
www.pd-grp.com

A community trail system will be constructed generally along the southern boundary of Cedar Creek being extended through the site from west to east. In addition, Brookman Road also has a Community Trail.

Existing and Proposed Uses: The property currently contains forested and open areas along with 2 existing homes. Cedar Creek runs from west to northeast through the site and there is a side drainage running from Brookman Road to Cedar Creek along the west boundary. Another area of identified wetlands exists along the eastern boundary of the site flowing from Brookman, north to Cedar Creek. This drainage area was not contemplated in any of the City's Comprehensive Planning efforts.

Topography: The site generally slopes in many directions towards drainage areas. There are no severe slopes on the site. The southern development area at the proposed access to Brookman Road is the high point at 216 feet and a ridge runs generally north towards Cedar Creek between two side drainages.

The northwest development area slopes downhill to the east and Cedar Creek.

The northeast area where lots 28-40 are located is an area of relatively flat ground.

Vegetation: The site is generally tree covered with some clear areas where active uses are occurring.

Surrounding Land Uses: The surrounding zoning in all directions from the subject site is zoned MDRL. Property to the west is an approved project called The Reserve at Cedar Creek and is expected to be constructed this summer. To the east are larger parcels of undeveloped land with a future MDRL zoning. North of the site, properties have already been subdivided into residential subdivisions containing single family detached homes.

Access: The northwestern 9 lots will complete the improvements of the half street approved in the Reserve at Cedar Creek subdivision. The primary development area along Brookman Road will access Brookman Road at the high point between two drainages to ensure sight distance requirements can be met. The area in the northeast corner containing 3 lots will have both an access to one lot on Brookman Road at the corner and the 2 interior lots will obtain access through extension of SW Redfern Drive

Utilities: Water will be provided to the site's northwestern corner through construction of a line in the approved street. The master plan for the area shows a 12-inch line being extended from Redfern west through the site. The southern development area will receive water service from the 12-inch line constructed by The Reserve at Cedar Creek within the ROW of Brookman Road. The northeast area will obtain water through the extension of lines in Redfern.

Sanitary sewer will be provided through implementation of the master plan and through improvements constructed as a part of The Reserve at Cedar Creek. Of note is an 8-inch line being extended from the area where the community trail is crossing the drainage along the

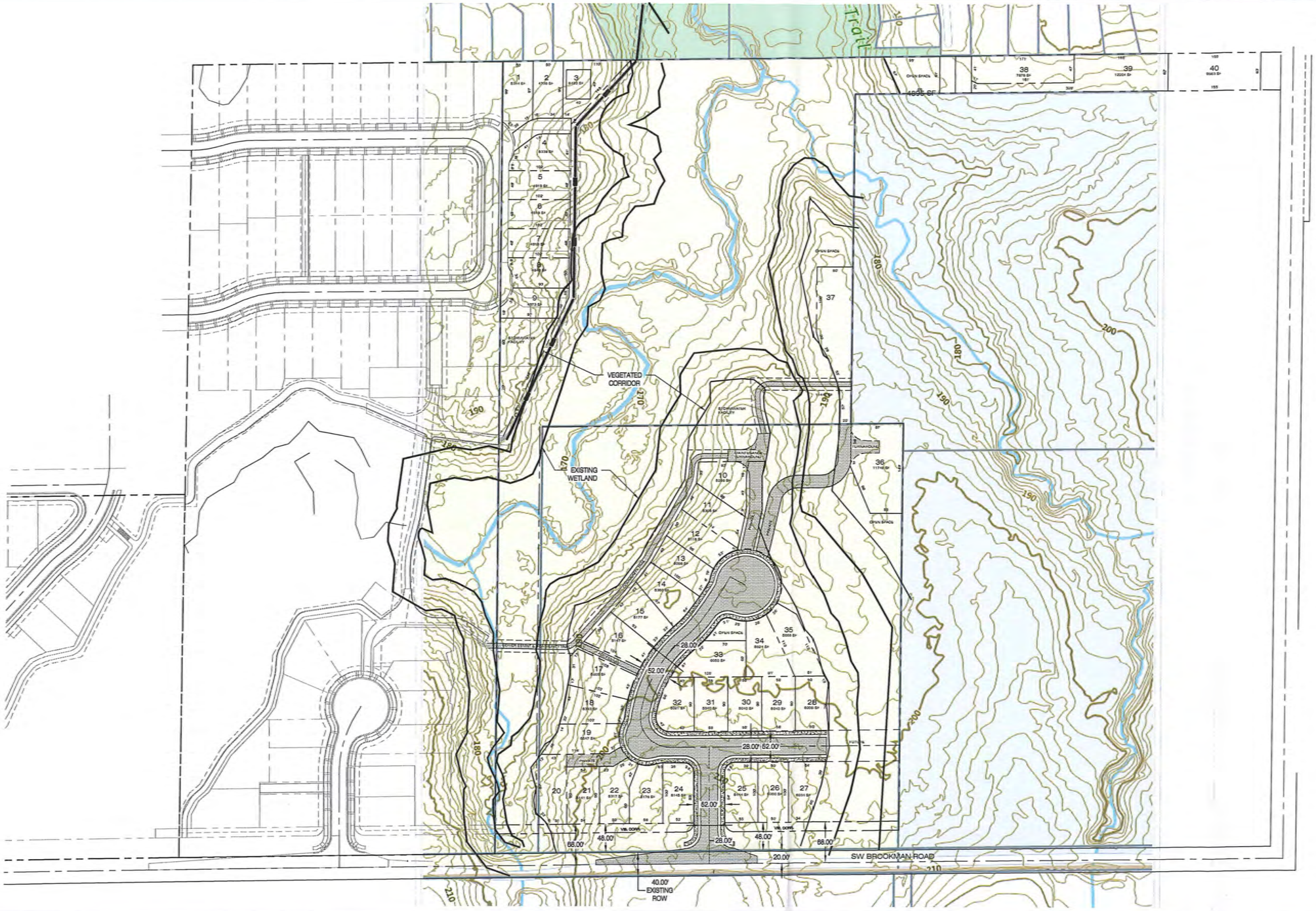
western boundary of the site. This will be extended across the drainage to serve the southern development area.

QUESTIONS/COMMENTS:

1. We expect to have a comprehensive discussion on utilities including sanitary, water and stormwater and how best to address the needs for the entire project.
2. Brookman Road will be a topic of discussion regarding improvements and we would like to know how the City Engineer would like us to approach analysis to these improvements to provide as much frontage improvement as possible given future conditions as an arterial street.
3. We believe the design exception for the length of the cul-de-sac will need to be processed by engineering and included within the land use application? Please confirm.

Exhibit A7

CEDAR CREEK GARDEN



PLANNING

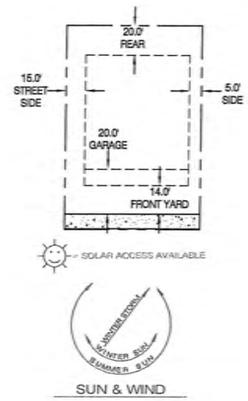
PIONEER DESIGN GROUP, INC.
9020 SW WASHINGTON SQ RD., SUITE 170
PORTLAND, OR 97223
PHONE (503) 643-8286
CONTACT: MATT SPRAGUE

SITE INFORMATION

TAX MAP:	3S1 06
TAX LOT:	102 & 107
SITE ADDRESS:	16871 & 17033 SW BROOKMAN ROAD SHERWOOD, OR, 97140
SITE SIZE:	19.64 ACRES
ZONING:	MEDIUM DENSITY RESIDENTIAL LOW (MDRL)

(MDRL) SETBACK REQUIREMENTS

FRONT YARD:	14 FT.
FACE OF GARAGE:	20 FT.
SIDE YARD:	5 FT.
STREET SIDE YARD:	15 FT.
REAR BUILDING	20 FT.



SUN & WIND

PRELIMINARY PLAT

A 40 LOT SUBDIVISION ON TAX LOT 102 & 107, TAX MAP 3S1 06
16871 & 17033 SW BROOKMAN ROAD, SHERWOOD, OR 97140

SCALE
80 0 40 80
1 INCH = 80 FEET

PDG PIONEER DESIGN GROUP

4340-01-30-0-002

RECEIPT DATE 4.12.2021 No. 071122

RECEIVED FROM Westwood Homes $400.00

four hundred —— 00/100 DOLLARS

○ FOR RENT
⊗ FOR PAC 2021-005

ACCOUNT		○ CASH
PAYMENT	400-	○ CHECK
BAL. DUE		○ MONEY ORDER
		⊗ CREDIT CARD

FROM —— TO ——

BY C Resch

3-11

CITY OF SHERWOOD, OR
22560 SW PINE ST
SHERWOOD , OR 97140

04/12/2021 11:41:06

CREDIT CARD

MC SALE

Card #	XXXXXXXXXXXX8299
SEQ #:	4
Batch #:	1279
INVOICE	4
Approval Code:	610623
Entry Method:	Manual
Mode:	Online
Tax Amount:	$0.00
Avs Code:	NYZ

SALE AMOUNT $400.00

CUSTOMER COPY

PIONEER DESIGN GROUP, INC.
CIVIL • PLANNING • SURVEY • LANDSCAPE
P 503.643.8286 www.pd-grp.com
9020 SW Washington Square Rd Suite 170
Portland, Oregon 97223

September 15, 2021

RE: NOTICE OF VIRTUAL NEIGHBORHOOD REVIEW MEETING

PROPOSED DEVELOPMENT: 42-Lot Subdivision for Detached Single Family Residential Dwellings – "Cedar Creek Gardens"

Dear Resident:

Pioneer Design Group, Inc. is representing the developer of property identified on the attached map ("the site") as Tax Map 3S106 Tax Lots 102 and 107, otherwise known as 16871 and 17033 SW Brookman Road, Sherwood. The site is located in the City of Sherwood's Medium Density Residential Low (MDRL) zone within the Brookman Addition Concept Plan area.

The applicant is proposing a 42-Lot Subdivision for Detached Single Family Residential Dwellings – "Cedar Creek Gardens" on the 20.03-acre site, along with the creation of new internal public streets, and open space tracts for the preservation of natural resource areas and extension of a public trail system through the site. The proposed lots will each exceed the minimum 5,000 square foot requirement of the MDRL Zone, and will be separated into 3 distinct groupings in order to preserve the Cedar Creek corridor, which runs from west to northeast through the site. There is a further small unnamed tributary flowing from SW Brookman Road to Cedar Creek along the western boundary of the site, and an area of identified wetlands located along the along the eastern boundary of the site. Prior to applying for Land Use approval from the City, we would like to take the opportunity to discuss the proposal in more detail with you.

The purpose of this VIRTUAL meeting is to provide a forum for the applicant and surrounding property owners/residents to review the proposal and to identify issues so that such issues may be considered before the formal application is submitted. This meeting gives you the opportunity to share with us any special information you know about the site. We will attempt to answer questions which may be relevant to meeting development standards consistent with the City's Zoning and Community Development Code.

Pursuant to the City of Sherwood Covid-19 Virtual Neighborhood Meeting Requirements dated May 11, 2020, you are invited to attend a virtual meeting on:

October 4, 2021 at 6:00 pm
Online at: https://bit.ly/285021meeting; or
Phone at: 971-358-1930, Conference ID: 474 427 856#
A copy of the meeting materials can also be found online at: https://bit.ly/285021materials

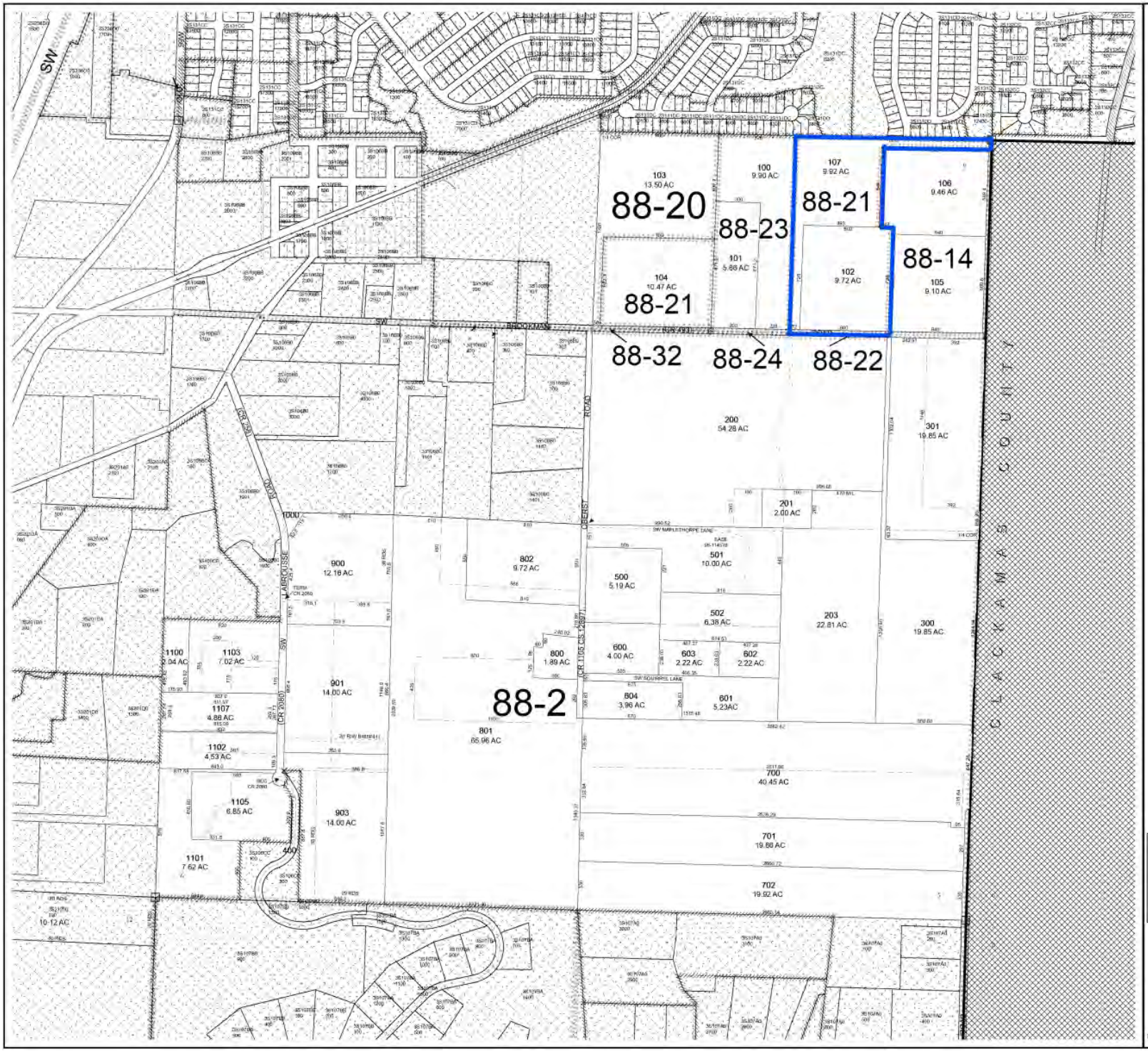
Please note this meeting will be an informational meeting on preliminary development plans. These plans may be altered prior to submittal of the application to the City. Depending upon the type of land use action required, you may receive official notice from the City for you to participate with written comments and/or an opportunity to attend a public hearing.

Due to the nature of the virtual meeting, we may have limited opportunity to respond to live questions. After reviewing these materials, if you have questions you would like answered during the meeting, please forward via email to whayson@pd-grp.com, or via mail marked to my attention at 9020 SW Washington Square Road, Suite 170, Portland OR 97229. All questions received prior to 4 pm on October 4, 2021 will be answered during the meeting.

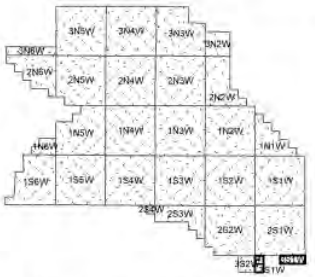
Sincerely,

Wayne Hayson
Planning Manager

Attachments: Vicinity/Tax Map
Preliminary Plan
Virtual Meeting Instructions



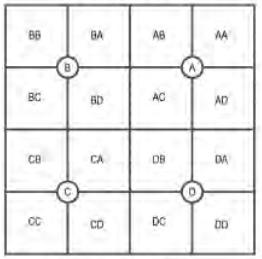
3S106



WASHINGTON COUNTY OREGON
SECTION 6 T3S R1W W.M.
SCALE 1" = 400'

36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6
12	7	8	9	10	11	12	7
13	18	17	16	15	14	13	18
24	19	20	21	22	23	24	19
25	30	29	28	27	26	25	30
36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6

FOR ADDITIONAL MAPS VISIT OUR WEBSITE AT
www.co.washington.or.us



Cancelled Taxlots For: 3S106
1200,1290,1104,1106,902,202,703,400,204

Feet
0 200 400 800 1,200

Assessment CARTOGRAPHY Taxation

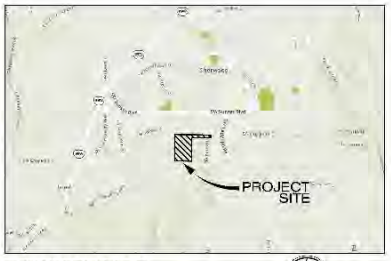
PLOT DATE: 6/21/2021
Rotation: 0
FOR ASSESSMENT PURPOSES ONLY - DO NOT RELY ON FOR OTHER USE

Map areas determined by either gray shading or a cross-hatched pattern are for reference only and may not indicate the most current property boundaries. Please consult the appropriate map for the most current information.

SHERWOOD
3S106

Digmap

CEDAR CREEK GARDEN



VICINITY MAP
NTS

APPLICANT

WESTWOOD HOMES LLC
12700 NW CORNELL ROAD
PORTLAND, OR 97229
PHONE: (503) 330-2215

OWNER

WAYNE AND LINDA CHRONISTER (TAX LOT 107)
PO BOX 1474
SHERWOOD, OR 97140

CHARLES AND LOUISE BISSETT (TAX LOT 102)
16871 SW BROOKMAN ROAD
SHERWOOD, OR 97140

PLANNING/ENGINEERING/SURVEYING

PIONEER DESIGN GROUP, INC.
9020 SW WASHINGTON SQ RD., SUITE 170
PORTLAND, OR 97223
PHONE: (503) 643-8286
CONTACT: MATT SPRAGUE

SITE INFORMATION

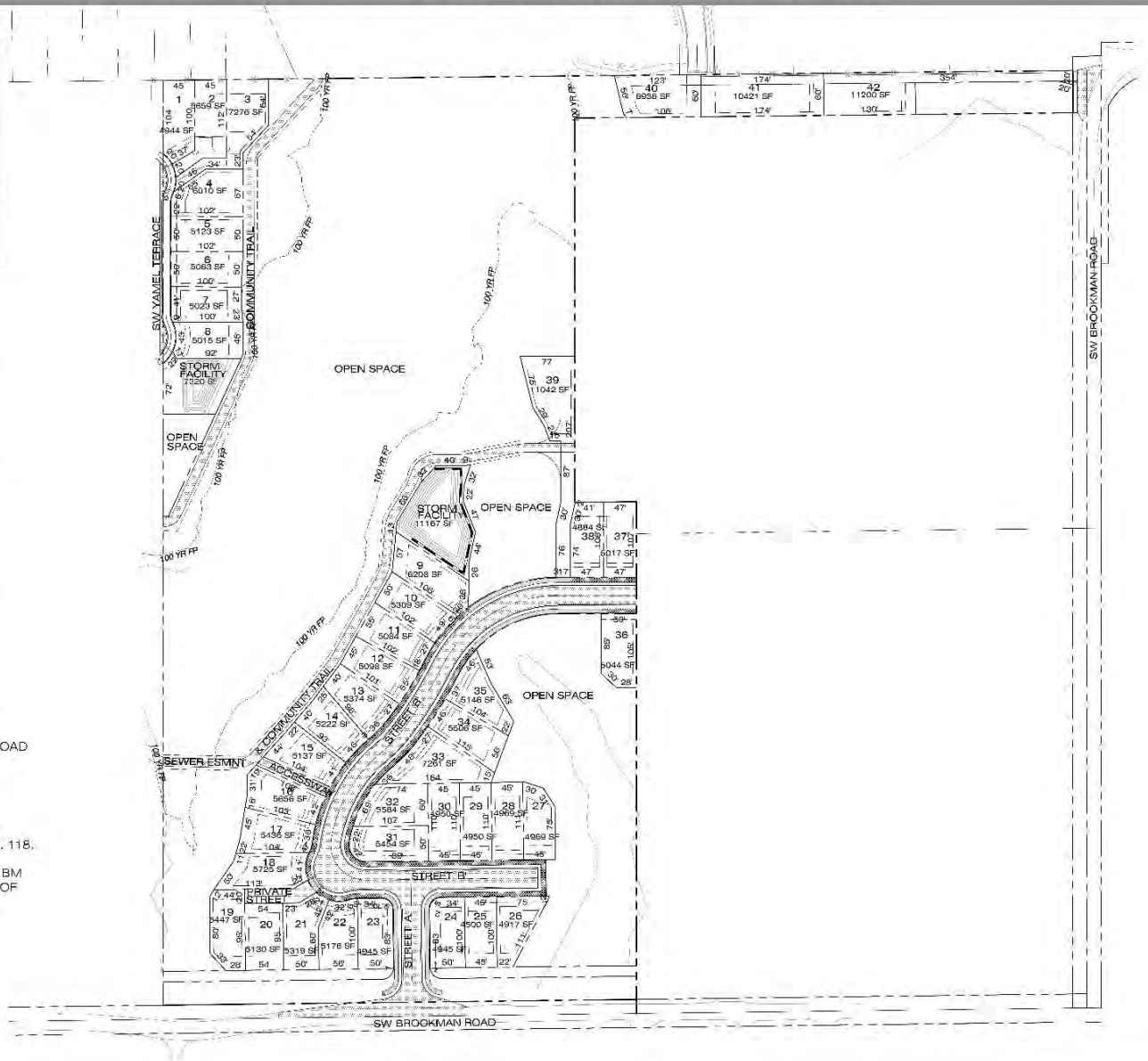
TAX MAP:	3S106
TAX LOT:	102 & 107
SITE ADDRESS:	16871 & 17033 SW BROOKMAN ROAD SHERWOOD, OREGON 97140
SITE SIZE:	20.03 ACRES
ZONING:	MDRL

VERTICAL DATUM

BENCHMARK: WASHINGTON COUNTY BENCHMARK NO. 118.

DESCRIPTION: A 3" BRASS DISK INSCRIBED 'WASH. CO. BM 118. SET CONCRETE FILLED WITH METAL, NORTH SIDE OF BROOKMAN ROAD ON THE EXTENDED CENTERLINE OF OBERST ROAD

ELEVATION: 194.775' NGVD 29



PRELIMINARY PLAT

A 42 LOT SUBDIVISION ON TAX LOT 102 & 107, TAX MAP 3S106
16871 & 17033 SW BROOKMAN ROAD, SHERWOOD, OR 97140

SCALE
1 INCH = 80 FEET

PIONEER DESIGN GROUP

PIONEER DESIGN GROUP

Virtual Meeting Instructions

To: Virtual Neighborhood Meeting Participants

From: Wayne Hayson
Pioneer Design Group, Inc.

Project: **42-Lot Subdivision for Detached Single Family Residential Dwellings – "Cedar Creek Gardens"**

Date: September 15, 2021

Pursuant to the City of Sherwood Covid-19 Virtual Neighborhood Meeting Requirements dated May 11, 2020, you are invited to attend a virtual meeting on:

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Online at: https://bit.ly/285021meeting or

Phone at: 971-358-1930, Conference ID: 474 427 856#

A copy of these materials can also be found online at: https://bit.ly/285021materials

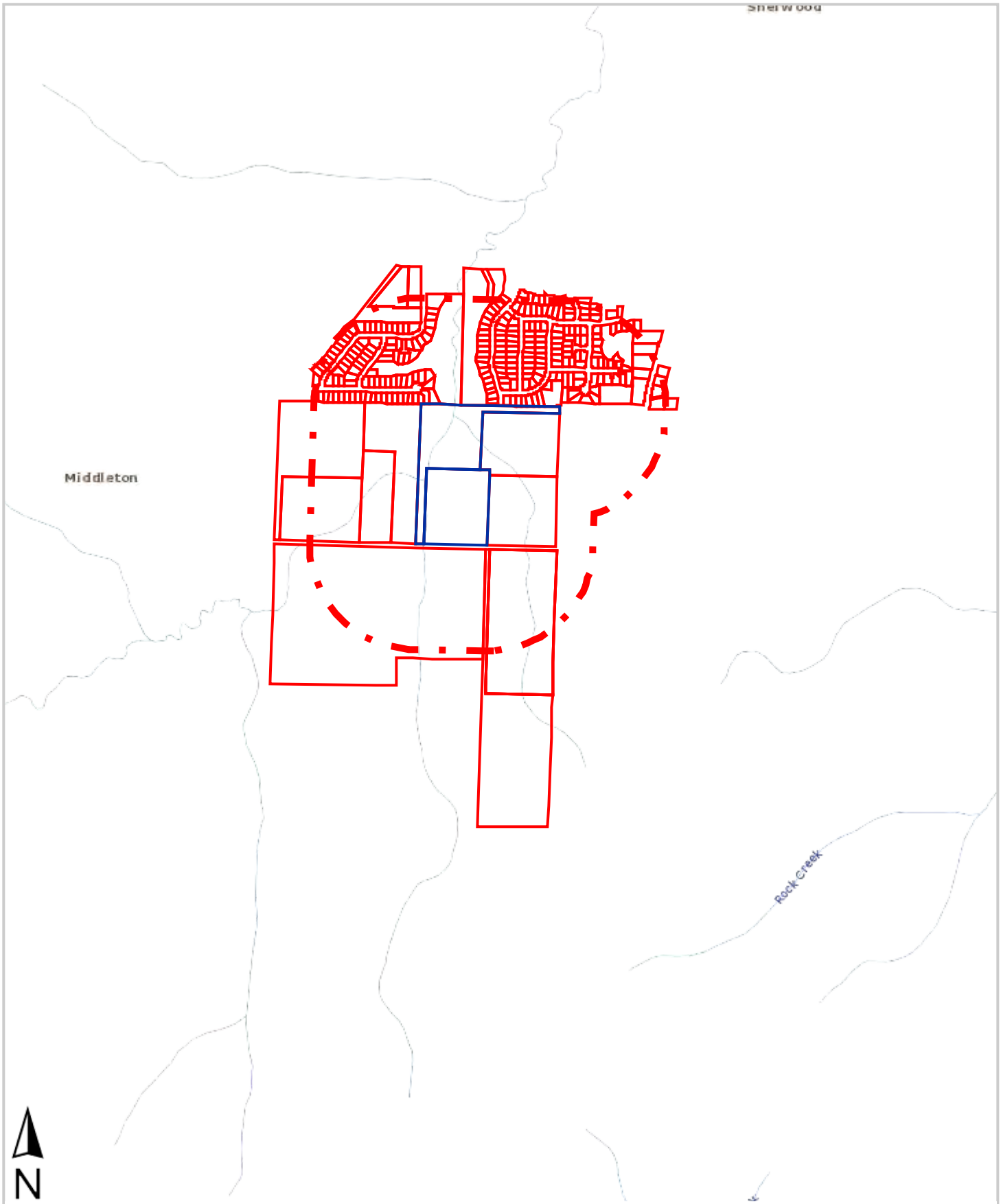
The meeting will be held using the Microsoft Teams Live Event feature. By entering the URL or phone number above, you will be directed to the Live Event. Access to the Live Event will begin at 5:50pm, and the meeting will start promptly at 6pm. You do not require a Microsoft Teams account to attend the meeting. The meeting may be recorded for the purpose of preparing minutes for submittal with a Land Use Application.

Due to the nature of the virtual meeting, we will have limited opportunity to respond to live questions. Please forward questions as directed below by October 4, 2021 at 4pm. All questions received prior to this time will be answered during the meeting.

Email: whayson@pd-grp.com

or

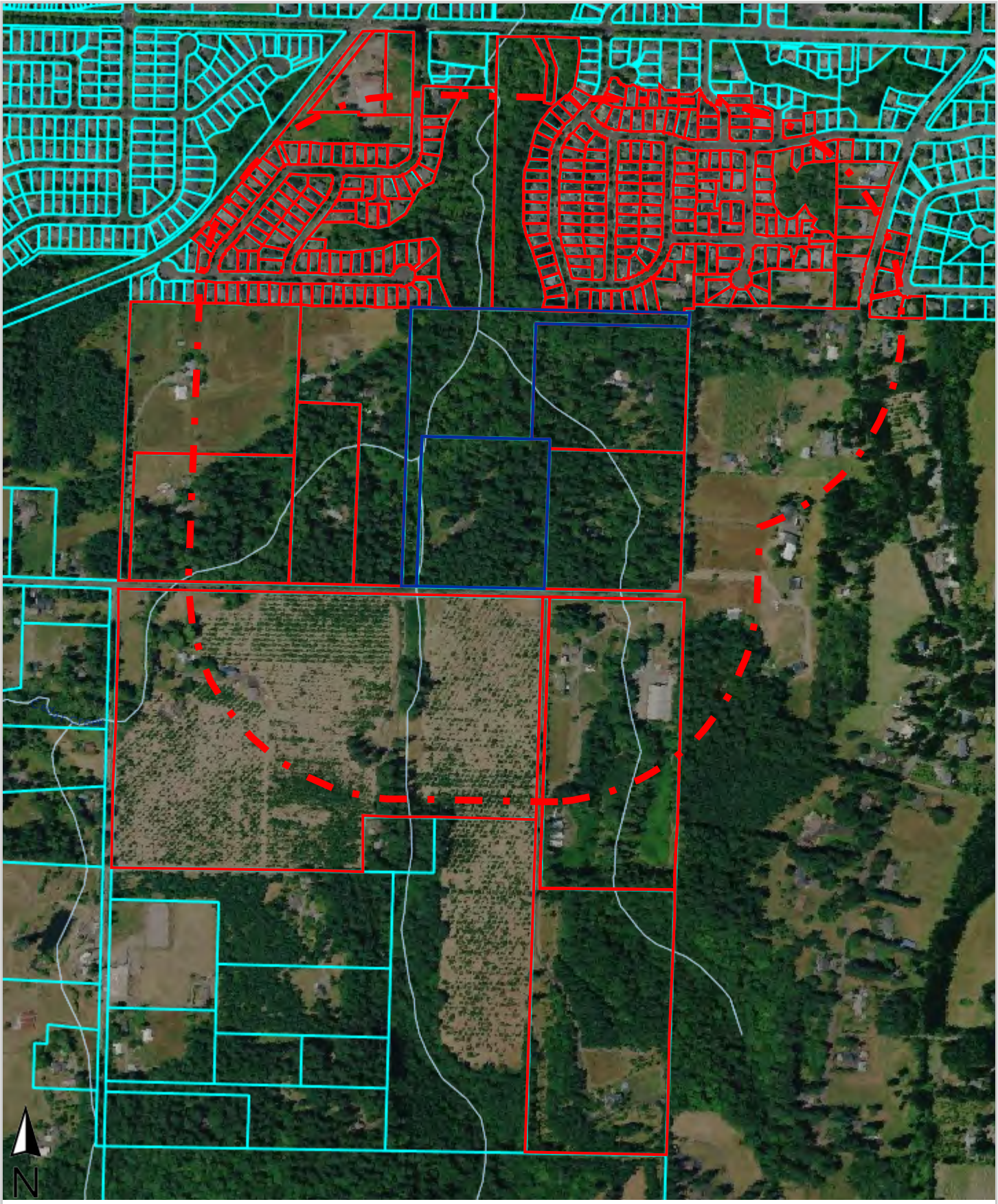
USPS: Pioneer Design Group
Attn: Wayne Hayson
9020 SW Washington Square Road, Suite 170
Portland OR 97229.



WFG National Title Company
a Williston Financial Group Company

3S106 Tax Lots 102 and 107 -1000Ft Radius

This map/plat is being furnished as an aid in locating the herein described land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.



WFG National Title Company
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3S106 Tax Lots 102 and 107 -1000Ft Radius

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Wayne Chronister
Linda Chronister
PO Box 1474
Sherwood OR 97140

Roy Gill
Jackie Gill
16650 SW Brookman Rd
Sherwood OR 97140

Steel Tek Industries Inc
PO Box 908
Sherwood OR 97140

Latned LLC
26527 SW Labrousse Rd
Sherwood OR 97140

Peterson S E & R L Family Trus
16242 SW Willow Dr
Sherwood OR 97140

Lawrence Minor
Jeraldine Minor
16295 SW Brookman Rd
Sherwood OR 97140

Drew, Edward & Sharon Rev Trust
16078 SW Highpoint Dr
Sherwood OR 97140

Patricia Vanausten
Carl Vanausten
16100 SW Highpoint Dr
Sherwood OR 97140

Horalia Cruz
Hector Pacheco
16089 SW Bowmen Ln
Sherwood OR 97140

Terrance Larsson
Gail Larsson
16071 SW Bowmen Ln
Sherwood OR 97140

David Brindza
Faith Brindza
16055 SW Bowmen Ln
Sherwood OR 97140

Sherwood, City Of
22560 SW Pine St
Sherwood OR 97140

William Adams III
Rebecca Adams
23683 SW Eucalyptus Ter
Sherwood OR 97140

Neil Spruit
23665 SW Eucalyptus Ter
Sherwood OR 97140

Jared Mcpeak-Ford
Janae Ford
23647 SW Eucalyptus Ter
Sherwood OR 97140

George Hogenkamp
April Hogenkamp
23640 SW Eucalyptus Ter
Sherwood OR 97140

Alan Doby
Davina Doby
16253 White Oaks Dr
Lake Oswego OR 97035

Parent, Richard Living Trust
23672 SW Eucalyptus Ter
Sherwood OR 97140

David Johnston
Talia Johnston
23688 SW Eucalyptus Ter
Sherwood OR 97140

Anna Raineri
23326 SW Price Ter
Sherwood OR 97140

Jill Mader
Doug Mader
23667 SW Platanus Pl
Sherwood OR 97140

Keith Laber
22128 SW Fisk Ter
Sherwood OR 97140

H & H Property Group LLC
PO Box 292
Sherwood OR 97140

Khabc Properties LLC & Thomas, Tandi M
16001 Bowmen Ln
Sherwood OR 97140

Gregory Schaefer
Kelly Schaefer
16266 SW Willow Dr
Sherwood OR 97140

Harrison Latimer
Genevieve Latimer
16294 SW Willow Dr
Sherwood OR 97140

Paul Valesano
Rachel A Valesano
16320 SW Willow Dr
Sherwood OR 97140

Meredith Bowie
Jeffrey Bowie
16346 SW Willow Dr
Sherwood OR 97140

Sean Murphy
Carolyn Murphy
23730 SW Lodgepole Ter
Sherwood OR 97140

Anne Nguyen
23758 SW Lodgepole Ter
Sherwood OR 97140

Penny Sunlove
Winklebleck Sunlove
23786 SW Lodgepole Ter
Sherwood OR 97140

Derek Easton
Jennifer Easton
18241 SW Handley St
Sherwood OR 97140

Brent Alexander
Kimberly Alexander
16355 SW Redtwig Dr
Sherwood OR 97140

Craig Tateishi
Cheryl Tateishi
26721 Menominee Pl
Rancho Palos Verdes CA 90275

Delaney Bantol
16336 SW Redtwig Dr
Sherwood OR 97140

Jake Richmond
Colleen Barrett
16394 SW Red Twig Dr
Sherwood OR 97140

Rose Taylor
Khari Taylor
23960 SW Lodgepole Ter
Sherwood OR 97140

David Villalpando
23935 SW Lodgepole Ter
Sherwood OR 97140

Katie Burns
16468 SW Redtwig Dr
Sherwood OR 97140

Glen Warner
Janice Warner
16463 SW Redtwig Dr
Sherwood OR 97140

Wayne Jackson
Janice Jackson
23814 SW Lodgepole Ter
Sherwood OR 97140

Jeffrey Froeber
16385 SW Red Twig Dr
Sherwood OR 97140

Peter Jenkins
Elisha Jenkins
16339 SW Redtwig Dr
Sherwood OR 97140

Mark Peltier
Kathy Peltier
15937 SW Division St
Sherwood OR 97140

Loren Fechter
Rebecca Fechter
16364 SW Red Twig Dr
Sherwood OR 97140

Adriana Phillips
Gregory Phillips
23932 SW Lodgepole Ter
Sherwood OR 97140

Brook Young
23965 SW Lodgepole Ter
Sherwood OR 97140

David Toda
Carol Toda
23923 SW Lodgepole Ter
Sherwood OR 97140

Michele Morell
16476 SW Redtwig Dr
Sherwood OR 97140

Michael Miller
Sarah Miller
23889 SW Lodgepole Ter
Sherwood OR 97140

Ronald Wagner
23846 SW Lodgepole Ter
Sherwood OR 97140

Dong Wang
Wuying Fang
16371 SW Red Twig Dr
Sherwood OR 97140

Grace Wanjala
16323 SW Redtwig Dr
Sherwood OR 97140

Yelena Kuzmenko
16318 SW Red Twig Dr
Sherwood OR 97140

Derek Olson
Angela Olson
16380 SW Redtwig Dr
Sherwood OR 97140

Angelo Quesada
Yaddira Rojas
23946 SW Lodgepole Ter
Sherwood OR 97140

Amy Patterson
23949 SW Lodgepole Ter
Sherwood OR 97140

Dennis Hansen
Shirley Sleep
23911 SW Lodgepole Ter
Sherwood OR 97140

Kyler Pace
16471 SW Red Twig Dr
Sherwood OR 97140

Alejandro Rodriguez
Maria Navarro
16416 SW Cornus St
Sherwood OR 97140

Brad Crosby
Michelle Crosby
16440 SW Cornus Ct
Sherwood OR 97140

Alfredo Polanco
Jessica Polanco
16464 SW Cornus Ct
Sherwood OR 97140

Jeffrey Hornick
Elizabeth Hornick
16488 SW Cornus Ct
Sherwood OR 97140

Moga Family Rev Trust
13735 SW Galbreath Dr
Sherwood OR 97140

York Ronald & Brenda Trust
16459 SW Cornus Ct
Sherwood OR 97140

Byron Murphy
Samantha Wikstrom
601 Quail Dr
Newberg OR 97132

Ryan, William A & Debra Family Trust
PO Box 190
Sherwood OR 97140

Barbara Frazier
16420 SW Willow Dr
Sherwood OR 97140

Marty Kammerzell
Kaori Kammerzell
17848 SW Dodson Dr
Sherwood OR 97140

Abj Properties LLC
PO Box 576
Condon OR 97823

Jacob Helbling
Hailey Levasa
8816 SW Ash Meadows Rd #1236
Wilsonville OR 97070

Alice Quesenberry
23619 SW Eucalyptus Ter
Sherwood OR 97140

Gregory Newman
Sandra Newman
23955 SW Ladd Hill Rd
Sherwood OR 97140

Casey Stewart
Randy Stewart
17104 SW Greengate Dr
Sherwood OR 97140

Scott Rader
Julie Rader
17116 SW Greengate Dr
Sherwood OR 97140

Gary Elmore
17128 SW Greengate Dr
Sherwood OR 97140

Christian Owcarz
Elaine Owcarz
17140 SW Greengate Dr
Sherwood OR 97140

Holt Family Liv Trust & By Kirk
Richard & Barbara Eileen Holt Trs
17152 SW Greengate Dr
Sherwood OR 97140

Kristy Iversen
17164 SW Greengate Dr
Sherwood OR 97140

Elizabeth Delong
23836 SW Fox Run Pl
Sherwood OR 97140

Shahram Khorasanizadeh
Maryam Emamjomeh
23862 SW Fox Run Pl
Sherwood OR 97140

Debra Boquist
23867 SW Fox Run Pl
Sherwood OR 97140

O'hogan Living Trust
23841 SW Fox Run Pl
Sherwood OR 97140

Carrieann H Lucas
17182 SW Greengate Dr
Sherwood OR 97140

Douglas Williamson
Cecile Valastro
23804 SW Golden Pond Ter
Sherwood OR 97140

Lawrence Hill
Terry Muldowney-Hill
23818 SW Golden Pond Ter
Sherwood OR 97140

Victor Orella
Sharon Orella
23832 SW Golden Pond Ter
Sherwood OR 97140

Saleh Family Trust
16800 NE Mountain Home Rd
Sherwood OR 97140

Wayne Vaincourt
Catherine Ingram
23898 SW Golden Pond Ter
Sherwood OR 97140

Eitoku Yamanaka
Naoko Yamanaka
23921 SW Golden Pond Ter
Sherwood OR 97140

James Anderson Jr
Patricia Wahr-Anderson
23907 SW Golden Pond Ter
Sherwood OR 97140

Thomas Clemo
2520 3Rd St #10
Santa Monica CA 90405

Frank Rossi
Sara Rossi
23811 SW Golden Pond Ter
Sherwood OR 97140

Anna Song
Blake Applegate
17278 SW Greengate Dr
Sherwood OR 97140

Melissa Pennings
Barend Pennings
80 Central Park West #22G
New York NY 10023

Jeffery A Peterson
Kimberly M Peterson
17345 SW Greengate Dr
Sherwood OR 97140

John Hoogstad
Jeanne Hoogstad
17309 SW Greengate Dr
Sherwood OR 97140

Diane Golemis
Dimitrios Golemis
17273 SW Greengate Dr
Sherwood OR 97140

James Tanabe
Dianne Tanabe
17229 SW Greengate Dr
Sherwood OR 97140

Joshua Gandee
17205 SW Greengate Dr
Sherwood OR 97140

Edward Saito
Karen Heisler
23893 SW Golden Pond Ter
Sherwood OR 97140

Mo Taylor
Holly Taylor
23851 SW Golden Pond Ter
Sherwood OR 97140

Houghton Living Trust
23524 SW Denali Ln
Sherwood OR 97140

Steven Boddington
Kori Boddington
17290 SW Greengate Dr
Sherwood OR 97140

Carol Weber
17328 SW Greengate Dr
Sherwood OR 97140

Justin Tishendorf
Pamela Tishendorf
17333 SW Greengate Dr
Sherwood OR 97140

Brandon Armatas
Mindi Helmandollar-Armatas
17297 SW Greengate Dr
Sherwood OR 97140

Evan Marchant
Susan Marchant
17261 SW Greengate Dr
Sherwood OR 97140

Crist Chadwick
17221 SW Greengate Dr
Sherwood OR 97140

Joseph Heredia
Susie Heredia
17197 SW Greengate Dr
Sherwood OR 97140

Jeffrey Sandberg
Cristina Sandberg
23879 SW Golden Pond Ter
Sherwood OR 97140

Jeffrey Lathrop
Maria Lathrop
9265 SW Iowa Dr
Tualatin OR 97062

Christoffer Mccollom
Rachel Mccollom
17266 SW Greengate Dr
Sherwood OR 97140

Kimra Peffers
17302 SW Greengate Dr
Sherwood OR 97140

Todd Card
Erin Card
17340 SW Greengate Dr
Sherwood OR 97140

Nelson, Kimberly Family Trust
17321 SW Greengate Dr
Sherwood OR 97140

Jeffrey Kuppenbender
Janice Kuppenbender
17285 SW Greengate Dr
Sherwood OR 97140

Bouaicha Slim
17237 SW Greengate Dr
Sherwood OR 97140

Marcia Mcdonald
17213 SW Greengate Dr
Sherwood OR 97140

Ronald Thompson
Diana Thompson
6655 SW Kingsview Ct
Tigard OR 97223

Kyal Matte
Tricia Matte
17177 SW Greengate Dr
Sherwood OR 97140

William J Harmon
Victoria E Harmon
17169 SW Greengate Dr
Sherwood OR 97140

Jon Shields
Stacey Shields
17135 SW Greengate Dr
Sherwood OR 97140

Jessica Wall
17185 SW Cobble Ct
Sherwood OR 97140

Donald Rogie
Tina Rogie
17171 SW Cobble Ct
Sherwood OR 97140

Brown, Larry A & Marsha N Rev Trust
17157 SW Cobble Ct
Sherwood OR 97140

Naoki Kuze
Minh Luu
17143 SW Cobble Ct
Sherwood OR 97140

Satish Singh
Ruchi Singh
15132 NW Delia St
Portland OR 97229

Paul Hess
Wendy Hess
17115 SW Cobble Ct
Sherwood OR 97140

Tiffany Miller
Timothy Miller
17101 SW Cobble Ct
Sherwood OR 97140

Scott L Colunga
17087 SW Cobbie Ct
Sherwood OR 97140

Richard Mikulak
17073 SW Cobble Ct
Sherwood OR 97140

Courtney Penberthy
Kurt Penberthy
17057 SW Cobble Ct
Sherwood OR 97140

Stefanie English
17033 SW Cobble Ct
Sherwood OR 97140

Heather Cooper
Spencer Cooper
17019 SW Cobble Ct
Sherwood OR 97140

Anthony Zukauskas
17005 SW Cobble Ct
Sherwood OR 97140

Thomas Gall
Laura Gall
17010 SW Cobble Ct
Sherwood OR 97140

Teresa Conrad
17024 SW Cobble Ct
Sherwood OR 97140

Brian Crabtree
Melanie Crabtree
17038 SW Cobble Ct
Sherwood OR 97140

Daniel Defreval
17052 SW Cobble Ct
Sherwood OR 97140

Isidro Toscano
17066 SW Cobble Ct
Sherwood OR 97140

Betts Christopher D & Chelsea B
Chelsea B Betts
17080 SW Cobble Ct
Sherwood OR 97140

Jodi Briggs
17094 SW Cobble Ct
Sherwood OR 97140

Robert Frailey
Lin Zhang
17108 SW Cobble Ct
Sherwood OR 97140

Robert Costley
Shirley Costley
50-485 Spyglass Hill Dr
La Quinta CA 92253

Robert Savage
Debra Savage
17136 SW Cobble Ct
Sherwood OR 97140

Hoang Ho
Tri Luu
1249 Alemany Blvd
San Francisco CA 94112

Kevin Paulus
Jenny Paulus
17164 SW Cobble Ct
Sherwood OR 97140

Alison D Armour
Matthew J Hyink
8900 SW Sweek Dr 1712
97082

Dustin S Johnson
17192 SW Cobble Ct
Sherwood OR 97140

Scott Nelson
Debbie Nelson
17206 SW Cobble Ct
Sherwood OR 97140

Cameron Mountain
Jeana Mountain
17232 SW Cobble Ct
Sherwood OR 97140

Scott Demming
Laurel Demming
17258 SW Cobble Ct
Sherwood OR 97140

Karen Blair
17286 SW Cobble Ct
Sherwood OR 97140

Lisa Ring
17320 SW Cobble Ct
Sherwood OR 97140

Christine Marr
17348 SW Cobble Ct
Sherwood OR 97140

Yang Lu
17374 SW Cobble Ct
Sherwood OR 97140

Clifton Taylor
Dorothy Houlihan
17400 SW Cobble Ct
Sherwood OR 97140

Alan Taylor
Angela Taylor
17414 SW Cobble Ct
Sherwood OR 97140

Cameron Shayegi
Miran Shayegi
17419 SW Cobble Ct
Sherwood OR 97140

Stephen Hilt
Jean Hilt
17369 SW Greengate Dr
Sherwood OR 97140

Nathan Bush
Rebecca Bush
17363 SW Cobble Ct
Sherwood OR 97140

Hpa Jv Borrower 2019-1 Ml LLC
180 N Stetson Ave Ste 3650
Chicago IL 60601

Stephanie Charters
17281 SW Cobble Ct
Sherwood OR 97140

Mary Steringer
Erik Steringer
16606 SW Baywood Ct
Sherwood OR 97140

Keith Robbins
Mary Robbins
16620 SW Baywood Ct
Sherwood OR 97140

Davy Morris
Mikal Morris
16670 SW Baywood Ct
Sherwood OR 97140

Hwa Jung
Sehoon Eom
23630 SW Red Fern Dr
Sherwood OR 97140

Kimberly A Marshall
Michelle K Krohn
23658 SW Red Fern Dr
Sherwood OR 97140

Ka Moua
Eric Norris
16673 SW Willow Dr
Sherwood OR 97140

Mark Russell
Vickii Russell
16611 SW Willow Dr
Sherwood OR 97140

Linda John
16597 SW Willow Dr
Sherwood OR 97140

Daniel Cisneros
Christy Cisneros
16575 SW Willow Dr
Sherwood OR 97140

Thair Khan
16553 SW Willow Dr
Sherwood OR 97140

Dean Hardesty
Lynda Hardesty
16531 SW Willow Dr
Sherwood OR 97140

Jeff Robrecht
Janet Robrecht
16509 SW Willow Dr
Sherwood OR 97140

Levi Levasa
Courtney Levasa
16491 SW Willow Dr
Sherwood OR 97140

Brian Dorsey
16483 SW Willow Dr
Sherwood OR 97140

Frances Pease
PO Box 23973
Tigard OR 97281

Garret Buchheit
Leticia Buchheit
23722 SW Shady Grove Dr
Sherwood OR 97140

Carl Ruggiero
Jamie Ruggiero
23734 SW Shadygrove Dr
Sherwood OR 97140

Matthew Gordanier
Jill Gordanier
23750 SW Shadygrove Dr
Sherwood OR 97140

Stephen Riccomini
Susan Riccomini
23760 SW Shadygrove Dr
Sherwood OR 97140

Beth E Hust
23772 SW Shady Gove Dr
Sherwood OR 97140

Michael Blaser
Tamara Blaser
23784 SW Shadygrove Dr
Sherwood OR 97140

Juan Serrano
Zulay Serrano
16484 SW Redtwig Dr
Sherwood OR 97140

Hector Juarez
Olivarez Juarez
16492 SW Red Twig Dr
Sherwood OR 97140

Mary Cunningham
Patricia Cunningham
23852 SW Shady Grove Dr
Sherwood OR 97140

Cynthia Randall
23864 SW Shadygrove Dr
Sherwood OR 97140

Frost Lan & Erin
23878 SW Shady Grove Dr
Sherwood OR 97140

Lisa Shipley
23916 SW Shadygrove Dr
Sherwood OR 97140

Erin Garvey
23950 SW Shadygrove Dr
Sherwood OR 97140

Benjamin Aanderud
Kimberly Aanderud
17475 SW Roosevelt St
Sherwood OR 97140

Robert Montgomery
24027 SW Redfern Dr
Sherwood OR 97140

David Sweeney
24011 SW Redfern Dr
Sherwood OR 97140

John Urban
Kimberly Urban
23981 SW Redfern Dr
Sherwood OR 97140

Jun Qian
23965 SW Redfern Dr
Sherwood OR 97140

Carl Busse
Tara Miller
23949 SW Redfern Dr
Sherwood OR 97140

Chee Woo
19266 SW Megly Ct
Lake Oswego OR 97035

Jonathan Burgi
Wanda Burgi
23905 SW Red Fern Dr
Sherwood OR 97140

Kerby Mcginnis
Kyle Mcginnis
23889 SW Redfern Dr
Sherwood OR 97140

Clark Farrand
Catherine Farrand
23871 SW Redfern Dr
Sherwood OR 97140

Kelly Krause
Aaron Krause
23855 SW Redfern Dr
Sherwood OR 97140

Kyle Grant
Kellie Grant
23837 SW Redfern Dr
Sherwood OR 97140

Craig Larkin
Sarah Larkin
23801 SW Redfern Dr
Sherwood OR 97140

Jake Porter
Amy Porter
23783 SW Redfern Dr
Sherwood OR 97140

Varunee Buerkle
23765 SW Redfern Dr
Sherwood OR 97140

Phillip Wagner
23731 SW Redfern Dr
Sherwood OR 97140

Denean Pyle
23715 SW Redfern Dr
Sherwood OR 97140

Donald Mershon
Rebecca Mershon
23683 SW Redfern Dr
Sherwood OR 97140

Kenneth Smith
Laura Smith
23726 SW Redfern Dr
Sherwood OR 97140

Patricia Sturgeon
David Sturgeon
23758 SW Redfern Dr
Sherwood OR 97140

Richard Espinoza
Nancy Espinoza
22581 Clark St
West Linn OR 97068

Sarah Holtz
23814 SW Redfern Dr
Sherwood OR 97140

Raymond Rogowicz
Karla Rogowicz
15495 SW Bell Rd
Sherwood OR 97140

Lisa Speer
Brian Speer
23850 SW Redfern Dr
Sherwood OR 97140

Kimberlee J Goehner
Christopher J Goehner
23866 SW Red Fern Dr
Azalea OR 97410

Shawn Jones
Kristen Jones
23884 SW Redfern Dr
Sherwood OR 97140

Joshua Fial
Teddie Fial
23900 SW Redfern Dr
Sherwood OR 97140

Mathew Prince
Kelly Prince
23926 SW Redfern Dr
Sherwood OR 97140

Kendall Lallatin
Michelle Lallatin
23942 SW Redfern Dr
Sherwood OR 97140

Jennifer Labounty
Benjamin Labounty
23958 SW Red Fern Dr
Sherwood OR 97140

Scott Lacy
Debra Lacy
23974 SW Redfern Dr
Sherwood OR 97140

Kathleen Harvey
13160 SW Hoodvista Ln
Portland OR 97224

Darryl Jasmer Jr
Malia Jasmer
23941 SW Shadygrove Dr
Sherwood OR 97140

Michael Rick Jr
Lara Rick
23879 SW Pinecone Ave
Sherwood OR 97140

Timothy Curtiss
Stephenie Curtiss
23863 SW Pinecone Ave
Sherwood OR 97140

Kimberly Caldwell
23847 SW Pinecone Ave
Sherwood OR 97140

Todd Hern
Denise Hern
23831 SW Pinecone Ave
Sherwood OR 97140

Robert Murphy Jr
Jessica Larson
23815 SW Pinecone Ave
Sherwood OR 97140

Leland Chidester
Molly Chidester
23799 SW Pinecone Ave
Sherwood OR 97140

Menzel Trust
23785 SW Pinecone Ave
Sherwood OR 97140

Patrick Allen
Joan Allen
23769 SW Pinecone Ave
Sherwood OR 97140

Anderson Family Living Trust
24008 SW Morgan Ln
Sherwood OR 97140

Scott Reetz
Marisa Reetz
23721 SW Pinecone Ave
Sherwood OR 97140

Aurora L Roth
Richard A Roth
16592 SW Willow Dr
Sherwood OR 97140

Scott Galloway
Janell Galloway
23748 SW Pinecone Ave
Sherwood OR 97140

Philip Mcguigan
Lisa Mcguigan
23764 SW Pinecone Ave
Sherwood OR 97140

Steffens Tamara & Dannie
23780 SW Pinecone Ave
Sherwood OR 97140

Muhammad Farooqi
Farkhunda Farooqi
23796 SW Pinecone Ave
Sherwood OR 97140

Molly Lee
Michael Lee
23810 SW Pinecone Ave
Sherwood OR 97140

Dueck, Dharmawati Lesmana Rev
Living Trust
23828 SW Pinecone Ave
Sherwood OR 97140

William Russell
Deanna Russell
23842 SW Pinecone Ave
Sherwood OR 97140

Benjamin Whitaker
Andrea Whitaker
23874 SW Pinecone Ave
Sherwood OR 97140

Robert Walker
Kari Walker
23885 SW Shadygrove Dr
Sherwood OR 97140

Ownership Suppressed
23857 SW Shadygrove Dr
Sherwood OR 97140

Richard List
Heather List
23833 SW Shady Grove Dr
Sherwood OR 97140

Thomas Evans
Jennifer Evans
23815 SW Shady Grove Dr
Sherwood OR 97140

Kent Pratt
Karen Pratt
23791 SW Shady Grove Dr
Sherwood OR 97140

Christopher West
Kristina West
23779 SW Shadygrove Dr
Sherwood OR 97140

Jennifer Hagfeldt
23767 SW Shadygrove Dr
Sherwood OR 97140

Ashley Dixon
21370 SW Langer Farms Pkwy #142-427
Sherwood OR 97140

Robert Gonzalez
Mary Gonzalez
23743 SW Shady Grove Dr
Sherwood OR 97140

Kimberly Jagow
Jonathan Jagow
23729 SW Shadygrove Dr
Sherwood OR 97140

Erik Stenehjem
Cathleen Stenehjem
23717 SW Shady Grove Dr
Sherwood OR 97140

Yong Yang
Xiaoxiao Wu
16526 SW Willow Dr
Sherwood OR 97140

Michael Withington
Roxanne Withington
16548 SW Willow Dr
Sherwood OR 97140

Shana Robertson
Michael Robertson
16570 SW Willow Dr
Sherwood OR 97140

Jeffrey Heimark
Julie Heimark
16600 SW Baywood Ct
Sherwood OR 97140

Megan Ward
18638 SW 92Nd Ter
Tualatin OR 97062

Naoki Kuze
Minh Luu
17050 SW Greengate Dr
Sherwood OR 97140

Thomas Farwell
Rebecca Farwell
16990 SW Greengate Dr
Sherwood OR 97140

Rick Meacham
Lina Meacham
23735 SW Ladd Hill Rd
Sherwood OR 97140

Brandon Maskew
Jessica Maskew
23785 SW Ladd Hill Rd
Sherwood OR 97140

Christopher Montgomery
23845 SW Ladd Hill Rd
Sherwood OR 97140

Nathan Potter
Brooke Potter
23895 SW Ladd Hill Rd
Sherwood OR 97140

Cnd-Cedar Creek LLC
1111 N Post Oak Rd
Houston TX 77055

Brookman Development LLC
PO Box 61426
Vancouver WA 98666

Linda Scott
Richard Scott
17433 SW Brookman Rd
Sherwood OR 97140

John Hagg Jr
Denise Hagg
16655 SW Brookman Rd
Sherwood OR 97140

Gregory, Byron Duane & Ruth Ann
Gregory Rev Living Trust
16457 SW Brookman Rd
Sherwood OR 97140

Philip Lapp
Nancy Lapp
17400 SW Brookman Rd
Sherwood OR 97140

Mark B Whitley
16730 SW Brookman Rd
Sherwood OR 97140

Virtual - Neighborhood Meeting Notes
Cedar Creek Garden
16871 & 17033 SW Brookman Road, Sherwood
Starting at 6:00 PM
October 4, 2021

At 5:48 PM Wayne Hayson, Pioneer Design Group (PDG), posted the Introductory Screen Slide, which provides information on how to formally sign-in for the record.

Wayne opened the meeting at 6:00 PM, introducing himself and Ben Altman, also PDG, who is taking notes. He explained the purpose of this neighborhood meeting and outlined the agenda. He noted that 4 emails with questions had been received prior to the meeting, and that he would address them as part of the project overview, or during the Q & A portion of the meeting. He also explained how to formally sign-in for the record.

Note: All screen slides presented during the meeting are attached with this meeting summary.

Wayne then summarized the City's land use application review process, showing the screen slide, which outlines Chapter 16.72 of the City's Development Code. He noted this will be a Type III review, with public hearing before a Hearings Officer, with any Appeal going before the Planning Commission. He noted the formal application may also include a request for modified street standards for a dead-end street, which is a Type II Administrative Review.

The initial part of the process is a pre-application conference with the City, where the applicant presents their proposal to staff including engineering and planning staff, along with other involved agencies including Washington County, CWS, and TVF&R. Those jurisdictions all have an opportunity to provide the applicant with feedback on the application. Wayne noted that a number of questions were emailed regarding the adequacy of emergency vehicle and solid waste access. Wayne noted several features of the site design, including the hammerhead turnaround and a temporary turnaround located at the driveway of Lot 39, and relayed that the TVF&R Fire Marshal had provided a letter conditionally endorsing the proposed site plan without and noted revisions, subject to normal TVF&R standard Code requirements. This may include the provision of sprinklers for fire suppression where needed. While emergency vehicle access usually meets solid waste requirements, the applicant will work with Pride Disposal as part of obtaining a service provider letter for the project. The neighborhood meeting typically follows the pre-app, and is a chance for neighbors and the applicant to discuss the proposal in an informal setting, and to identify issues and areas of concern. Following these, the application will be submitted to the City.

Once the City has declared the application "complete" they will schedule a public hearing and provide notice to property owners within 1000 feet of the project site. This is the same notice area used for this neighborhood meeting. The City will also provide notice in at least 5 conspicuous locations, and in newspaper with local circulation. The staff report will be available at least 7 days prior to the hearing. The decision is expected within 7 days of the close of the record of the hearing.

Wayne then showed a screen slide of an aerial photo and provided an orientation and description of the subject site and surrounding area. He noted that the property has two access points on SW Brookman Road, with the northern access being a 60 foot wide flag. He also noted that Brookman Road is the current UGB boundary. The properties to the south of Brookman Road are not located within the UGB.

In response to prior questions submitted about access restrictions on Brookman Road, Wayne noted that Brookman Road is under Washington County jurisdiction, and they will make decisions regarding access onto this arterial street. He clarified that access from Brookman is not outright prohibited, rather it is limited in regards to intersection spacing. Access for individual lots directly from Brookman is generally restricted, unless there is not other viable option.

Wayne mentioned that the Project Engineer is preparing preliminary sight distance certifications, and that both of the proposed access points meet County standards.

Wayne then showed a zoning map slide and described the subject property, together with those to the east and west are zoned Medium Density Residential Low (MDRL). Properties to the north are zoned Medium Density Residential High (MDRH), with Low Density Residential (PUD) zoning to the northeast.

The MDRL zone has a minimum lot size of 5,000 square feet and density range of 5.6 to 8 units per acre. However, the code allows us to average the lot size, with allowance for a 10% reduction for some lots. The preliminary plan has some lots less than 5,000 square feet, but the average is well within the standard, with additional open space being provided.

Wayne then showed the City's Concept Plan for this area, which reflects the City's expectation of residential development and resource protection in this area. He noted that there are substantial resource areas associated with two stream channels which run north to south through the site. We do not anticipate any floodplain alteration.

Then showing the proposed preliminary plan he explained that the plan has been designed in substantial compliance with the Concept Plan. He noted that the Concept Plan was not based on full site assessments and delineations and was not a final design, hence the "Concept Plan" name; while the proposed preliminary plan is based on site specific survey, including delineation of the resource areas, which vary some from those depicted in the Concept Plan.

Lots 1-8 will have access from SW Yamel Terrace, which is part of the approved adjacent Reserve at Cedar Creek development to the west. Lots 40-42 will have private street access via the flag from SW Brookman Road at the northeast corner of the site. Per the Concept Plan, no lot access is allowed from SW Red Fern Drive, only a bike/ped connection is allowed, to link with the Community Trail. Wayne noted there had been questions about the width of the northeast flag access. Based on our site survey the flag is approximately 60 feet wide, but certainly not 50 feet wide, and records of survey previously filed with the County surveyor concur with this assessment.

Street A is located at the high point of the vertical curve on SW Brookman Road, based on the preliminary sight distance analysis we have prepared. This point provides adequate sight distance in both directions on SW Brookman Road.

Street B loops through the site and is designed to stub to the adjacent properties to the east for future extension, consistent with the Concept Plan. The Division of State Lands (DSL) is limiting us to one crossing of the resource, so this crossing if located at the narrowest section of the delineated stream corridor. Lot 39 has access via a private street.

There will be two storm water facilities, one on the north west (Lots 1-8) and the other in the central portion of the site between Street B and the Community Trail. These facilities will be designed to CWS standards, using their Hydro-Mod criteria. The Hydro-Mod is basically designed to manage storm water discharge consistent with existing condition, given a 25 year storm event.

We do not submit specific home designs with the application. The lots are configured and sized to accommodate a variety of homes, and the preliminary plan show typical building envelopes based on the standard setbacks.

Wayne then posted the slide showing how to submit questions on-line, and noted that the meeting notes will be posted on the web site within 7 days, along with all the slides, and prior submitted questions. He then opened the meeting for questions and answers.

<u>Summary of Questions & Answers from the Neighborhood Meeting</u>

1. *When is the hearing for the Brookman Road access?*

Response: There is no separate hearing for the access. This will be reviewed by Washington County as part of the City's review process. The County will likely recommend Conditions of Approval related to the accesses including meeting sight distance standards and emergency access.

2. *What is the width for Lot 40?*

Response: Lot 40 is 60 feet in width (north/south).

3. *For lots 40, 41 and 42 please identify the front of the house and show how setback requirements (14' front, 5' side and 20'rear) are maintained. How is privacy going to be maintained and will there be any trees along the access? How wide is the access drive?*

   Note: There were several similar questions about these three lots.

Response: We do not have specific house plans for any of the lots. It is likely these three lots, as well as some others, may necessitate custom designed homes.

The preliminary plan shows the building envelopes based on the standard setbacks. We anticipate the fronts and garage accesses will be on east side of the lots, for a traditional home orientation on the site.

This property is located within the UGB annexation area, and is expected to support urban development. The City has adopted a Concept Plan for this area, which reflects homes along this northeast strip as part of residential development, and we are required to incorporate it into the development and in calculating and meeting density requirements.

Our plans are generally consistent with the Concept Plan, except that we do not have control of the adjacent property to the south of this strip, so access must be provided within the boundaries of this property, and as it cannot be provided from the north (Red Fern) or the west due to flood plain and resource location, it must come from Brookman.

When the property to the south develops, if resource delineations allow, we would anticipate that some lots may be oriented with side yard abutting rear yards, which is normal for residential development.

The access strip has been surveyed and measures approximately 60 feet in width. Wayne verified this before the meeting, referring to the County Tax Maps, a road survey performed by the County surveyor in 2018 [Survey No. 33327], and a Record of Survey from 1989 [Survey No. 23506].

It is likely the applicant will construct a 6-foot-tall solid wooden fence along the north side of the access, which is typical along the edge of new development. The homes may also have individual fencing. The city also imposes height restrictions in each land use district as a measure to retain privacy. The access will be landscaped and/or trees retained as conditions allow, although existing trees in many cases are removed for safety reasons.

UPDATE: It appears that annexation Exhibit A cited above incorrectly lists the width as 50 feet. However, the site plans in Exhibit B and the remaining exhibits associated with the annexation request indicate that the entire 60 foot width of the strip was included in the annexation, including the removal of Washington County zoning and withdrawal of the entire property from Washington County Service Districts.

4. *Per the City of Sherwood Engineering Department comments, SW Redfern Drive will be only available for pedestrian, bicycle, and emergency vehicle access. It is unlikely that ingress/egress will be allowed onto SW Brookman Road in this area…" How will lots 40-42 have access to the public street system?*

Response: Yes, per the Concept Plan we cannot have street access from Red Fern Drive. There will only be a bike/ped link from Red Fern for connectivity with the Community Trails. We are proposing a private drive to serve Lots 40-42, with access from Brookman Road.

Washington County, not the City, will make the access decisions. We have located the two access points based on adequate sight distance, consistent with County standards.

5. *Is there any flexibility in the design? In particular, for the last 3 houses on the end of Cobble Ct, would it be possible to leave common area behind us?*

Response: The City anticipates development based on adoption of the Concept Plan. A significant amount of open space (+/- 15 acres) will be retained, and the proposed development is consistent with the intent of the Concept Plan, as a balance of development and resource protection. Development patterns follow the location of resource areas, topography, utility locations, and access, and it may not be possible to adjust the lots as requested.

6. *Have you completed the environmental assessment to map the extent of wetlands in the area? What are the findings? (SZCDC 16.144.020(A))*

Response: There are several technical reports we must submit. Not all of the studies, including the environmental assessment have been completed, so they are not available at this time. Some of these reports are yet to be reviewed by the applicable agencies (for e.g. DSL, CWS) for concurrence with the delineation, and our plans cannot be finalized until they are. Full reports will be included with our formal submittal.

7. *How do you plan to account for the significant loss of trees because of utility access and lots 40-42?*

8. *How will you comply with the habitat protection requirements? (SZCDC 16.144.020(A))*

Response: We have a Resource Biologist on the team, who is preparing the environmental assessment. That report will identify the resource and habitat impacts, and provide recommendations for mitigation, consistent with City and CWS standards.

We also have a project arborist for the proposal looking at the tree canopy and tree canopy requirements for the site to make sure all requirements are met.

9. *Have you completed a traffic impact analysis? What are the findings?*

Response: City and County engineering staff will review the application for traffic safety, but it is not anticipated that a TIA will be required for this site as it is below the typical threshold for vehicle trips requiring a TIA.

10. *What is the access orientation for Lots 40-42?*

Response: As I noted, we are not proposing any specific home plans as part of this application. However, for Lot 40-42, we anticipate the garage accesses will be on the east side.

11. What about privacy for adjacent lots?

Response: Consistent with City standards, perimeter fencing will be provided. The homes will also be set back from the properties to the north by the access.

12. What about high traffic on SW Brookman Road?

Response: We anticipate that traffic on Brookman Road will change significantly with construction of the planned By-pass, with Brookman becoming less trafficked.

13. Many of us paid a premium when we bought our current lots due to the greenery and old trees. We would assume new owners might be willing to do the same.?

Response: We do not know if or why you may have been told by a realtor that there would be no development, but we do know that does happen. But essentially, per the Concept Plan, the City anticipates development similar to what we are proposing for this area. This property is within the UGB and therefore is expected to accommodate a certain level of urban development. The concept plan was a public process with a lot of community involvement in how the area would develop.

14. Emergency access/pedestrian access from red fern was meant for the future neighborhood, not three lots

Response: It is correct that we are not able to obtain street access from SW Red Fern Drive, but pedestrian connectivity will be retained. Access for Lots 40-42 will be a private drive from SW Brookman Road, which is subject to County approval. This property was not part of the previous land use decision.

15. Will you sell lots 40-42? (x13)

Response: All of the lots will be available for purchase at some point. If you mean the underlying land, I am sure that the applicant would be willing to enter into discussions if you wish to purchase it directly.

16. To construct lots 40, 41 and 42 a strip 60-foot wide and 650-feet long strip of forested area will be clear cut, please provide details regarding the loss of forest canopy in this area. Do you think a better option would be to donate that small parcel to Abor Lane to continue the nature path on the NW corner.

Response: We have an Arborist on the Design Team, who is preparing the required Tree Preservation and Removal Plans and Canopy Plans, consistent with City standards which include a minimum canopy cover. Again, much of the site will be retained as open space, well over 50%. The remaining areas of the site are designated for development as residential parcels, and are subject to the requirements of the Sherwood Community Development and Zoning Code. As discussed, the City accounts for the anticipated densities as part of the UGB expansion area process, and agrees to meet certain density figures as part of the tri-county area. Restricting densities on the site doesn't eliminate the need for density, it just causes it to be relocated to other areas of the City.

With no further questions being posted, Wayne reminded everyone that we will be posting the meeting notes on the web site, listed on the notice, and show on the screen https://bit.ly/285021materials within 7 days.

In the meantime, if you have any questions, you can email me at whayson@pd-grp.com. Wayne closed the meeting at 7:00pm, and left his contact information online until 7:10pm.

Email Questions Received Prior to the Meeting

1) *When the City of Sherwood annexed the property adjacent to the Arbor Lane Neighborhood (Ordnance 2017-002) it was clear that the northeastern strip connecting to Brookman Road was 50-feet wide. The proposed Plat indicates a property width of 60-feet. How is the additional 10-foot width acquired?*

Response: Please see the response to Question 3 above.

2) *For lots 40, 41 and 42 please identify the front of the house and show how setback requirements (14' front, 5' side and 20'rear) are maintained.*

Response: Please see the response to Question 3 above.

3) *During the pre-application meeting with the City of Sherwood, the City Engineering report (dated 4/27/21) noted that "no extension of SW Redfern Drive will be allowed". While the proposal appears to meet that requirement, the report went on to note "It is unlikely that ingress/egress will be allowed onto SW Brookman Road (Arterial Street) in this area", how are you providing access to lots 40, 41 and 42?*

Response: Please see the response to Questions 1 and 3 above.

4) *There appears to be several problems with fire apparatus access throughout the development including:*

   a. *Lots 2 and 3 are accessed by a single lane private drive w/o turnaround.*

b. *Lots 9 through 39 are accessed by a single entrance from Brookman Road. Street B terminates at both ends without providing turnarounds.*
c. *Lot 39 is accessed by a narrow (17') single lane private drive, too narrow for fire apparatus. In addition, no turnaround is provided.*
d. *Lots 40 through 42 are accessed by an extended length single lane private drive w/o turnaround. How do you intend to address fire department access?*

Response: As described during the meeting and outlined above, the initial part of the application process is a pre-application conference with the City, where the applicant presents their proposal to staff along with other involved agencies including Washington County, CWS, and TVF&R. Those jurisdictions all have an opportunity to provide the applicant with feedback on the application. Wayne noted that a number of questions were emailed regarding the adequacy of emergency vehicle and solid waste access. Wayne noted several features of the site design, including the hammerhead turnaround and a temporary turnaround located at the driveway of Lot 39, and relayed that the TVF&R Fire Marshal had provided a letter conditionally endorsing the proposed site plan without and noted revisions, subject to normal TVF&R standard Code requirements. This may include the provision of sprinklers for fire suppression where needed.

5) *The City Engineering report also notes that a 8" public sanitary sewer and a 8" water line located in Redfern Drive will "likely need to extend … south approximately 70 feet". Is it your intent to create a public easement through lot 40 or 41? How will such easements change the required setbacks?*

Response: We are still working on finalizing utility plans for submittal with the application. Easements may be needed, or the extension can be located west of Lot 40, which is unlikely to affect setbacks.

6) *It is unlikely that Pride Disposal will be able to access lots 40, 41 and 42, where are the individual trash containers going to be posted?*

Response: The applicant has contacted Pride Disposal as part of obtaining a service provider letter for the project, and will address any responses they have. It would be typical for Lots 40 – 42 to place their cans on Brookman Road.

7) *For lots 40, 41 and 42, where are the USPS boxes going to be placed?*

Response: The location of mail boxes will be determined with input from the Post Master. We anticipate clustered boxes for easy access by postal vehicles.

8) *To construct lots 40, 41 and 42 a strip 60-foot wide and 650-feet long strip of forested area will be clear cut, please provide details regarding the loss of forest canopy in this area.*

Response: Please see the response to Question 18 above.

9) *Have you considered not building on lots 40, 41 and 42 and working with the City of Sherwood for dedication of the property for parks or trails in exchange for credits to system development charges?*

Response: Please see the response to Question 18 above.

First question:

- *Why is the developer, Westwood Homes LLC, willing to destroy the approximately 70-80, majestic "old growth" trees (most of which are over 100' tall and most of which are over 100 years old) many which pre-date the Civil War and some of which pre-date the establishment of the Oregon Trail, in the narrow strip of land at the top of the NE corner of the development (from Brookman Road on the Eastern edge to Red Fern in the center) all for the sake of wedging in just three houses?*

Follow-up question:

- *Why, instead of destroying the approximately 70-80 "old growth" trees in that narrow strip of land at the top of the NE corner of the development, doesn't the developer, Westwood Homes LLC, instead make a charitable donation of the land to the City of Sherwood to be preserved as a natural park area and, in the process, take a tax deduction...or a deduction against the system development charges...or a "loss" in their P&L profile...or all three?*

Response: Please see the response to Question 18 above.

Have you completed the environmental assessment to map the extent of wetlands in the area?

What are the findings? (SZCDC 16.144.020(A))

How do you plan to account for the significant loss of trees because of utility access and lots 40-42?

How will you comply with the habitat protection requirements? (SZCDC 16.144.020(A))

Response: Please see the response to Questions 6, 7 and 8 above.

The City of Sherwood Engineering Department comments, "SW Redfern Drive will be only available for pedestrian, bicycle, and emergency vehicle access. It is unlikely that

ingress/egress will be allowed onto SW Brookman Road in this area…" How will lots 40-42 have access to the public street system?

Have you completed a traffic impact analysis? What are the findings?

Response: Please see the response to Questions 1 and 3 above. It is not anticipated that a traffic impact study will be required, although one may be provided at the time of application submittal.

Is there any flexibility in the design? In particular, for the last 3 houses on the end of Cobble Ct, would it be possible to leave common area behind us?

Response: Please see the response to Question 5 above.

Participant Id	Full Name	Action	Role
BAltman@pd-grp.com	Ben Altman	Joined	Event Team Member
whayson@pd-grp.com	Wayne Hayson	Joined	Event Team Member
		Joined	Attendee
		Joined	Attendee
todd.randall@na.carsonteam.com	Todd Randall	Joined	Attendee
ian@osaasp.com	Ian Frost	Joined	Attendee
todd.randall@na.carsonteam.com	Todd Randall	Left	Attendee
todd.randall@na.carsonteam.com	Todd Randall	Joined	Attendee
KGrant@wkg.com	Grant	Joined	Attendee
todd.randall@na.carsonteam.com	Todd Randall	Left	Attendee
		Joined	Attendee
		Joined	Attendee
		Left	Attendee
		Joined	Attendee
		Joined	Attendee
		Left	Attendee
		Left	Attendee
ian@osaasp.com	Ian Frost	Left	Attendee
KGrant@wkg.com	Grant	Left	Attendee
		Left	Attendee
		Left	Attendee
		Left	Attendee
whayson@pd-grp.com	Wayne Hayson	Left	Event Team Member
BAltman@pd-grp.com	Ben Altman	Left	Event Team Member
Additional Information Provided			
Name	**Address**	**Phone**	**Email**
Bryan and Lindsay Helzer	23892 SW Shady Grove Dr, Sherwood OR 97140	(406)580-0819	bhelzer216@gmail.com
Todd and Cindy Randall	23864 SW Shady Grove Drive, Sherwood, OR	503-577-7401	cindylynnrandall@gmail.com
Ian & Erin Frost	23878 SW Shady Grove		ian@osaasp.com
Dave Sweeney	24011 sw red fern	503-625-0784	davidsweeney1@hotmail.com
Kelly Prince	23926 SW Red Fern Dr		kellysusanforbes@gmail.com
Kyle Grant	23837 SW Red Fern Dr Sherwood, Oregon 97140	971-219-7659	kgrant@williamskastner.com

Name	Question
Ian Frost	When is the county hearing on Brookman Road access?
Ian Frost	Can you please share your sight study?
Ian Frost	That doesn't answer the question(Ian Frost asked "Can you please share your sight study?")
Anonymous	What is the width of that flagpole? The west line of lot 40 that is slightly diagonal says 50ft while the other widths say 60ft
Anonymous	Also am I understanding correctly that the plan for lots 40-42 will connect from brookman?
Ian Frost	Can you please answer the questions directly that were sent in previously? Rambling on and on about details is insufficient.
Ian Frost	When is the county hearing on Brookman Road access?
Ian Frost	Can you please share your sight study?
Anonymous	Kelly Prince- how is emergency access/pedestrian off Redfern going to be maintained with lots 40 and 41
Anonymous	What is your plan for the orientation of the houses behind shady grove? Will the houses be backed up right against the existing homes? What is your plan for privacy for the existing shady grove homes yards?
Anonymous	Also am I understanding correctly that the plan for lots 40-42 will connect from brookman?
Anonymous	What is the width of that flagpole? The west line of lot 40 that is slightly diagonal says 50ft while the other widths say 60ft
Bryan and Lindsay Helzer	Can you provide any insight into how the homes on the flagpole lots would be situated in relation to the existing houses on Shady Grove Dr directly north of them?
Ian Frost	Can you please answer the questions directly that were sent in previously? Rambling on and on about details is insufficient.
Anonymous	Kelly Prince- how is emergency access/pedestrian off Redfern going to be maintained with lots 40 and 41
Cindy Randall	Will some of the tree be kept along that narrow strip?
Dave Sweeney	My question was to donate the flagpole lot not anymore of the property
Cindy Randall	trees*
Anonymous	Is there really a need to cut down all of those existing trees for 3 lots? Do you think a better option would be to donate that small parcel to Abor Lane to continue the nature path on the NW corner.
Anonymous	Kelly Prince- how are these lots going to fit in with the future of development (lots to the south of the flag pole). I don’t mean to sound rude but three random flag lots do not fit in with the brookman concept plan

Cindy Randall	Many of us paid a premium when we bought our current lots due to the greenery and old trees. We would assume new owners might be willing to do the same.
Anonymous	What is your plan for the orientation of the houses behind shady grove? Will the houses be backed up right against the existing homes? What is your plan for privacy for the existing shady grove homes yards?
Bryan and Lindsay Helzer	Can you provide any insight into how the homes on the flagpole lots would be situated in relation to the existing houses on Shady Grove Dr directly north of them?
Ian Frost	Please clarify: the vehicle access to 40-42 is on the north side of the homes?
Anonymous	My understanding that when metro was wanting to push redfern through it was for safety of future neighborhood, not three lots.
Anonymous	-Kelly prince(My understanding that when metro was wanting to push redfern through it was for safety of future neighborhood, not three lots.)
Anonymous	What I mean is that the emergency access would be for the future neighborhood of the two lots not being developed yet(My understanding that when metro was wanting to push redfern through it was for safety of future neighborhood, not three lots.)
Cindy Randall	Will some of the tree be kept along that narrow strip?
Kyle Grant	Is it anticipated that the next private drive to lots 40-42 will be on the north (directly abutting red fern)? Or could the private drive provide access along the south (so that the home garages face southwards?
Cindy Randall	thank you
Anonymous	Kelly Prince- how are these lots going to fit in with the future of development (lots to the south of the flag pole). I don’t mean to sound rude but three random flag lots do not fit in with the brookman concept plan
Cindy Randall	We realize it's within the urban growth boundary. We are just. trying to keep some trees and offer an incentive to this developer to keep some of them.
Cindy Randall	trees*
Cindy Randall	Many of us paid a premium when we bought our current lots due to the greenery and old trees. We would assume new owners might be willing to do the same.
Ian Frost	Please clarify: the vehicle access to 40-42 is on the north side of the homes?
Anonymous	My understanding that when metro was wanting to push redfern through it was for safety of future neighborhood, not three lots.
Kyle Grant	Is it anticipated that the next private drive to lots 40-42 will be on the north (directly abutting red fern)? Or could the private drive provide access along the south (so that the home garages face southwards?

Ian Frost	Why try to shoehorn three homes there?
Cindy Randall	We realize it's within the urban growth boundary. We are just. trying to keep some trees and offer an incentive to this developer to keep some of them.
Cindy Randall	Will these homes behind shady grove be the style with the garage in the back along an alleyway or a "normal" design with the garage in front and a backyard, albeit fairly small, in back?
Cindy Randall	We 've seen the property. that is already being created appears to be with the garage in back along an alleyway.(Cindy Randall asked "Will these homes behind shady grove be the style with the garage in the back along an alleyway or a "normal" design with the garage in front and a backyard, albeit fairly small, in back? ")
Ian Frost	Hard to enjoy the trees when you're staring at the side of a house!
Dave Sweeney	You're not providing that space, you can't build on it because of the flood plain.
Anonymous	Kelly Prince-Emergency access/pedestrian access from red fern was meant for the future neighborhood, not three lots (again not trying to be rude)
Ian Frost	Will you sell lots 40-42?
Dave Sweeney	So you bull doze all those trees on lots 40-42 for the sake of THREE HOUSES
Anonymous	You are not addressing the privacy issues for the existing homes in Shady Grove.
Dave Sweeney	No the "vast" majority of the northern paecel is NOT green space. It's more like 30-30%
Anonymous	You are not addressing the privacy issues for the existing homes in Shady Grove.
Anonymous	Thank you
Bryan and Lindsay Helzer	Sorry, just to clarify - the northern boundary would be 20' of nature? Or 20' of road and side yards?
Cindy Randall	thank you for all of your time and clarifications.
Ian Frost	Will you sell lots 40-42?
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Kyle Grant	Thanks for your time and all the info.
Ian Frost	The land
Bryan and Lindsay Helzer	Sorry, just to clarify - the northern boundary would be 20' of nature? Or 20' of road and side yards?
Ian Frost	The land
Kyle Grant	Thanks for your time and all the info.
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Cindy Randall	thank you
Anonymous	Is there really a need to cut down all of those existing trees for 3 lots? Do you think a better option would be to donate that small parcel to Abor Lane to continue the nature path on the NW corner.
Questions Submitted Prior to Meeting	
Neil Shannon	1) When the City of Sherwood annexed the property adjacent to the Arbor Lane Neighborhood (Ordnance 2017-002) it was clear that the northeastern strip connecting to Brookman Road was 50-feet wide. The proposed Plat indicates a property width of 60-feet. How is the additional 10-foot width acquired?
	2) For lots 40, 41 and 42 please identify the front of the house and show how setback requirements (14' front, 5' side and 20'rear) are maintained.
Ian Frost	3) During the pre-application meeting with the City of Sherwood, the City Engineering report (dated 4/27/21) noted that "no extension of SW Redfern Drive will be allowed". While the proposal appears to meet that requirement, the report went on to note "It is unlikely that ingress/egress will be allowed onto SW Brookman Road (Arterial Street) in this area", how are you providing access to lots 40, 41 and 42?
	4) There appears to be several problems with fire apparatus access throughout the development including: a. Lots 2 and 3 are accessed by a single lane private drive w/o turnaround. b. Lots 9 through 39 are accessed by a single entrance from Brookman Road. Street B terminates at both ends without providing turnarounds. c. Lot 39 is accessed by a narrow (17') single lane private drive, too narrow for fire apparatus. In addition, no turnaround is provided. d. Lots 40 through 42 are accessed by an extended length single lane private drive w/o turnaround. How do you intend to address fire department access?
	5) The City Engineering report also notes that a 8" public sanitary sewer and a 8" water line located in Redfern Drive will "likely need to extend … south approximately 70 feet". Is it your intent to create a public easement through lot 40 or 41? How will such easements change the required setbacks?

	6) It is unlikely that Pride Disposal will be able to access lots 40, 41 and 42, where are the individual trash containers going to be posted?
	7) For lots 40, 41 and 42, where are the USPS boxes going to be placed?
	8) To construct lots 40, 41 and 42 a strip 60-foot wide and 650-feet long strip of forested area will be clear cut, please provide details regarding the loss of forest canopy in this area.
	9) Have you considered not building on lots 40, 41 and 42 and working with the City of Sherwood for dedication of the property for parks or trails in exchange for credits to system development charges?
Dave Sweeney	First question:
	-Why is the developer, Westwood Homes LLC, willing to destroy the approximately 70-80, majestic "old growth" trees (most of which are over 100' tall and most of which are over 100 years old) many which pre-date the Civil War and some of which pre-date the establishment of the Oregon Trail, in the narrow strip of land at the top of the NE corner of the development (from Brookman Road on the Eastern edge to Red Fern in the center) all for the sake of wedging in just three houses?
	Follow-up question:
	-Why, instead of destroying the approximately 70-80 "old growth" trees in that narrow strip of land at the top of the NE corner of the development, doesn't the developer, Westwood Homes LLC, instead make a charitable donation of the land to the City of Sherwood to be preserved as a natural park area and, in the process, take a tax deduction...or a deduction against the system development charges...or a "loss" in their P&L profile...or all three?
Ian Frost	Have you completed the environmental assessment to map the extent of wetlands in the area? What are the findings? (SZCDC 16.144.020(A))
	How do you plan to account for the significant loss of trees because of utility access and lots 40-42?
	How will you comply with the habitat protection requirements? (SZCDC 16.144.020(A))
	The City of Sherwood Engineering Department comments, “SW Redfern Drive will be only available for pedestrian, bicycle, and emergency vehicle access. It is unlikely that ingress/egress will be allowed onto SW Brookman Road in this area…” How will lots 40-42 have access to the public street system?
	Have you completed a traffic impact analysis? What are the findings?
Teresa Conrad	Is there any flexibility in the design? In particular, for the last 3 houses on the end of Cobble Ct, would it be possible to leave common area behind us?

Cedar Creek Garden

Per City requirements, and to be recognized as attending the meeting, please sign in virtually using the Live Event Q&A feature () on the right-hand side of your screen. Please include your name, address, email, and phone number.

A number of email questions were received prior to 4pm today. We will respond to these questions during the project presentation. During and after the presentation, you may submit additional questions using the Live Event Q&A feature. You may also email questions to whayson@pd-grp.com

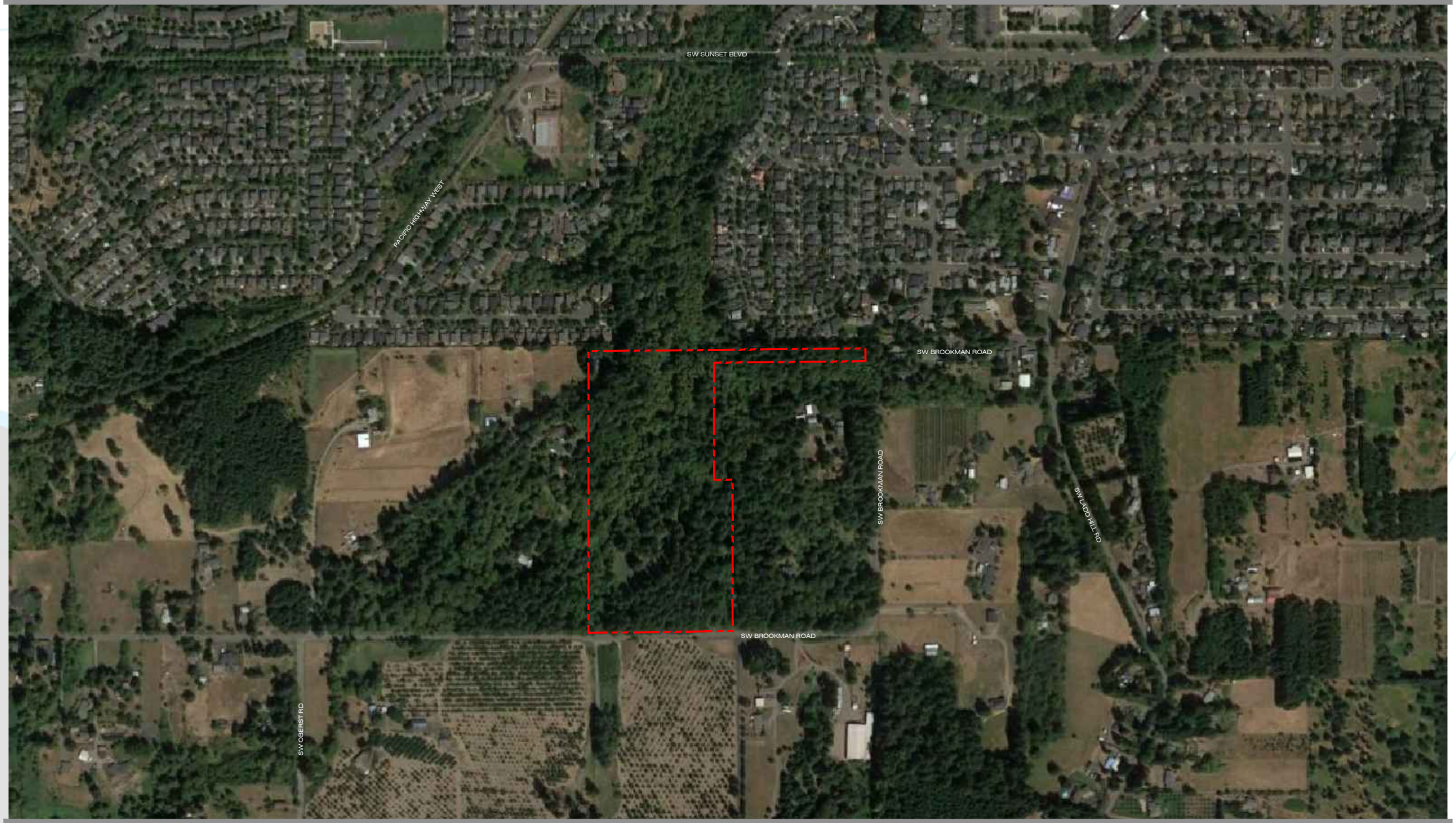
PIONEER DESIGN GROUP

Chapter 16.72 - Procedures For Processing Development Permits

- Subdivisions of 11-50 lots are subject to a Type III review process.
- The Type III Hearing Authority is the Hearings Officer & the Appeal Authority is the Planning Commission.
- Key application Activities:
    - Pre-application conference
    - Neighborhood Meeting
    - Application submittal and completeness review
    - Hearing Notice - The City will send notice to owners of record of property within 1,000 feet of the site
    - Notices of Type III public hearings shall be published in a newspaper of general circulation
    - Notices of Type III land use actions shall be posted by the City in no fewer than five (5) conspicuous locations within the City
    - Signage must be posted on the subject property
- Recommended findings of fact & conditions of approval shall be made in writing in a City planning staff report published 7 calendar days in advance of the hearing.
- The City shall issue the decision within 7 calendar days of the Hearing.
- Final action on the application shall be taken within 120 days of the application submittal.

PIONEER DESIGN GROUP

CEDAR CREEK GARDEN



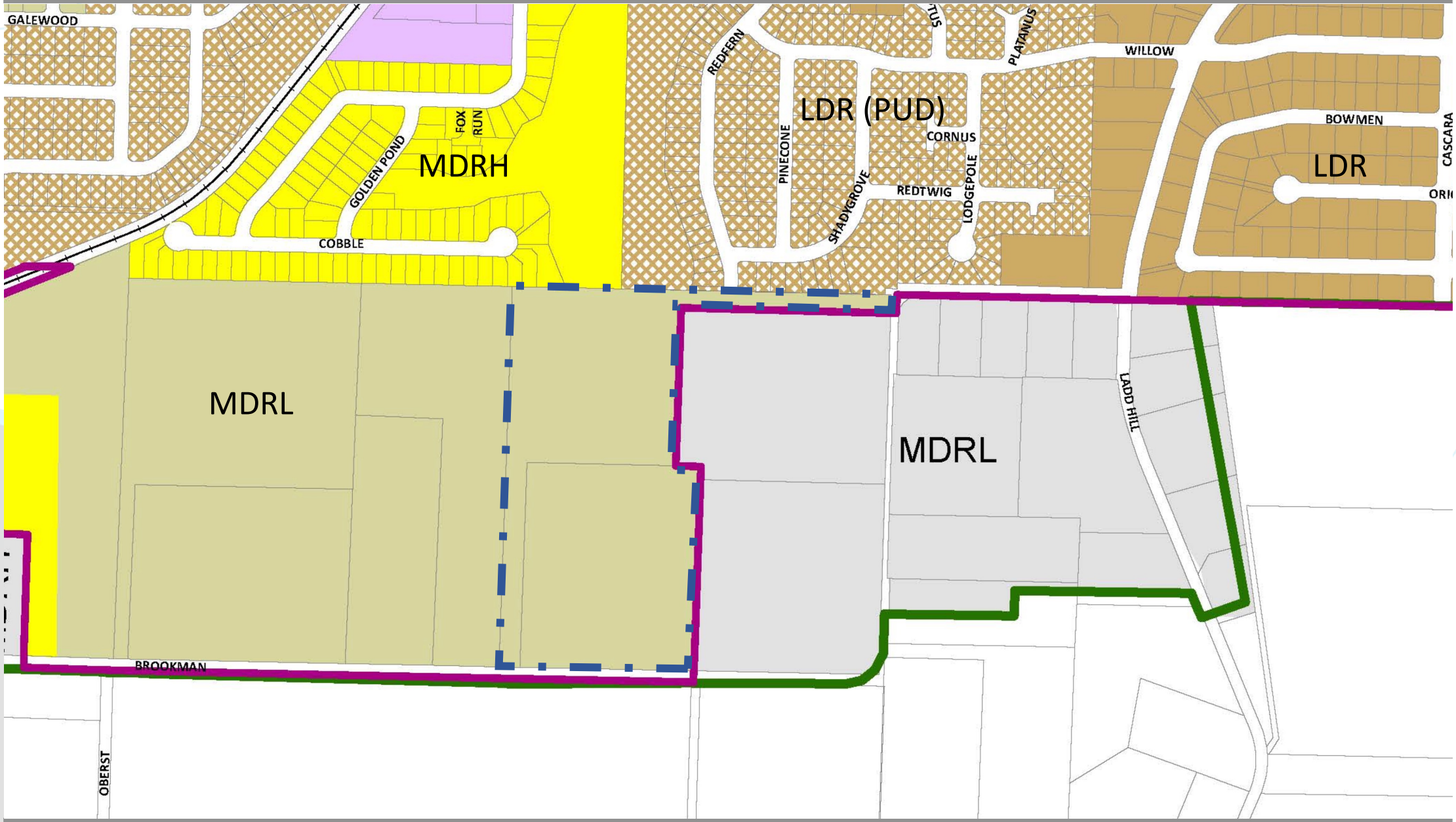
SITE AERIAL PHOTO

A 42 LOT SUBDIVISION ON TAX LOT 102 & 107, TAX MAP 3S106
16871 & 17033 SW BROOKMAN ROAD, SHERWOOD, OR 97140

SCALE
200 0 100 200
1 INCH = 200 FEET

PIONEER DESIGN GROUP

CEDAR CREEK GARDEN



SURROUNDING LAND USE

A 42 LOT SUBDIVISION ON TAX LOT 102 & 107, TAX MAP 3S106
16871 & 17033 SW BROOKMAN ROAD, SHERWOOD, OR 97140

PIONEER DESIGN GROUP

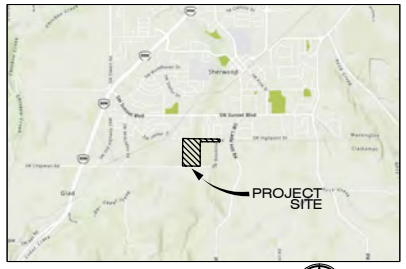
CEDAR CREEK GARDEN

BROOKMAN ADDITION CONCEPT PLAN

A 42 LOT SUBDIVISION ON TAX LOT 102 & 107, TAX MAP 3S106
16871 & 17033 SW BROOKMAN ROAD, SHERWOOD, OR 97140

PIONEER DESIGN GROUP

CEDAR CREEK GARDEN



VICINITY MAP
N.T.S

APPLICANT

WESTWOOD HOMES LLC
12700 NW CORNELL ROAD
PORTLAND, OR 97229
PHONE: (503) 330-2215

OWNER

WAYNE AND LINDA CHRONISTER (TAX LOT 107)
PO BOX 1474
SHERWOOD, OR 97140

CHARLES AND LOUISE BISSETT (TAX LOT 102)
16871 SW BROOKMAN ROAD
SHERWOOD, OR 97140

PLANNING/ENGINEERING/SURVEYING

PIONEER DESIGN GROUP, INC.
9020 SW WASHINGTON SQ RD., SUITE 170
PORTLAND, OR 97223
PHONE: (503) 643-8286
CONTACT: MATT SPRAGUE

SITE INFORMATION

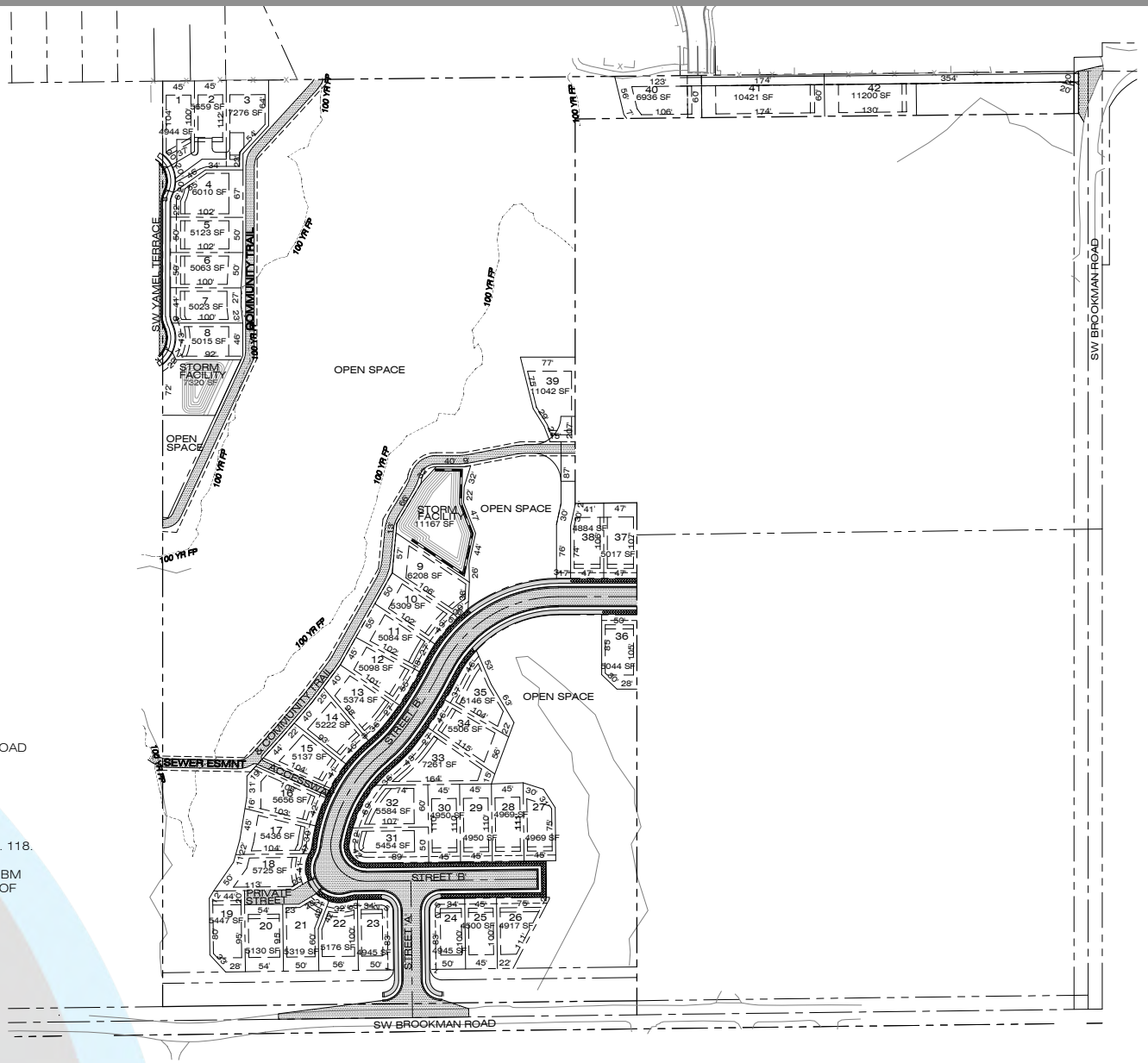
TAX MAP:	3S106
TAX LOT:	102 & 107
SITE ADDRESS:	16871 & 17033 SW BROOKMAN ROAD SHERWOOD, OREGON 97140
SITE SIZE:	20.03 ACRES
ZONING:	MDRL

VERTICAL DATUM

BENCHMARK: WASHINGTON COUNTY BENCHMARK NO. 118.

DESCRIPTION: A 3" BRASS DISK INSCRIBED "WASH. CO. BM 118" SET CONCRETE FILLED WITH METAL, NORTH SIDE OF BROOKMAN ROAD ON THE EXTENDED CENTERLINE OF OBERST ROAD

ELEVATION: 194.775' NGVD 29



PRELIMINARY PLAT

A 42 LOT SUBDIVISION ON TAX LOT 102 & 107, TAX MAP 3S106
16871 & 17033 SW BROOKMAN ROAD, SHERWOOD, OR 97140

SCALE
80 0 40 80
1 INCH = 80 FEET

PIONEER DESIGN GROUP

Cedar Creek Garden

To submit questions at this time, use the Live Event Q&A feature () on the right-hand side of your screen. Depending on the number and complexity of the questions received, responses to live questions may occur via email within 7 days following the meeting. You may also email questions to whayson@pd-grp.com . Notes from the meeting will be available at https://bit.ly/285021materials within 7 days of the meeting.

Thank you for attending.

PIONEER DESIGN GROUP

Wayne Hayson

From: NEIL SHANNON <neilshnn@msn.com>
Sent: Monday, October 04, 2021 12:18 PM
To: Wayne Hayson
Subject: Questions for Cedar Creek Garden Neighborhood Meeting

Good Afternoon Mr. Hayson,

Please see the attached questions for PDG at Cedar Creek Garden Neighborhood Meeting:

1) When the City of Sherwood annexed the property adjacent to the Arbor Lane Neighborhood (Ordnance 2017-002) it was clear that the northeastern strip connecting to Brookman Road was 50-feet wide. The proposed Plat indicates a property width of 60-feet. How is the additional 10-foot width acquired?

2) For lots 40, 41 and 42 please identify the front of the house and show how setback requirements (14' front, 5' side and 20'rear) are maintained.

3) During the pre-application meeting with the City of Sherwood, the City Engineering report (dated 4/27/21) noted that "no extension of SW Redfern Drive will be allowed". While the proposal appears to meet that requirement, the report went on to note "It is unlikely that ingress/egress will be allowed onto SW Brookman Road (Arterial Street) in this area", how are you providing access to lots 40, 41 and 42?

4) There appears to be several problems with fire apparatus access throughout the development including:
a. Lots 2 and 3 are accessed by a single lane private drive w/o turnaround.
b. Lots 9 through 39 are accessed by a single entrance from Brookman Road. Street B terminates at both ends without providing turnarounds.
c. Lot 39 is accessed by a narrow (17') single lane private drive, too narrow for fire apparatus. In addition, no turnaround is provided.
d. Lots 40 through 42 are accessed by an extended length single lane private drive w/o turnaround.
How do you intend to address fire department access?

5) The City Engineering report also notes that a 8" public sanitary sewer and a 8" water line located in Redfern Drive will "likely need to extend … south approximately 70 feet". Is it your intent to create a public easement through lot 40 or 41? How will such easements change the required setbacks?

6) It is unlikely that Pride Disposal will be able to access lots 40, 41 and 42, where are the individual trash containers going to be posted?

7) For lots 40, 41 and 42, where are the USPS boxes going to be placed?

8) To construct lots 40, 41 and 42 a strip 60-foot wide and 650-feet long strip of forested area will be clear cut, please provide details regarding the loss of forest canopy in this area.

9) Have you considered not building on lots 40, 41 and 42 and working with the City of Sherwood for dedication of the property for parks or trails in exchange for credits to system development charges?

Thank you,

Neil Shannon

Wayne Hayson

From: dave sweeney <davidsweeney1@hotmail.com>
Sent: Monday, October 04, 2021 12:32 PM
To: Wayne Hayson
Subject: Questions for tonight's Cedar Creek Gardens virtual neighborhood meeting.

I have two questions for tonight's virtual neighbor meeting concerning the Cedar Creek Gardens subdivision.

First question:
-Why is the developer, Westwood Homes LLC, willing to destroy the approximately 70-80, majestic "old growth" trees (most of which are over 100' tall and most of which are over 100 years old) many which pre-date the Civil War and some of which pre-date the establishment of the Oregon Trail, in the narrow strip of land at the top of the NE corner of the development (from Brookman Road on the Eastern edge to Red Fern in the center) all for the sake of wedging in just three houses?

Follow-up question:
-Why, instead of destroying the approximately 70-80 "old growth" trees in that narrow strip of land at the top of the NE corner of the development, doesn't the developer, Westwood Homes LLC, instead make a charitable donation of the land to the City of Sherwood to be preserved as a natural park area and, in the process, take a tax deduction...or a deduction against the system development charges...or a "loss" in their P&L profile...or all three?

Wayne Hayson

From: Ian Frost <ianfrost12@gmail.com>
Sent: Monday, October 04, 2021 3:38 PM
To: Wayne Hayson
Subject: Cedar Creek Gardens Subdivision Questions

Have you completed the environmental assessment to map the extent of wetlands in the area? What are the findings? (SZCDC 16.144.020(A))

How do you plan to account for the significant loss of trees because of utility access and lots 40-42?

How will you comply with the habitat protection requirements? (SZCDC 16.144.020(A))

The City of Sherwood Engineering Department comments, "SW Redfern Drive will be only available for pedestrian, bicycle, and emergency vehicle access. It is unlikely that ingress/egress will be allowed onto SW Brookman Road in this area…" How will lots 40-42 have access to the public street system?

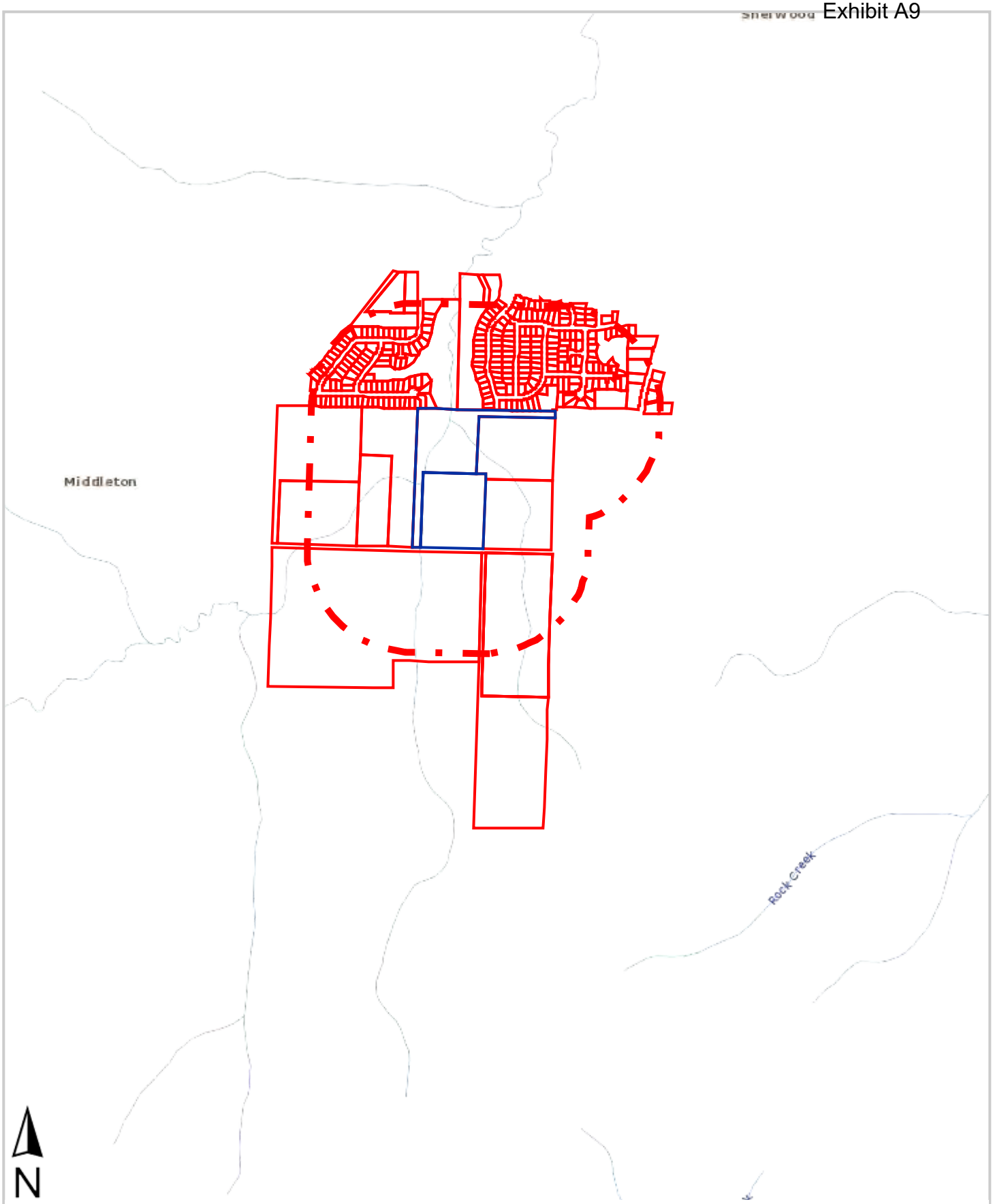
Have you completed a traffic impact analysis? What are the findings?

--
Ian Frost
ianfrost12@gmail.com

Wayne Hayson

From: Teresa Conrad <tglconrad@gmail.com>
Sent: Monday, October 04, 2021 4:04 PM
To: Wayne Hayson
Subject: Meeting question

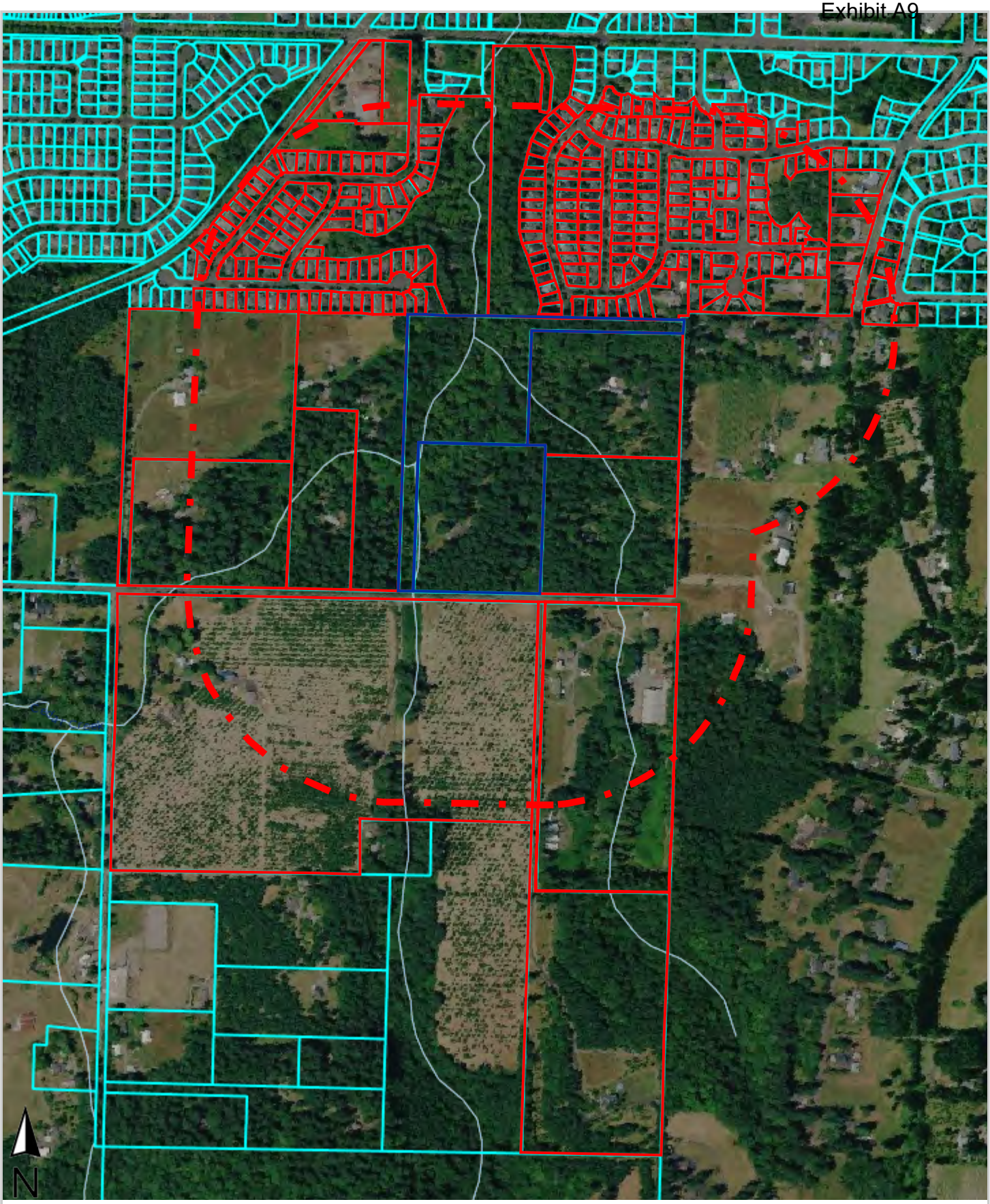
Hello,
My question for the meeting tonight is this-
Is there any flexibility in the design? In particular, for the last 3 houses on the end of Cobble Ct, would it be possible to leave common area behind us?
Thank you!
Teresa Conrad



WFG National Title Company
a Williston Financial Group Company

3S106 Tax Lots 102 and 107 -1000Ft Radius

This map/plat is being furnished as an aid in locating the herein described land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.



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3S106 Tax Lots 102 and 107 -1000Ft Radius

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Wayne Chronister
Linda Chronister
PO Box 1474
Sherwood OR 97140

Latned LLC
26527 SW Labrousse Rd
Sherwood OR 97140

Drew, Edward & Sharon Rev Trust
16078 SW Highpoint Dr
Sherwood OR 97140

Terrance Larsson
Gail Larsson
16071 SW Bowmen Ln
Sherwood OR 97140

William Adams III
Rebecca Adams
23683 SW Eucalyptus Ter
Sherwood OR 97140

George Hogenkamp
April Hogenkamp
23640 SW Eucalyptus Ter
Sherwood OR 97140

David Johnston
Talia Johnston
23688 SW Eucalyptus Ter
Sherwood OR 97140

Keith Laber
22128 SW Fisk Ter
Sherwood OR 97140

Gregory Schaefer
Kelly Schaefer
16266 SW Willow Dr
Sherwood OR 97140

Meredith Bowie
Jeffrey Bowie
16346 SW Willow Dr
Sherwood OR 97140

Roy Gill
Jackie Gill
16650 SW Brookman Rd
Sherwood OR 97140

Peterson S E & R L Family Trus
16242 SW Willow Dr
Sherwood OR 97140

Patricia Vanausten
Carl Vanausten
16100 SW Highpoint Dr
Sherwood OR 97140

David Brindza
Faith Brindza
16055 SW Bowmen Ln
Sherwood OR 97140

Neil Spruit
23665 SW Eucalyptus Ter
Sherwood OR 97140

Alan Doby
Davina Doby
16253 White Oaks Dr
Lake Oswego OR 97035

Anna Raineri
23326 SW Price Ter
Sherwood OR 97140

H & H Property Group LLC
PO Box 292
Sherwood OR 97140

Harrison Latimer
Genevieve Latimer
16294 SW Willow Dr
Sherwood OR 97140

Sean Murphy
Carolyn Murphy
23730 SW Lodgepole Ter
Sherwood OR 97140

Steel Tek Industries Inc
PO Box 908
Sherwood OR 97140

Lawrence Minor
Jeraldine Minor
16295 SW Brookman Rd
Sherwood OR 97140

Horalia Cruz
Hector Pacheco
16089 SW Bowmen Ln
Sherwood OR 97140

Sherwood, City Of
22560 SW Pine St
Sherwood OR 97140

Jared Mcpeak-Ford
Janae Ford
23647 SW Eucalyptus Ter
Sherwood OR 97140

Parent, Richard Living Trust
23672 SW Eucalyptus Ter
Sherwood OR 97140

Jill Mader
Doug Mader
23667 SW Platanus Pl
Sherwood OR 97140

Khabc Properties LLC & Thomas, Tandi M
16001 Bowmen Ln
Sherwood OR 97140

Paul Valesano
Rachel A Valesano
16320 SW Willow Dr
Sherwood OR 97140

Anne Nguyen
23758 SW Lodgepole Ter
Sherwood OR 97140

Penny Sunlove
Winklebleck Sunlove
23786 SW Lodgepole Ter
Sherwood OR 97140

Derek Easton
Jennifer Easton
18241 SW Handley St
Sherwood OR 97140

Brent Alexander
Kimberly Alexander
16355 SW Redtwig Dr
Sherwood OR 97140

Craig Tateishi
Cheryl Tateishi
26721 Menominee Pl
Rancho Palos Verdes CA 90275

Delaney Bantol
16336 SW Redtwig Dr
Sherwood OR 97140

Jake Richmond
Colleen Barrett
16394 SW Red Twig Dr
Sherwood OR 97140

Rose Taylor
Khari Taylor
23960 SW Lodgepole Ter
Sherwood OR 97140

David Villalpando
23935 SW Lodgepole Ter
Sherwood OR 97140

Katie Burns
16468 SW Redtwig Dr
Sherwood OR 97140

Glen Warner
Janice Warner
16463 SW Redtwig Dr
Sherwood OR 97140

Wayne Jackson
Janice Jackson
23814 SW Lodgepole Ter
Sherwood OR 97140

Jeffrey Froeber
16385 SW Red Twig Dr
Sherwood OR 97140

Peter Jenkins
Elisha Jenkins
16339 SW Redtwig Dr
Sherwood OR 97140

Mark Peltier
Kathy Peltier
15937 SW Division St
Sherwood OR 97140

Loren Fechter
Rebecca Fechter
16364 SW Red Twig Dr
Sherwood OR 97140

Adriana Phillips
Gregory Phillips
23932 SW Lodgepole Ter
Sherwood OR 97140

Brook Young
23965 SW Lodgepole Ter
Sherwood OR 97140

David Toda
Carol Toda
23923 SW Lodgepole Ter
Sherwood OR 97140

Michele Morell
16476 SW Redtwig Dr
Sherwood OR 97140

Michael Miller
Sarah Miller
23889 SW Lodgepole Ter
Sherwood OR 97140

Ronald Wagner
23846 SW Lodgepole Ter
Sherwood OR 97140

Dong Wang
Wuying Fang
16371 SW Red Twig Dr
Sherwood OR 97140

Grace Wanjala
16323 SW Redtwig Dr
Sherwood OR 97140

Yelena Kuzmenko
16318 SW Red Twig Dr
Sherwood OR 97140

Derek Olson
Angela Olson
16380 SW Redtwig Dr
Sherwood OR 97140

Angelo Quesada
Yaddira Rojas
23946 SW Lodgepole Ter
Sherwood OR 97140

Amy Patterson
23949 SW Lodgepole Ter
Sherwood OR 97140

Dennis Hansen
Shirley Sleep
23911 SW Lodgepole Ter
Sherwood OR 97140

Kyler Pace
16471 SW Red Twig Dr
Sherwood OR 97140

Alejandro Rodriguez
Maria Navarro
16416 SW Cornus St
Sherwood OR 97140

Brad Crosby
Michelle Crosby
16440 SW Cornus Ct
Sherwood OR 97140

Alfredo Polanco
Jessica Polanco
16464 SW Cornus Ct
Sherwood OR 97140

Jeffrey Hornick
Elizabeth Hornick
16488 SW Cornus Ct
Sherwood OR 97140

Moga Family Rev Trust
13735 SW Galbreath Dr
Sherwood OR 97140

York Ronald & Brenda Trust
16459 SW Cornus Ct
Sherwood OR 97140

Byron Murphy
Samantha Wikstrom
601 Quail Dr
Newberg OR 97132

Ryan, William A & Debra Family Trust
PO Box 190
Sherwood OR 97140

Barbara Frazier
16420 SW Willow Dr
Sherwood OR 97140

Marty Kammerzell
Kaori Kammerzell
17848 SW Dodson Dr
Sherwood OR 97140

Abj Properties LLC
PO Box 576
Condon OR 97823

Jacob Helbling
Hailey Levasa
8816 SW Ash Meadows Rd #1236
Wilsonville OR 97070

Alice Quesenberry
23619 SW Eucalyptus Ter
Sherwood OR 97140

Gregory Newman
Sandra Newman
23955 SW Ladd Hill Rd
Sherwood OR 97140

Casey Stewart
Randy Stewart
17104 SW Greengate Dr
Sherwood OR 97140

Scott Rader
Julie Rader
17116 SW Greengate Dr
Sherwood OR 97140

Gary Elmore
17128 SW Greengate Dr
Sherwood OR 97140

Christian Owcarz
Elaine Owcarz
17140 SW Greengate Dr
Sherwood OR 97140

Holt Family Liv Trust & By Kirk
Richard & Barbara Eileen Holt Trs
17152 SW Greengate Dr
Sherwood OR 97140

Kristy Iversen
17164 SW Greengate Dr
Sherwood OR 97140

Elizabeth Delong
23836 SW Fox Run Pl
Sherwood OR 97140

Shahram Khorasanizadeh
Maryam Emamjomeh
23862 SW Fox Run Pl
Sherwood OR 97140

Debra Boquist
23867 SW Fox Run Pl
Sherwood OR 97140

O'hogan Living Trust
23841 SW Fox Run Pl
Sherwood OR 97140

Carrieann H Lucas
17182 SW Greengate Dr
Sherwood OR 97140

Douglas Williamson
Cecile Valastro
23804 SW Golden Pond Ter
Sherwood OR 97140

Lawrence Hill
Terry Muldowney-Hill
23818 SW Golden Pond Ter
Sherwood OR 97140

Victor Orella
Sharon Orella
23832 SW Golden Pond Ter
Sherwood OR 97140

Saleh Family Trust
16800 NE Mountain Home Rd
Sherwood OR 97140

Wayne Vaincourt
Catherine Ingram
23898 SW Golden Pond Ter
Sherwood OR 97140

Eitoku Yamanaka
Naoko Yamanaka
23921 SW Golden Pond Ter
Sherwood OR 97140

James Anderson Jr
Patricia Wahr-Anderson
23907 SW Golden Pond Ter
Sherwood OR 97140

Thomas Clemo
2520 3Rd St #10
Santa Monica CA 90405

Frank Rossi
Sara Rossi
23811 SW Golden Pond Ter
Sherwood OR 97140

Anna Song
Blake Applegate
17278 SW Greengate Dr
Sherwood OR 97140

Melissa Pennings
Barend Pennings
80 Central Park West #22G
New York NY 10023

Jeffery A Peterson
Kimberly M Peterson
17345 SW Greengate Dr
Sherwood OR 97140

John Hoogstad
Jeanne Hoogstad
17309 SW Greengate Dr
Sherwood OR 97140

Diane Golemis
Dimitrios Golemis
17273 SW Greengate Dr
Sherwood OR 97140

James Tanabe
Dianne Tanabe
17229 SW Greengate Dr
Sherwood OR 97140

Joshua Gandee
17205 SW Greengate Dr
Sherwood OR 97140

Edward Saito
Karen Heisler
23893 SW Golden Pond Ter
Sherwood OR 97140

Mo Taylor
Holly Taylor
23851 SW Golden Pond Ter
Sherwood OR 97140

Houghton Living Trust
23524 SW Denali Ln
Sherwood OR 97140

Steven Boddington
Kori Boddington
17290 SW Greengate Dr
Sherwood OR 97140

Carol Weber
17328 SW Greengate Dr
Sherwood OR 97140

Justin Tishendorf
Pamela Tishendorf
17333 SW Greengate Dr
Sherwood OR 97140

Brandon Armatas
Mindi Helmandollar-Armatas
17297 SW Greengate Dr
Sherwood OR 97140

Evan Marchant
Susan Marchant
17261 SW Greengate Dr
Sherwood OR 97140

Crist Chadwick
17221 SW Greengate Dr
Sherwood OR 97140

Joseph Heredia
Susie Heredia
17197 SW Greengate Dr
Sherwood OR 97140

Jeffrey Sandberg
Cristina Sandberg
23879 SW Golden Pond Ter
Sherwood OR 97140

Jeffrey Lathrop
Maria Lathrop
9265 SW Iowa Dr
Tualatin OR 97062

Christoffer Mccollom
Rachel Mccollom
17266 SW Greengate Dr
Sherwood OR 97140

Kimra Peffers
17302 SW Greengate Dr
Sherwood OR 97140

Todd Card
Erin Card
17340 SW Greengate Dr
Sherwood OR 97140

Nelson, Kimberly Family Trust
17321 SW Greengate Dr
Sherwood OR 97140

Jeffrey Kuppenbender
Janice Kuppenbender
17285 SW Greengate Dr
Sherwood OR 97140

Bouaicha Slim
17237 SW Greengate Dr
Sherwood OR 97140

Marcia Mcdonald
17213 SW Greengate Dr
Sherwood OR 97140

Ronald Thompson
Diana Thompson
6655 SW Kingsview Ct
Tigard OR 97223

Kyal Matte
Tricia Matte
17177 SW Greengate Dr
Sherwood OR 97140

William J Harmon
Victoria E Harmon
17169 SW Greengate Dr
Sherwood OR 97140

Jon Shields
Stacey Shields
17135 SW Greengate Dr
Sherwood OR 97140

Jessica Wall
17185 SW Cobble Ct
Sherwood OR 97140

Donald Rogie
Tina Rogie
17171 SW Cobble Ct
Sherwood OR 97140

Brown, Larry A & Marsha N Rev Trust
17157 SW Cobble Ct
Sherwood OR 97140

Naoki Kuze
Minh Luu
17143 SW Cobble Ct
Sherwood OR 97140

Satish Singh
Ruchi Singh
15132 NW Delia St
Portland OR 97229

Paul Hess
Wendy Hess
17115 SW Cobble Ct
Sherwood OR 97140

Tiffany Miller
Timothy Miller
17101 SW Cobble Ct
Sherwood OR 97140

Scott L Colunga
17087 SW Cobbie Ct
Sherwood OR 97140

Richard Mikulak
17073 SW Cobble Ct
Sherwood OR 97140

Courtney Penberthy
Kurt Penberthy
17057 SW Cobble Ct
Sherwood OR 97140

Stefanie English
17033 SW Cobble Ct
Sherwood OR 97140

Heather Cooper
Spencer Cooper
17019 SW Cobble Ct
Sherwood OR 97140

Anthony Zukauskas
17005 SW Cobble Ct
Sherwood OR 97140

Thomas Gall
Laura Gall
17010 SW Cobble Ct
Sherwood OR 97140

Teresa Conrad
17024 SW Cobble Ct
Sherwood OR 97140

Brian Crabtree
Melanie Crabtree
17038 SW Cobble Ct
Sherwood OR 97140

Daniel Defreval
17052 SW Cobble Ct
Sherwood OR 97140

Isidro Toscano
17066 SW Cobble Ct
Sherwood OR 97140

Betts Christopher D & Chelsea B
Chelsea B Betts
17080 SW Cobble Ct
Sherwood OR 97140

Jodi Briggs
17094 SW Cobble Ct
Sherwood OR 97140

Robert Frailey
Lin Zhang
17108 SW Cobble Ct
Sherwood OR 97140

Robert Costley
Shirley Costley
50-485 Spyglass Hill Dr
La Quinta CA 92253

Robert Savage
Debra Savage
17136 SW Cobble Ct
Sherwood OR 97140

Hoang Ho
Tri Luu
1249 Alemany Blvd
San Francisco CA 94112

Kevin Paulus
Jenny Paulus
17164 SW Cobble Ct
Sherwood OR 97140

Alison D Armour
Matthew J Hyink
8900 SW Sweek Dr 1712
97082

Dustin S Johnson
17192 SW Cobble Ct
Sherwood OR 97140

Scott Nelson
Debbie Nelson
17206 SW Cobble Ct
Sherwood OR 97140

Cameron Mountain
Jeana Mountain
17232 SW Cobble Ct
Sherwood OR 97140

Scott Demming
Laurel Demming
17258 SW Cobble Ct
Sherwood OR 97140

Karen Blair
17286 SW Cobble Ct
Sherwood OR 97140

Lisa Ring
17320 SW Cobble Ct
Sherwood OR 97140

Christine Marr
17348 SW Cobble Ct
Sherwood OR 97140

Yang Lu
17374 SW Cobble Ct
Sherwood OR 97140

Clifton Taylor
Dorothy Houlihan
17400 SW Cobble Ct
Sherwood OR 97140

Alan Taylor
Angela Taylor
17414 SW Cobble Ct
Sherwood OR 97140

Cameron Shayegi
Miran Shayegi
17419 SW Cobble Ct
Sherwood OR 97140

Stephen Hilt
Jean Hilt
17369 SW Greengate Dr
Sherwood OR 97140

Nathan Bush
Rebecca Bush
17363 SW Cobble Ct
Sherwood OR 97140

Hpa Jv Borrower 2019-1 Ml LLC
180 N Stetson Ave Ste 3650
Chicago IL 60601

Stephanie Charters
17281 SW Cobble Ct
Sherwood OR 97140

Mary Steringer
Erik Steringer
16606 SW Baywood Ct
Sherwood OR 97140

Keith Robbins
Mary Robbins
16620 SW Baywood Ct
Sherwood OR 97140

Davy Morris
Mikal Morris
16670 SW Baywood Ct
Sherwood OR 97140

Hwa Jung
Sehoon Eom
23630 SW Red Fern Dr
Sherwood OR 97140

Kimberly A Marshall
Michelle K Krohn
23658 SW Red Fern Dr
Sherwood OR 97140

Ka Moua
Eric Norris
16673 SW Willow Dr
Sherwood OR 97140

Mark Russell
Vickii Russell
16611 SW Willow Dr
Sherwood OR 97140

Linda John
16597 SW Willow Dr
Sherwood OR 97140

Daniel Cisneros
Christy Cisneros
16575 SW Willow Dr
Sherwood OR 97140

Thair Khan
16553 SW Willow Dr
Sherwood OR 97140

Dean Hardesty
Lynda Hardesty
16531 SW Willow Dr
Sherwood OR 97140

Jeff Robrecht
Janet Robrecht
16509 SW Willow Dr
Sherwood OR 97140

Levi Levasa
Courtney Levasa
16491 SW Willow Dr
Sherwood OR 97140

Brian Dorsey
16483 SW Willow Dr
Sherwood OR 97140

Frances Pease
PO Box 23973
Tigard OR 97281

Garret Buchheit
Leticia Buchheit
23722 SW Shady Grove Dr
Sherwood OR 97140

Carl Ruggiero
Jamie Ruggiero
23734 SW Shadygrove Dr
Sherwood OR 97140

Beth E Hust
23772 SW Shady Gove Dr
Sherwood OR 97140

Hector Juarez
Olivarez Juarez
16492 SW Red Twig Dr
Sherwood OR 97140

Frost Lan & Erin
23878 SW Shady Grove Dr
Sherwood OR 97140

Benjamin Aanderud
Kimberly Aanderud
17475 SW Roosevelt St
Sherwood OR 97140

John Urban
Kimberly Urban
23981 SW Redfern Dr
Sherwood OR 97140

Chee Woo
19266 SW Megly Ct
Lake Oswego OR 97035

Clark Farrand
Catherine Farrand
23871 SW Redfern Dr
Sherwood OR 97140

Craig Larkin
Sarah Larkin
23801 SW Redfern Dr
Sherwood OR 97140

Phillip Wagner
23731 SW Redfern Dr
Sherwood OR 97140

Matthew Gordanier
Jill Gordanier
23750 SW Shadygrove Dr
Sherwood OR 97140

Michael Blaser
Tamara Blaser
23784 SW Shadygrove Dr
Sherwood OR 97140

Mary Cunningham
Patricia Cunningham
23852 SW Shady Grove Dr
Sherwood OR 97140

Lisa Shipley
23916 SW Shadygrove Dr
Sherwood OR 97140

Robert Montgomery
24027 SW Redfern Dr
Sherwood OR 97140

Jun Qian
23965 SW Redfern Dr
Sherwood OR 97140

Jonathan Burgi
Wanda Burgi
23905 SW Red Fern Dr
Sherwood OR 97140

Kelly Krause
Aaron Krause
23855 SW Redfern Dr
Sherwood OR 97140

Jake Porter
Amy Porter
23783 SW Redfern Dr
Sherwood OR 97140

Denean Pyle
23715 SW Redfern Dr
Sherwood OR 97140

Stephen Riccomini
Susan Riccomini
23760 SW Shadygrove Dr
Sherwood OR 97140

Juan Serrano
Zulay Serrano
16484 SW Redtwig Dr
Sherwood OR 97140

Cynthia Randall
23864 SW Shadygrove Dr
Sherwood OR 97140

Erin Garvey
23950 SW Shadygrove Dr
Sherwood OR 97140

David Sweeney
24011 SW Redfern Dr
Sherwood OR 97140

Carl Busse
Tara Miller
23949 SW Redfern Dr
Sherwood OR 97140

Kerby Mcginnis
Kyle Mcginnis
23889 SW Redfern Dr
Sherwood OR 97140

Kyle Grant
Kellie Grant
23837 SW Redfern Dr
Sherwood OR 97140

Varunee Buerkle
23765 SW Redfern Dr
Sherwood OR 97140

Donald Mershon
Rebecca Mershon
23683 SW Redfern Dr
Sherwood OR 97140

Kenneth Smith
Laura Smith
23726 SW Redfern Dr
Sherwood OR 97140

Patricia Sturgeon
David Sturgeon
23758 SW Redfern Dr
Sherwood OR 97140

Richard Espinoza
Nancy Espinoza
22581 Clark St
West Linn OR 97068

Sarah Holtz
23814 SW Redfern Dr
Sherwood OR 97140

Raymond Rogowicz
Karla Rogowicz
15495 SW Bell Rd
Sherwood OR 97140

Lisa Speer
Brian Speer
23850 SW Redfern Dr
Sherwood OR 97140

Kimberlee J Goehner
Christopher J Goehner
23866 SW Red Fern Dr
Azalea OR 97410

Shawn Jones
Kristen Jones
23884 SW Redfern Dr
Sherwood OR 97140

Joshua Fial
Teddie Fial
23900 SW Redfern Dr
Sherwood OR 97140

Mathew Prince
Kelly Prince
23926 SW Redfern Dr
Sherwood OR 97140

Kendall Lallatin
Michelle Lallatin
23942 SW Redfern Dr
Sherwood OR 97140

Jennifer Labounty
Benjamin Labounty
23958 SW Red Fern Dr
Sherwood OR 97140

Scott Lacy
Debra Lacy
23974 SW Redfern Dr
Sherwood OR 97140

Kathleen Harvey
13160 SW Hoodvista Ln
Portland OR 97224

Darryl Jasmer Jr
Malia Jasmer
23941 SW Shadygrove Dr
Sherwood OR 97140

Michael Rick Jr
Lara Rick
23879 SW Pinecone Ave
Sherwood OR 97140

Timothy Curtiss
Stephenie Curtiss
23863 SW Pinecone Ave
Sherwood OR 97140

Kimberly Caldwell
23847 SW Pinecone Ave
Sherwood OR 97140

Todd Hern
Denise Hern
23831 SW Pinecone Ave
Sherwood OR 97140

Robert Murphy Jr
Jessica Larson
23815 SW Pinecone Ave
Sherwood OR 97140

Leland Chidester
Molly Chidester
23799 SW Pinecone Ave
Sherwood OR 97140

Menzel Trust
23785 SW Pinecone Ave
Sherwood OR 97140

Patrick Allen
Joan Allen
23769 SW Pinecone Ave
Sherwood OR 97140

Anderson Family Living Trust
24008 SW Morgan Ln
Sherwood OR 97140

Scott Reetz
Marisa Reetz
23721 SW Pinecone Ave
Sherwood OR 97140

Aurora L Roth
Richard A Roth
16592 SW Willow Dr
Sherwood OR 97140

Scott Galloway
Janell Galloway
23748 SW Pinecone Ave
Sherwood OR 97140

Philip Mcguigan
Lisa Mcguigan
23764 SW Pinecone Ave
Sherwood OR 97140

Steffens Tamara & Dannie
23780 SW Pinecone Ave
Sherwood OR 97140

Muhammad Farooqi
Farkhunda Farooqi
23796 SW Pinecone Ave
Sherwood OR 97140

Molly Lee
Michael Lee
23810 SW Pinecone Ave
Sherwood OR 97140

Dueck, Dharmawati Lesmana Rev
Living Trust
23828 SW Pinecone Ave
Sherwood OR 97140

William Russell
Deanna Russell
23842 SW Pinecone Ave
Sherwood OR 97140

Benjamin Whitaker
Andrea Whitaker
23874 SW Pinecone Ave
Sherwood OR 97140

Robert Walker
Kari Walker
23885 SW Shadygrove Dr
Sherwood OR 97140

Ownership Suppressed
23857 SW Shadygrove Dr
Sherwood OR 97140

Richard List
Heather List
23833 SW Shady Grove Dr
Sherwood OR 97140

Thomas Evans
Jennifer Evans
23815 SW Shady Grove Dr
Sherwood OR 97140

Kent Pratt
Karen Pratt
23791 SW Shady Grove Dr
Sherwood OR 97140

Christopher West
Kristina West
23779 SW Shadygrove Dr
Sherwood OR 97140

Jennifer Hagfeldt
23767 SW Shadygrove Dr
Sherwood OR 97140

Ashley Dixon
21370 SW Langer Farms Pkwy #142-427
Sherwood OR 97140

Robert Gonzalez
Mary Gonzalez
23743 SW Shady Grove Dr
Sherwood OR 97140

Kimberly Jagow
Jonathan Jagow
23729 SW Shadygrove Dr
Sherwood OR 97140

Erik Stenehjem
Cathleen Stenehjem
23717 SW Shady Grove Dr
Sherwood OR 97140

Yong Yang
Xiaoxiao Wu
16526 SW Willow Dr
Sherwood OR 97140

Michael Withington
Roxanne Withington
16548 SW Willow Dr
Sherwood OR 97140

Shana Robertson
Michael Robertson
16570 SW Willow Dr
Sherwood OR 97140

Jeffrey Heimark
Julie Heimark
16600 SW Baywood Ct
Sherwood OR 97140

Megan Ward
18638 SW 92Nd Ter
Tualatin OR 97062

Naoki Kuze
Minh Luu
17050 SW Greengate Dr
Sherwood OR 97140

Thomas Farwell
Rebecca Farwell
16990 SW Greengate Dr
Sherwood OR 97140

Rick Meacham
Lina Meacham
23735 SW Ladd Hill Rd
Sherwood OR 97140

Brandon Maskew
Jessica Maskew
23785 SW Ladd Hill Rd
Sherwood OR 97140

Christopher Montgomery
23845 SW Ladd Hill Rd
Sherwood OR 97140

Nathan Potter
Brooke Potter
23895 SW Ladd Hill Rd
Sherwood OR 97140

Cnd-Cedar Creek LLC
1111 N Post Oak Rd
Houston TX 77055

Brookman Development LLC
PO Box 61426
Vancouver WA 98666

Linda Scott
Richard Scott
17433 SW Brookman Rd
Sherwood OR 97140

John Hagg Jr
Denise Hagg
16655 SW Brookman Rd
Sherwood OR 97140

Gregory, Byron Duane & Ruth Ann
Gregory Rev Living Trust
16457 SW Brookman Rd
Sherwood OR 97140

Philip Lapp
Nancy Lapp
17400 SW Brookman Rd
Sherwood OR 97140

Mark B Whitley
16730 SW Brookman Rd
Sherwood OR 97140

WFG National Title Insurance Company
a Williston Financial Group company

2430 NE John Olsen Avenue, Suite 125
Beaverton, OR 97006
Phone (503) 533-9510 Fax (503) 533-0908

WFG National Title Insurance Company
Krista Thorne
2430 NE John Olsen Avenue, Suite 125
Beaverton, OR 97006

Date Prepared: February 9, 2021

FIRST SUPPLEMENTAL
PRELIMINARY TITLE REPORT

Order Number: **21-125760**
Escrow Officer: Krista Thorne
Phone: (503) 533-9510
Fax: (503) 214-8725
Email: TeamKrista@wfgnationaltitle.com

Seller(s): **Wayne K. Chronister and Linda A. Chronister**
Buyer(s): **Westwood Homes, LLC, an Oregon limited liability company**

Property: **17033 SW Brookman Road, Sherwood, OR 97140**

The following items have been amended:
Contract added

WFG National Title Insurance Company, is prepared to issue a title insurance policy, as of the effective date and in the form and amount shown on Schedule A, subject to the conditions, stipulations and exclusions from coverage appearing in the policy form and subject to the exceptions shown on Schedule B. This Report (and any Amendments) is preliminary to and issued solely for the purpose of facilitating the issuance of a policy of title insurance at the time the real estate transaction in question is closed and no liability is assumed in the Report. The Report shall become null and void unless a policy is issued and the full premium paid.

This report is for the exclusive use of the person to whom it is addressed. Title insurance is conditioned on recordation of satisfactory instruments that establish the interests of the parties to be insured; until such recordation, the Company may cancel or revise this report for any reason.

SCHEDULE A

1. The effective date of this preliminary title report is **8:00 A.M.** on **1st day of February, 2021**
2. The policies and endorsements to be insured and the related charges are:

Policy/Endorsement Description	Liability	Charge
ALTA 2006 Owners Policy	**$1,200,000.00**	**$1,560.00**
Basic Owner's Rate		**$1,560.00**

Proposed Insured: Westwood Homes, LLC, an Oregon limited liability company

Government Service Fee: **$25.00**

This is a preliminary billing only, a consolidated statement of charges, credits and advances, if any, in connection with this order will be provided at closing.

3. Title to the land described herein is vested in:

   Wayne K. Chronister and Linda A. Chronister, as tenants by the entirety

4. The estate or interest in land is:

   Fee Simple

5. The land referred to in this report is described as follows:

   SEE ATTACHED EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

EXHIBIT "A"
LEGAL DESCRIPTION

That portion of the North one-half of the Northeast one-quarter of Section 6, Township 3 South, Range 1 West of the Willamette Meridian, in the County of Washington and State of Oregon, described as follows:

Beginning at the Southwest corner of the North one-half of the Northeast one-quarter of said Section 6; thence East, along the South line of said North one-half, 1400 feet to the Southwest corner of that tract conveyed to Elmer Larry Countryman, et ux, by Deed recorded August 15, 1975, in Book 1039, Page 17, said point being the true point of beginning of the tract described herein; thence North, along the West line of said Countryman Tract, 726 feet to the Northwest corner thereof; thence East, along the North line of said Countryman Tract, 493 feet to the most Westerly Southwest corner of that tract conveyed to Byron D. Gregory, et ux, by Deed recorded July 14, 1977, in Book 1182, Page 951; thence North, along the West line of said Gregory Tract, 544 feet to the Northwest corner thereof; thence East, along the North line of said Gregory Tract, 747 feet to the Northeast corner thereof, said point being on the East line of Section 6; thence North along the East line of said Section 6, a distance of 50 feet to the Northeast corner thereof; thence West, along the North line of said Section 6, a distance of 1312 feet, more or less, to the Northeast corner of that tract conveyed to Thomas Ames Curran, et ux, by Contract recorded January 9, 1978, Fee No. 78-918; thence South, along the East line of said Curran Tract, 1320 feet to the Southeast corner thereof, said point being on the South line of the North one-half of said Northeast one-quarter of Section 6; thence East, along said South line, 72 feet, more or less, to the true point of beginning.

SCHEDULE B

GENERAL EXCEPTIONS

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

2. Facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.

3. Easements, or claims of easement, not shown by the public records; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.

4. Any encroachment (of existing improvements located on the subject land onto adjoining land or of existing improvements located on adjoining land onto the subject land), encumbrance, violation, variation, or adverse circumstance affecting the title that would be disclosed by an accurate and complete land survey of the subject land.

5. Any lien, or right to a lien, for services, labor, material, equipment rental or workers compensation heretofore or hereafter furnished, imposed by law and not shown by the public records.

SPECIAL EXCEPTIONS

6. Any adverse claim based upon the assertion that:
   Rights of the public and governmental bodies in and to any portion of the premises herein described lying below the high water mark of Cedar Creek.

7. Rights of the public in and to any portion of the herein described premises lying within the boundaries of streets, roads or highways.

8. Easement, including the terms and provisions thereof:

For	:	Sanitary sewer
Granted to	:	Clean Water Services
Recorded	:	August 6, 2020
Recording No(s)	:	2020-073644
Affects	:	a portion of the premises herein

9. Unpaid Taxes for 2020 -2021

Levied Amount	:	$1,469.80
Balance Owing	:	$986.56, plus interest and fees, if any
Property ID No.	:	R586173
Levy Code	:	088.21
MapTax Lot No.	:	3S10600-00107

   (Affects real property)

10. As disclosed by the tax roll the premises herein described have been zoned or classified for forest land use. At any time that said land is disqualified for such use, the property may be subject to additional taxes or penalties and interest.

11. City liens, if any, of the City of Sherwood.

    NOTE: We have requested a search and will advise when we have received a response.

12. Contract, including the terms and provisions thereof, as revealed by a memorandum thereof:

Vendor	:	Wayne K. Chronister and Linda A. Chronister, husband and wife
Vendee	:	Westwood Homes LLC., an Oregon limited liability company
Dated	:	January 27, 2021
Recorded	:	February 9, 2021
Recording No(s): 2021-017137		
Amount	:	$950,000.00

13. Any unrecorded leases or rights of tenants in possession.

14. The Tax Assessor indicates personal property in the form of a Manufactured Home on the subject property and all matters specifically related thereto are hereby excepted.

    NOTE: If the manufactured home located on the premises herein described does not become real property through decertification under the provisions of ORS 446.626, the forthcoming title insurance policy will be limited to the value of the unimproved land only.

    NOTE: The Washington County Tax Assessor shows Wayne K. Chronister and Linda A. Chronister as the registered owner(s) of the mobile home.

END OF EXCEPTIONS

NOTE: Taxes paid in full for 2020-2021

Levied Amount	:	$192.82
Property ID No.	:	M2119159
Levy Code	:	088.21
MH No. :	M900003553	

(Affects manufactured home)

Note: The above tax printout shows a notation: "Clerical Error Supplemented".

NOTE: In no event shall WFG National Title Insurance Company have any liability for the tax assessor's imposition of any additional assessments for omitted taxes unless such taxes have been added to the tax roll and constitute liens on the property as of the date of closing. Otherwise, such omitted taxes shall be the sole, joint and several responsibility of seller(s) and buyer(s), as they may determine between themselves.

NOTE: The following is incorporated herein for information purposes only and is not part of the exception from coverage (Schedule B-II of the prelim and Schedule B of the policy):The following instrument(s), affecting said property, is (are) the last instrument(s) conveying subject property filed for record within 24 months of the effective date of this preliminary title report:

None of Record

NOTE: Please be advised that we have searched the records and do not find any open Deeds of Trust. If you should have knowledge of an outstanding obligation, please contact the Title Department for further review.

NOTE: The Oregon Corporation Commission disclosed that Westwood Homes LLC, is an active Oregon limited liability company:

Filed	:	November 21, 2011
Member	:	Bill Wagoner
Member	:	Todd Boyce
Registered Agent	:	Todd Richard Boyce

NOTE: We find NO judgments or Federal Tax Liens against the name(s) of Westwood Homes, LLC, an Oregon limited liability company.

NOTE: Links for additional supporting documents:

Vesting Deed

NOTE: Due to current conflicts or potential conflicts between state and federal law, which conflicts may extend to local law, regarding marijuana, if the transaction to be insured involves property which is currently used or is to be used in connection with a marijuana enterprise, including but not limited to the cultivation, storage, distribution, transport, manufacture, or sale of marijuana and/or products containing marijuana, the Company declines to close or insure the transaction, and this Preliminary Title Report shall automatically be considered null and void and of no force and effect.

NOTE: The following applicable recording fees will be charged by the county:

Multnomah County-First Page	$86.00
Washington County-First Page	$81.00
Clackamas County-First Page	$93.00
Each Additional Page	$ 5.00
Non-standard Document Fee	$20.00
E-recording Fee	$ 3.00

Washington County Ordinance No. 193, recorded May 13, 1977 in Washington County, Oregon imposes a tax of $1.00 per $1,000.00 or fraction thereof on the transfer of real property located within Washington County.

NOTE: IMPORTANT INFORMATION REGARDING PROPERTY TAX PAYMENTS

Fiscal Year:	July 1st through June 30th
Taxes become a lien on real property, but are not yet payable.	July 1st
Taxes become certified and payable (approximately on this date)	October 15th
First one third payment of taxes are due	November 15th
Second one third payment of taxes are due	February 15th
Final payment of taxes are due	May 15th

Discounts: If two thirds are paid by November 15th, a 2% discount will apply.

If the full amount of the taxes are paid by November 15th, a 3% discount will apply.

Interest: Interest accrues as of the 15th of each month based on any amount that is unpaid by the due date. No interest is charged if the minimum amount is paid according to the above mentioned payment schedule.

NOTE: THE FOLLOWING NOTICE IS REQUIRED BY STATE LAW: YOU WILL BE REVIEWING, APPROVING AND SIGNING IMPORTANT DOCUMENTS AT CLOSING. LEGAL CONSEQUENCES FOLLOW FROM THE SELECTION AND USE OF THESE DOCUMENTS. YOU MAY CONSULT AN ATTORNEY ABOUT THESE DOCUMENTS. YOU SHOULD CONSULT AN ATTORNEY IF YOU HAVE QUESTIONS OR CONCERNS ABOUT THE TRANSACTION OR ABOUT THESE DOCUMENTS. IF YOU WISH TO REVIEW TRANSACTION DOCUMENTS THAT YOU HAVE NOT SEEN, CONTACT THE ESCROW AGENT.

End of Report

Your Escrow Officer

Krista Thorne
WFG National Title Insurance Company
2430 NE John Olsen Avenue, Suite 125
Beaverton, OR 97006
Phone: **(503) 533-9510**
Fax: **(503) 214-8725**
Email: **TeamKrista@wfgnationaltitle.com**

Your Title Officer

Michelle Laine Johnson
WFG National Title Insurance Company
12909 SW 68th Parkway, Suite 350
Portland, OR 97223
Phone: **(503) 431-8502**
Fax:
Email: **mjohnson@wfgnationaltitle.com**

WFG National Title Insurance Company
a Williston Financial Group company

WFG National Title Insurance Company is prepared to issue, as of the date specified in the attached Preliminary Title Report (the Report), a policy or policies of title insurance as listed in the Report and describing the land and the estate or interest set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as a General or Specific Exception or not excluded from coverage pursuant to the printed Exclusions and Conditions of the policy form(s).

The printed General Exceptions and Exclusions from the coverage of the policy or policies are listed in Exhibit One to the Report. In addition, the forms of the policy or policies to be issued may contain certain contract clauses, including an arbitration clause, which could affect the party's rights. Copies of the policy forms should be read. They are available from the office which issued the Report.

The Report (and any amendments) is preliminary to and issued solely for the purpose of facilitating the issuance of a policy of title insurance at the time the real estate transaction in question is closed and no liability is assumed in the Report.

The policy(s) of title insurance to be issued will be policy(s) of WFG National Title Insurance Company.

Please read the Specific Exceptions shown in the Report and the General Exceptions and Exclusions listed in Exhibit One carefully. The list of Specific and General Exceptions and Exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy to be issued and should be read and carefully considered.

It is important to note that the Report is not an abstract of title, a written representation as to the complete condition of the title of the property in question, and may not list all liens, defects and encumbrances affecting title to the land.

The Report is for the exclusive use of the parties to this transaction, and the Company does not have any liability to any third parties or any liability under the terms of the policy(s) to be issued until the full premium is paid. Until all necessary documents are recorded in the public record, the Company reserves the right to amend the Report.

Countersigned

Exhibit One
2006 American Land Title Association Loan Policy 6-17-06
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

THE ABOVE POLICY FORM MAY BE ISSUED TO AFFORD EITHER Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

SCHEDULE B - GENERAL EXCEPTIONS FROM COVERAGE

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.
3. Easements, or claims of easement, not shown by the public records; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.
4. Any encroachment (of existing improvements located on the subject land onto adjoining land or of existing improvements located on adjoining land onto the subject land), encumbrance, violation, variation, or adverse circumstance affecting the title that would be disclosed by an accurate and complete land survey of the subject land.
5. Any lien, or right to a lien, for services, labor, material, equipment rental or workers compensation heretofore or hereafter furnished, imposed by law and not shown by the public records.

2006 AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY 6-17-06
EXCLUSIONS FROM COVERAGE

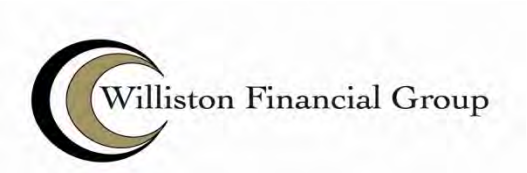
The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10; or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

SCHEDULE B - GENERAL EXCEPTIONS FROM COVERAGE

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2, Facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.
3. Easements, or claims of easement, not shown by the public records; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.
4. Any encroachment (of existing improvements located on the subject land onto adjoining land or of existing improvements located on adjoining land onto the subject land), encumbrance, violation, variation, or adverse circumstance affecting the title that would be disclosed by an accurate and complete land survey of the subject land.

Any lien, or right to a lien, for services, labor, material, equipment rental or workers compensation heretofore or hereafter furnished, imposed by law and not shown by the public records.



Plain English Privacy Statement
for Appraisal, Title & Escrow Customers

WFG believes it is important to protect your privacy and confidences. We recognize and respect the privacy expectations of our customers. We believe that making you aware of how we collect information about you, how we use that information, and with whom we share that information will form the basis for a relationship of trust between us. This Privacy Policy provides that explanation. We reserve the right to change this Privacy Policy from time to time.

Williston Financial Group, LLC, WFG National Title Insurance Co. and each of the affiliates listed below (collectively "WFG" or the "WFG Family") are obligated to comply with Federal and state privacy laws. While there are some common requirements to those laws, the definitions and duties differ significantly from law-to-law and state-to-state. A privacy statement drafted to comply with all of the applicable privacy laws and their differing definitions would likely be confusing. Therefore, in an attempt to better communicate our privacy policies, WFG designed this "Plain English" explanation, followed by the Gramm-Leach-Bliley Act model form and website links to State-Specific Privacy Notices in order to provide you with the complete, legal privacy notices and disclosures required under Federal and applicable State Laws.

WFG's primary business is providing appraisal, title insurance and, escrow services for the sale or refinance of real property. This can be a complicated process, involving multiple parties, many of whom have been selected by our customers, each filling a specialized role. In part, you have hired WFG to coordinate and smooth the passage of the information necessary for an efficient settlement or closing.

In the course of this process, WFG collects a significant amount of personal and identifying information about the parties to a transaction, including sensitive items that include but are not limited to: your contact information including email addresses, Social Security numbers, driver's license and, other identification numbers and information; financial, bank and insurance information; information about past and proposed mortgages and loans; about properties you currently or previously owned; your mortgage application package; and the cookie, IP address, and other information captured automatically by computer systems.

Much of this information is gathered from searches of public land records, tax, court and credit records to make certain that any liens, challenges, or title defects are addressed properly. Some of the information that is collected is provided by you, or the computer systems you use. We also may receive information from real estate brokers and agents, mortgage brokers and, others working to facilitate your transaction. We also may receive information from public, private or governmental databases including credit bureaus, 'no-fly' lists, and terrorist 'watch lists' , as well as from your lenders and credit bureaus.

What Information is Shared?

WFG DOES NOT SELL any of your information to non-affiliated companies for marketing or any other purpose.

However, some of the same information does get shared with persons inside and outside the WFG Family in order to facilitate and complete your transaction.

For example:

- Information, draft documents, and closing costs will pass back and forth between WFG and your mortgage broker and lender to facilitate your transaction.
- Information, including purchase agreements and amendments, will pass back and forth between WFG and the real estate agents and brokers, the mortgage brokers and lenders, the lawyers and accountants, and others involved in facilitating the transaction.
- WFG may order property searches and examinations from title searchers, abstractors and title plants.
- WFG may use third parties to obtain tax information, lien information, payoff information, condominium and, homeowners' association information and payoff information.
- Third parties may be engaged to prepare documents in connection with your transaction.
- Surveys, appraisals and, inspections may be ordered.

- Within the WFG Family of companies, we may divide up the work to handle each closing in the most efficient manner possible and to meet specific legal and licensing requirements. Certain parts of your closing (for example a search or disbursement) may be handled by another division or company within the WFG Family.
- When it is time for signatures, your complete closing package may be sent to a notary, remote online notary, or notary service company who will arrange to meet with you to sign documents. The notary will, in turn, send signed copies back to us along with copies of your driver's license or other identity documents usually by mail, UPS, Federal Express or another courier service.
- Your deed, mortgage and other documents required to perfect title will be recorded with the local recorder of deeds.
- In some cases, we use an outside service to coordinate the recording or electronic-recording of those instruments, and they will receive copies of your deeds, mortgages and other recordable documents to process, scan and send on to the recording office.
- Various government agencies get involved. The law requires us to provide certain information to the IRS, the US Treasury, local and state tax authorities and other governmental agencies.

You have a choice in the selection of a mortgage broker, lender, real estate broker or agent and others that make up your 'transaction team.' Information flows to and from the members of the transaction team you have selected to facilitate an efficient transaction for you.

When WFG selects and engages a third-party provider, we limit the scope of the information shared with that third party to the information reasonably necessary for that service provider to provide the requested services. With most, we have entered into express agreements in which they expressly commit to maintain a WFG customer's information in strict confidence and use the information only for purposes of providing the requested services, clearing title, preventing fraud and addressing claims under our title insurance policies.

How does WFG use your Information?

We may use your personal information in a variety of ways, including but not limited to:

- Provide the products, services and title insurance you have requested and to close and facilitate your transaction.
- Coordinate and manage the appraisal process.
- Handle a claim or provide other services relating to your title insurance policies.
- Create and manage your account.
- Operate and improve WFG's applications and websites, including WFG MyHome®, WFG's secure communication and transaction portal. Your information is used for access management, payment processing, site administration, internal operations, troubleshooting, data analysis, testing, research, and for statistical purposes.
- Respond to your requests, feedback, or inquiries.
- Comply with laws, regulations, and other legal requirements.
- Comply with relevant industry standards and our policies, including managing WFG's risk profile through reinsurance.
- Protect and enforce your rights and the rights of other users against unlawful activity, including identity theft and fraud.
- Protect and enforce our collective rights arising under any agreements entered into between WFG and you or any other third party;
- Protect the integrity and maintain security of our applications, websites, and products;
- Operate, evaluate, and improve our business; and
- Provide you with information about products, services, and promotions, from WFG or third parties that may interest you.

How Do We Store and Protect Your Personal Information?

Although no system can guarantee the complete security of your personal information, we will use our best efforts to maintain commercially reasonable technical, organizational, and physical safeguards, consistent with applicable law, to protect your personal information and our systems and sites from malicious intrusions or hacking.

How Long Do We Keep Your Personal Information?

We keep your personal information for as long as necessary to comply with the purpose for which it was collected, our business needs, and our legal and regulatory obligations. We may store some personal information indefinitely. If we dispose of your personal information, we will do so in a way that is secure and appropriate to the nature of the information subject to disposal.

Computer Information

When you access a WFG website, or communicate with us by e-mail, we may automatically collect and store more information than you are expressly providing when you fill out a survey or send an email. This may include:

- Your IP Address.
- Your email address, your alias and, social media handles.
- The type of browser and operating system you use.
- The time of your visit.
- The pages of our site you visit.
- Cookies.

In order to provide you with customized service, we make use of Web browser cookies. Cookies are files that help us identify your computer and personalize your online experience. You may disable cookies on your computer, but you may not be able to download online documents or access certain sites unless cookies are enabled.

The technical information we collect is used for administrative and technical purposes and to prevent fraud and provide identity verification. For instance, we may use it to count the number of visitors to our site and determine the most popular pages. We may also use it to review types of technology you are using, determine which link brought you to our Web site, assess how our advertisements on other sites are working, help with maintenance, and improve our customers' experience.

We may compare information gathered on previous visits to verify that we are interacting with the same parties and not a potential imposter.

If we ask you to fill out any forms or surveys, we will use the information we receive only for the specific purposes indicated in those forms or surveys.

The information you and your transaction team send us in emails or attached to an email, or provide through any of our online tools, is used for purposes of providing title, escrow and appraisal management services and used for the purposes described above.

Links to Third Party Sites

Our Applications and Websites may contain links to third-party websites and services. Please note that these links are provided for your convenience and information, and the websites and services may operate independently from us and have their own privacy policies or notices, which we strongly suggest you review. This Privacy Notice applies to WFG's applications and websites only.

Do Not Track

Because there is not an industry-standard process or defined criteria to permit a user to opt-out of tracking their online activities (Do Not Track or DNT), our websites do not currently change the way they operate based upon detection of a "Do Not Track" or similar signal. Likewise, we cannot assure that third parties are not able to collect information about your online activities on WFG websites or applications.

Social Media Integration

Our applications, websites, and products contain links to and from social media platforms. You may choose to connect to us through a social media platform, such as Facebook, Twitter, Google, etc. When you do, we may collect additional information from or about you, such as your screen names, profile picture, contact information, contact list, and the profile pictures of your contacts, through the social media platform. The social media platforms may also collect information from you.

When you click on a social plug-in, such as Facebook's "Like" button, Twitter's "tweet" button or the Google+, that particular social network's plugin will be activated and your browser will directly connect to that provider's servers. Your action in clicking on the social plug-in causes information to be passed to the social media platform.

We do not have control over the collection, use and sharing practices of social media platforms. We, therefore, encourage you to review their usage and disclosure policies and practices, including their data security practices, before using social media platforms.

How Can You "Opt-Out?"

We do not sell your information; therefore there is no need to opt-out of such reselling. Under various laws, you can opt-out of the sharing of your information for more narrow purposes. For additional detail, consult the Links under the "Legal" Notices attached below.

The "Legal" Notices

To comply with various federal and state laws, we are required to provide more complete legal notices and disclosures. In reviewing these, you will find that these notices incorporate the definitions and terminology used in the respective privacy laws which can often be somewhat convoluted and may even seem inconsistent with the descriptions above. The state-specific statutes may also give residents of those states additional rights and remedies.

Privacy Notice for California Residents - https://national.wfgnationaltitle.com/privacy-notice-california

Privacy Notice for Oregon Residents - https://national.wfgnationaltitle.com/privacy-notice-oregon

How to Contact Us

If you have any questions about WFG's privacy policy or how we protect your information, please contact WFG:

- By email: Consumerprivacy@willistonfinancial.com
- By telephone: 833-451-5718
- By fax: 503-974-9596
- By mail: 12909 SW 68th Pkwy, Suite 350, Portland, OR 97223
- In-person: 12909 SW 68th Pkwy, Suite 350, Portland, OR 97223

WFG FAMILY

WILLISTON FINANCIAL GROUP LLC
WFG NATIONAL TITLE INSURANCE COMPANY
WFG LENDER SERVICES, LLC
WFGLS TITLE AGENCY OF UTAH, LLC
WFG NATIONAL TITLE COMPANY OF WASHINGTON, LLC
WFG NATIONAL TITLE COMPANY OF CALIFORNIA
WFG NATIONAL TITLE COMPANY OF TEXAS, LLC D/B/A WFG NATIONAL TITLE COMPANY
UNIVERSAL TITLE PARTNERS, LLC
VALUTRUST SOLUTIONS, LLC
WILLISTON ENTERPRISE SOLUTIONS & TECHNOLOGY, LLC
WFG NATIONAL TITLE COMPANY OF CLARK COUNTY, WA, LLC D/B/A WFG NATIONAL TITLE

Revised 6.12.20

Rev. 12/2019

FACTS	WHAT DOES WILLISTON FINANCIAL GROUP DO WITH YOUR PERSONAL INFORMATION?
Why?	Financial companies choose how they share your personal information. Federal law gives consumers the right to limit some but not all sharing. Federal law also requires us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand what we do.
What?	The types of personal information we collect and share depend on the product or service you have with us. This information can include: • Social Security number and other government identification information • Your name, address, phone, and email • Information about the property, any liens and restrictions • Financial Information including credit history and other debt • Financial account information, including wire transfer instructions.
How?	All financial companies need to share customers' personal information to run their everyday business. In the section below, we list the reasons financial companies can share their customers' personal information; the reasons Williston Financial Group chooses to share; and whether you can limit this sharing.

Reasons we can share your personal information	Does Williston Financial Group share?	Can you limit this sharing?
For our everyday business purposes— such as to process your transactions, maintain your account(s), respond to court orders and legal investigations, or report to credit bureaus	Yes	No
For our marketing purposes— to offer our products and services to you	Yes	No
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes— information about your transactions and experiences	Yes	No
For our affiliates' everyday business purposes— information about your creditworthiness	No	We don't share
For our affiliates to market to you	No	We don't share
For nonaffiliates to market to you	No	We don't share

To limit our sharing	• Call 833-451-5718—our menu will prompt you through your choice(s) • Visit us online: http://bit.ly/WFGsConsumerPrivacyInformationRequestPage or e-mailing us at consumerprivacy@willistonfinancial.com • Mail the form below Please note: If you are a new customer, we can begin sharing your information from the date we sent this notice. When you are no longer our customer, we continue to share your information as described in this notice. However, you can contact us at any time to limit our sharing.
Questions?	Call 833-451-5718 or Email consumerprivacy@willistonfinancial.com

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Mail-In Form

If you have a joint policy, your choices will apply to everyone on your account.	Mark any/all you want to limit: [ ] Do not share information about my creditworthiness with your affiliates for their everyday business purposes. [ ] Do not allow your affiliates to use my personal information to market to me. [ ] Do not share my personal information with nonaffiliates to market their products and services to me.		
	Name		Mail to: Williston Financial Group PRIVACY DEPT 12909 SW 68th Pkwy, #350 Portland, OR 97223
	Address		
	City, State, Zip		
	File Number		

Who we are	
Who is providing this notice	Williston Financial Group, LLC and its affiliates and subsidiaries as listed below:
What we do	
How does Williston Financial Group protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer safeguards and secured files and buildings. We limit access to your information to employees that need to use the information to process or protect transaction. We take industry standard (IPSEC) measures to protect against malicious intrusions or hacking
How does Williston Financial Group collect my personal information?	We collect your personal information, for example, when you • Apply for insurance • Engage us to provide appraisal, title and escrow services • Give us your contact information • Provide your mortgage information • Show your driver's license We also collect your personal information from others, such as real estate agents and brokers, mortgage brokers, lenders, credit bureaus, affiliates, and others
Why can't I limit all sharing?	Federal law gives you the right to limit only • sharing for affiliates' everyday business purposes—information about your creditworthiness • affiliates from using your information to market to you • sharing for nonaffiliates to market to you State laws and individual companies may give you additional rights to limit sharing. See below for more on your rights under state law.
What happens when I limit sharing for an account I hold jointly with someone else?	Your choices will apply to everyone on your policy.
Definitions	
Affiliates	Companies related by common ownership or control. They can be financial and nonfinancial companies. Our affiliates include companies with a common corporate identity, including those listed below.
Nonaffiliates	Companies not related by common ownership or control. They can be financial and nonfinancial companies. Nonaffilliates we share with can include real estate agents and brokers, mortgage brokers, lenders, appraisers, abstractors and title searchers and others as appropriate to facilitate your transaction.
Joint marketing	A formal agreement between nonaffiliated financial companies that together market financial products or services to you. Williston Financial Group does not jointly market.
Other important information	
As a resident or citizen of certain states, we may have to provide additional state specific privacy notices and you may have rights other than as set forth above. The links below will provide state specific information: **Privacy Notice for California Residents** - https://national.wfgnationaltitle.com/privacy-notice-california **Privacy Notice for Oregon Residents** - https://national.wfgnationaltitle.com/privacy-notice-oregon	

WFG National Title Insurance Company
a Williston Financial Group company

2430 NE John Olsen Avenue, Suite 125
Beaverton, OR 97006
Phone (503) 533-9510 Fax (503) 533-0908

WFG National Title Insurance Company
Krista Thorne
2430 NE John Olsen Avenue, Suite 125
Beaverton, OR 97006

Date Prepared: March 16, 2021

PRELIMINARY TITLE REPORT

Order Number: **21-160824**
Escrow Officer: Krista Thorne
Phone: (503) 533-9510
Fax: (503) 214-8725
Email: TeamKrista@wfgnationaltitle.com

Seller(s): **Charles W. Bissett Jr. and Louise M. Bissett**
Buyer(s): **Westwood Homes, LLC, an Oregon limited liability company**

Property: **16871 SW Brookman Road, Sherwood, OR 97140**

WFG National Title Insurance Company, is prepared to issue a title insurance policy, as of the effective date and in the form and amount shown on Schedule A, subject to the conditions, stipulations and exclusions from coverage appearing in the policy form and subject to the exceptions shown on Schedule B. This Report (and any Amendments) is preliminary to and issued solely for the purpose of facilitating the issuance of a policy of title insurance at the time the real estate transaction in question is closed and no liability is assumed in the Report. The Report shall become null and void unless a policy is issued and the full premium paid.

This report is for the exclusive use of the person to whom it is addressed. Title insurance is conditioned on recordation of satisfactory instruments that establish the interests of the parties to be insured; until such recordation, the Company may cancel or revise this report for any reason.

SCHEDULE A

1. The effective date of this preliminary title report is **8:00 A.M.** on **11th day of March, 2021**
2. The policies and endorsements to be insured and the related charges are:

Policy/Endorsement Description	Liability	Charge
ALTA 2006 Owners Policy	**$2,080,000.00**	**$3,720.00**
Basic Owner's Rate		**$3,720.00**

Proposed Insured: To Follow

Policy/Endorsement Description	Liability	Charge
ALTA 2006 Ext. Loan Policy	**$2,030,000.00**	**$1,294.00**
Basic Loan Rate		**$1,194.00**
OTIRO 208.1-06 (enviro), 209.10-06 (Restric) and 222-06 (loc)		**$100.00**

Proposed Insured: To Follow

Government Service Fee:	**$25.00**

This is a preliminary billing only, a consolidated statement of charges, credits and advances, if any, in connection with this order will be provided at closing.

3. Title to the land described herein is vested in:

   Charles W. Bissett, Jr. and Louise Bissett, as tenants by the entirety

4. The estate or interest in land is:

   Fee Simple

5. The land referred to in this report is described as follows:

   SEE ATTACHED EXHIBIT “A” ATTACHED HERETO AND MADE A PART HEREOF

EXHIBIT "A"
LEGAL DESCRIPTION

A tract of land in the Northeast quarter of Section 6, Township 3 South, Range 1 West of the Willamette Meridian, in the County of Washington and State of Oregon, described as follows:

BEGINNING at the Southwest corner of the North half of the Northeast quarter of said Section 6; thence East along the South line thereof, 1400 feet to the true place of beginning; thence East along said South line, 600 feet; thence North parallel to the East line of said Section 6, a distance of 726 feet; thence West parallel with the North line of said Section 6, a distance of 600 feet; thence South parallel to the East line of said Section 6, a distance of 726 feet to the true place of beginning.

SCHEDULE B

GENERAL EXCEPTIONS

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

2. Facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.

3. Easements, or claims of easement, not shown by the public records; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.

4. Any encroachment (of existing improvements located on the subject land onto adjoining land or of existing improvements located on adjoining land onto the subject land), encumbrance, violation, variation, or adverse circumstance affecting the title that would be disclosed by an accurate and complete land survey of the subject land.

5. Any lien, or right to a lien, for services, labor, material, equipment rental or workers compensation heretofore or hereafter furnished, imposed by law and not shown by the public records.

SPECIAL EXCEPTIONS

6. Any adverse claim based upon the assertion that:
   a) Said land or portion thereof is now or at any time has been below the high water mark of Cedar Creek.
   b) Said land has been removed from or brought within the boundaries of the premises by the process of erosion or an avulsive movement of Cedar Creek or has been formed by a process of accretion or reliction or has been created by artificial fill.
   c) Rights of the public and governmental bodies in and to any portion of the premises herein described lying below the high water mark of Cedar Creek, including any ownership rights which may be claimed by the State of Oregon below the high water mark.

7. Rights of the public in and to any portion of the herein described premises lying within the boundaries of streets, roads or highways.

8. As disclosed by the tax roll the premises herein described have been zoned or classified for forest land use. At any time that said land is disqualified for such use, the property may be subject to additional taxes or penalties and interest.

9. City liens, if any, of the City of Sherwood.

   NOTE: We have requested a search and will advise when we have received a response.

10. Line of Credit Trust Deed, including the terms and provisions thereof to secure the amount noted below and other amounts secured thereunder, if any:

Grantor	:	Charles W. Bissett Jr. and Louise M. Bissett, husband and wife
Trustee	:	First American Title Insurance Company of Oregon
Beneficiary	:	KeyBank National Association
Dated	:	September 26, 2008
Recorded	:	October 8, 2008
Recording No(s)	:	2008-084301
Amount	:	$100,000.00

11. Line of Credit Trust Deed, including the terms and provisions thereof to secure the amount noted below and other amounts secured thereunder, if any:

Grantor	:	Charles W. Bissett Jr., married and Louise M. Bissett, married
Trustee	:	First American Title Insurance Company of Oregon
Beneficiary	:	Key Bank National Association
Dated	:	June 20, 2019
Recorded	:	August 21, 2019
Recording No(s)	:	2019-055974
Amount	:	$150,000.00

12. Any unrecorded leases or rights of tenants in possession.

13. Parties in possession, or claiming to be in possession, other than the vestees shown herein. For the purposes of ALTA Extended coverage, we will require an Affidavit of Possession be completed and returned to us. Exception may be taken to such matters as may be shown thereby.

14. Statutory liens for labor or materials, including liens for contributions due to the State of Oregon for unemployment compensation and for workmen's compensation, which have now gained or hereafter may gain priority over the lien of the insured mortgage where no notice of such liens appear of record.

END OF EXCEPTIONS

NOTE: Taxespaid in full for 2020 -2021

Levied Amount	:	$4,848.95
Property ID No.	:	R586128
Levy Code	:	088.21
MapTax Lot No.	:	3S10600-00102

NOTE: Taxes set forth above have been reduced by reason of a Veteran's Exemption. If property is conveyed to a person or persons not eligible for such exemption, re-assessments will be made.

NOTE: In no event shall WFG National Title Insurance Company have any liability for the tax assessor's imposition of any additional assessments for omitted taxes unless such taxes have been added to the tax roll and constitute liens on the property as of the date of closing. Otherwise, such omitted taxes shall be the sole, joint and several responsibility of seller(s) and buyer(s), as they may determine between themselves.

NOTE: The following is incorporated herein for information purposes only and is not part of the exception from coverage (Schedule B-II of the prelim and Schedule B of the policy):The following instrument(s), affecting said property, is (are) the last instrument(s) conveying subject property filed for record within 24 months of the effective date of this preliminary title report:

None of Record

NOTE: We find NO judgments or Federal Tax Liens against the name(s) of Westwood Homes, LLC, an Oregon limited liability company.

NOTE: The Oregon Corporation Commission disclosed that Westwood Homes, LLC, is an active Oregon limited liability company:

Filed	:	November 21, 2011
Member	:	Bill Wagoner
Member	:	Todd Boyce
Registered Agent	:	Todd Richard Boyce

NOTE: Links for additional supporting documents:

Vesting Deed

NOTE: Due to current conflicts or potential conflicts between state and federal law, which conflicts may extend to local law, regarding marijuana, if the transaction to be insured involves property which is currently used or is to be used in connection with a marijuana enterprise, including but not limited to the cultivation, storage, distribution, transport, manufacture, or sale of marijuana and/or products containing marijuana, the Company declines to close or insure the transaction, and this Preliminary Title Report shall automatically be considered null and void and of no force and effect.

NOTE: The following applicable recording fees will be charged by the county:

Multnomah County-First Page	$86.00
Washington County-First Page	$81.00
Clackamas County-First Page	$93.00
Each Additional Page	$ 5.00
Non-standard Document Fee	$20.00
E-recording Fee	$ 3.00

Washington County Ordinance No. 193, recorded May 13, 1977 in Washington County, Oregon imposes a tax of $1.00 per $1,000.00 or fraction thereof on the transfer of real property located within Washington County.

NOTE: IMPORTANT INFORMATION REGARDING PROPERTY TAX PAYMENTS

Fiscal Year:	July 1st through June 30th
Taxes become a lien on real property, but are not yet payable.	July 1st
Taxes become certified and payable (approximately on this date)	October 15th
First one third payment of taxes are due	November 15th
Second one third payment of taxes are due	February 15th
Final payment of taxes are due	May 15th

Discounts: If two thirds are paid by November 15th, a 2% discount will apply.

If the full amount of the taxes are paid by November 15th, a 3% discount will apply.

Interest: Interest accrues as of the 15th of each month based on any amount that is unpaid by the due date. No interest is charged if the minimum amount is paid according to the above mentioned payment schedule.

NOTE: THE FOLLOWING NOTICE IS REQUIRED BY STATE LAW: YOU WILL BE REVIEWING, APPROVING AND SIGNING IMPORTANT DOCUMENTS AT CLOSING. LEGAL CONSEQUENCES FOLLOW FROM THE SELECTION AND USE OF THESE DOCUMENTS. YOU MAY CONSULT AN ATTORNEY ABOUT THESE DOCUMENTS. YOU SHOULD CONSULT AN ATTORNEY IF YOU HAVE QUESTIONS OR CONCERNS ABOUT THE TRANSACTION OR ABOUT THESE DOCUMENTS. IF YOU WISH TO REVIEW TRANSACTION DOCUMENTS THAT YOU HAVE NOT SEEN, CONTACT THE ESCROW AGENT.

End of Report

Your Escrow Officer

Krista Thorne
WFG National Title Insurance Company
2430 NE John Olsen Avenue, Suite 125
Beaverton, OR 97006
Phone: **(503) 533-9510**
Fax: **(503) 214-8725**
Email: **TeamKrista@wfgnationaltitle.com**

Your Title Officer

Michelle Laine Johnson
WFG National Title Insurance Company
12909 SW 68th Parkway, Suite 350
Portland, OR 97223
Phone: **(503) 431-8502**
Fax:
Email: **mjohnson@wfgnationaltitle.com**

WFG National Title Insurance Company
a Williston Financial Group company

WFG National Title Insurance Company is prepared to issue, as of the date specified in the attached Preliminary Title Report (the Report), a policy or policies of title insurance as listed in the Report and describing the land and the estate or interest set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as a General or Specific Exception or not excluded from coverage pursuant to the printed Exclusions and Conditions of the policy form(s).

The printed General Exceptions and Exclusions from the coverage of the policy or policies are listed in Exhibit One to the Report. In addition, the forms of the policy or policies to be issued may contain certain contract clauses, including an arbitration clause, which could affect the party's rights. Copies of the policy forms should be read. They are available from the office which issued the Report.

The Report (and any amendments) is preliminary to and issued solely for the purpose of facilitating the issuance of a policy of title insurance at the time the real estate transaction in question is closed and no liability is assumed in the Report.

The policy(s) of title insurance to be issued will be policy(s) of WFG National Title Insurance Company.

Please read the Specific Exceptions shown in the Report and the General Exceptions and Exclusions listed in Exhibit One carefully. The list of Specific and General Exceptions and Exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy to be issued and should be read and carefully considered.

It is important to note that the Report is not an abstract of title, a written representation as to the complete condition of the title of the property in question, and may not list all liens, defects and encumbrances affecting title to the land.

The Report is for the exclusive use of the parties to this transaction, and the Company does not have any liability to any third parties or any liability under the terms of the policy(s) to be issued until the full premium is paid. Until all necessary documents are recorded in the public record, the Company reserves the right to amend the Report.

Countersigned

Exhibit One
2006 American Land Title Association Loan Policy 6-17-06
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

THE ABOVE POLICY FORM MAY BE ISSUED TO AFFORD EITHER Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

SCHEDULE B - GENERAL EXCEPTIONS FROM COVERAGE

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.
3. Easements, or claims of easement, not shown by the public records; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.
4. Any encroachment (of existing improvements located on the subject land onto adjoining land or of existing improvements located on adjoining land onto the subject land), encumbrance, violation, variation, or adverse circumstance affecting the title that would be disclosed by an accurate and complete land survey of the subject land.
5. Any lien, or right to a lien, for services, labor, material, equipment rental or workers compensation heretofore or hereafter furnished, imposed by law and not shown by the public records.

2006 AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY 6-17-06
EXCLUSIONS FROM COVERAGE

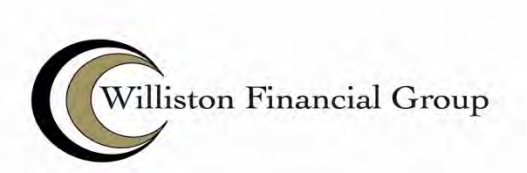
The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10; or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

SCHEDULE B - GENERAL EXCEPTIONS FROM COVERAGE

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2, Facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.
3. Easements, or claims of easement, not shown by the public records; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.
4. Any encroachment (of existing improvements located on the subject land onto adjoining land or of existing improvements located on adjoining land onto the subject land), encumbrance, violation, variation, or adverse circumstance affecting the title that would be disclosed by an accurate and complete land survey of the subject land.

Any lien, or right to a lien, for services, labor, material, equipment rental or workers compensation heretofore or hereafter furnished, imposed by law and not shown by the public records.



Plain English Privacy Statement
for Appraisal, Title & Escrow Customers

WFG believes it is important to protect your privacy and confidences. We recognize and respect the privacy expectations of our customers. We believe that making you aware of how we collect information about you, how we use that information, and with whom we share that information will form the basis for a relationship of trust between us. This Privacy Policy provides that explanation. We reserve the right to change this Privacy Policy from time to time.

Williston Financial Group, LLC, WFG National Title Insurance Co. and each of the affiliates listed below (collectively "WFG" or the "WFG Family") are obligated to comply with Federal and state privacy laws. While there are some common requirements to those laws, the definitions and duties differ significantly from law-to-law and state-to-state. A privacy statement drafted to comply with all of the applicable privacy laws and their differing definitions would likely be confusing. Therefore, in an attempt to better communicate our privacy policies, WFG designed this "Plain English" explanation, followed by the Gramm-Leach-Bliley Act model form and website links to State-Specific Privacy Notices in order to provide you with the complete, legal privacy notices and disclosures required under Federal and applicable State Laws.

WFG's primary business is providing appraisal, title insurance and, escrow services for the sale or refinance of real property. This can be a complicated process, involving multiple parties, many of whom have been selected by our customers, each filling a specialized role. In part, you have hired WFG to coordinate and smooth the passage of the information necessary for an efficient settlement or closing.

In the course of this process, WFG collects a significant amount of personal and identifying information about the parties to a transaction, including sensitive items that include but are not limited to: your contact information including email addresses, Social Security numbers, driver's license and, other identification numbers and information; financial, bank and insurance information; information about past and proposed mortgages and loans; about properties you currently or previously owned; your mortgage application package; and the cookie, IP address, and other information captured automatically by computer systems.

Much of this information is gathered from searches of public land records, tax, court and credit records to make certain that any liens, challenges, or title defects are addressed properly. Some of the information that is collected is provided by you, or the computer systems you use. We also may receive information from real estate brokers and agents, mortgage brokers and, others working to facilitate your transaction. We also may receive information from public, private or governmental databases including credit bureaus, 'no-fly' lists, and terrorist 'watch lists' , as well as from your lenders and credit bureaus.

What Information is Shared?

WFG DOES NOT SELL any of your information to non-affiliated companies for marketing or any other purpose.

However, some of the same information does get shared with persons inside and outside the WFG Family in order to facilitate and complete your transaction.

For example:

- Information, draft documents, and closing costs will pass back and forth between WFG and your mortgage broker and lender to facilitate your transaction.
- Information, including purchase agreements and amendments, will pass back and forth between WFG and the real estate agents and brokers, the mortgage brokers and lenders, the lawyers and accountants, and others involved in facilitating the transaction.
- WFG may order property searches and examinations from title searchers, abstractors and title plants.
- WFG may use third parties to obtain tax information, lien information, payoff information, condominium and, homeowners' association information and payoff information.
- Third parties may be engaged to prepare documents in connection with your transaction.
- Surveys, appraisals and, inspections may be ordered.

- Within the WFG Family of companies, we may divide up the work to handle each closing in the most efficient manner possible and to meet specific legal and licensing requirements. Certain parts of your closing (for example a search or disbursement) may be handled by another division or company within the WFG Family.
- When it is time for signatures, your complete closing package may be sent to a notary, remote online notary, or notary service company who will arrange to meet with you to sign documents. The notary will, in turn, send signed copies back to us along with copies of your driver's license or other identity documents usually by mail, UPS, Federal Express or another courier service.
- Your deed, mortgage and other documents required to perfect title will be recorded with the local recorder of deeds.
- In some cases, we use an outside service to coordinate the recording or electronic-recording of those instruments, and they will receive copies of your deeds, mortgages and other recordable documents to process, scan and send on to the recording office.
- Various government agencies get involved. The law requires us to provide certain information to the IRS, the US Treasury, local and state tax authorities and other governmental agencies.

You have a choice in the selection of a mortgage broker, lender, real estate broker or agent and others that make up your 'transaction team.' Information flows to and from the members of the transaction team you have selected to facilitate an efficient transaction for you.

When WFG selects and engages a third-party provider, we limit the scope of the information shared with that third party to the information reasonably necessary for that service provider to provide the requested services. With most, we have entered into express agreements in which they expressly commit to maintain a WFG customer's information in strict confidence and use the information only for purposes of providing the requested services, clearing title, preventing fraud and addressing claims under our title insurance policies.

How does WFG use your Information?

We may use your personal information in a variety of ways, including but not limited to:

- Provide the products, services and title insurance you have requested and to close and facilitate your transaction.
- Coordinate and manage the appraisal process.
- Handle a claim or provide other services relating to your title insurance policies.
- Create and manage your account.
- Operate and improve WFG's applications and websites, including WFG MyHome®, WFG's secure communication and transaction portal. Your information is used for access management, payment processing, site administration, internal operations, troubleshooting, data analysis, testing, research, and for statistical purposes.
- Respond to your requests, feedback, or inquiries.
- Comply with laws, regulations, and other legal requirements.
- Comply with relevant industry standards and our policies, including managing WFG's risk profile through reinsurance.
- Protect and enforce your rights and the rights of other users against unlawful activity, including identity theft and fraud.
- Protect and enforce our collective rights arising under any agreements entered into between WFG and you or any other third party;
- Protect the integrity and maintain security of our applications, websites, and products;
- Operate, evaluate, and improve our business; and
- Provide you with information about products, services, and promotions, from WFG or third parties that may interest you.

How Do We Store and Protect Your Personal Information?

Although no system can guarantee the complete security of your personal information, we will use our best efforts to maintain commercially reasonable technical, organizational, and physical safeguards, consistent with applicable law, to protect your personal information and our systems and sites from malicious intrusions or hacking.

How Long Do We Keep Your Personal Information?

We keep your personal information for as long as necessary to comply with the purpose for which it was collected, our business needs, and our legal and regulatory obligations. We may store some personal information indefinitely. If we dispose of your personal information, we will do so in a way that is secure and appropriate to the nature of the information subject to disposal.

Computer Information

When you access a WFG website, or communicate with us by e-mail, we may automatically collect and store more information than you are expressly providing when you fill out a survey or send an email. This may include:

- Your IP Address.
- Your email address, your alias and, social media handles.
- The type of browser and operating system you use.
- The time of your visit.
- The pages of our site you visit.
- Cookies.

In order to provide you with customized service, we make use of Web browser cookies. Cookies are files that help us identify your computer and personalize your online experience. You may disable cookies on your computer, but you may not be able to download online documents or access certain sites unless cookies are enabled.

The technical information we collect is used for administrative and technical purposes and to prevent fraud and provide identity verification. For instance, we may use it to count the number of visitors to our site and determine the most popular pages. We may also use it to review types of technology you are using, determine which link brought you to our Web site, assess how our advertisements on other sites are working, help with maintenance, and improve our customers' experience.

We may compare information gathered on previous visits to verify that we are interacting with the same parties and not a potential imposter.

If we ask you to fill out any forms or surveys, we will use the information we receive only for the specific purposes indicated in those forms or surveys.

The information you and your transaction team send us in emails or attached to an email, or provide through any of our online tools, is used for purposes of providing title, escrow and appraisal management services and used for the purposes described above.

Links to Third Party Sites

Our Applications and Websites may contain links to third-party websites and services. Please note that these links are provided for your convenience and information, and the websites and services may operate independently from us and have their own privacy policies or notices, which we strongly suggest you review. This Privacy Notice applies to WFG's applications and websites only.

Do Not Track

Because there is not an industry-standard process or defined criteria to permit a user to opt-out of tracking their online activities (Do Not Track or DNT), our websites do not currently change the way they operate based upon detection of a "Do Not Track" or similar signal. Likewise, we cannot assure that third parties are not able to collect information about your online activities on WFG websites or applications.

Social Media Integration

Our applications, websites, and products contain links to and from social media platforms. You may choose to connect to us through a social media platform, such as Facebook, Twitter, Google, etc. When you do, we may collect additional information from or about you, such as your screen names, profile picture, contact information, contact list, and the profile pictures of your contacts, through the social media platform. The social media platforms may also collect information from you.

When you click on a social plug-in, such as Facebook's "Like" button, Twitter's "tweet" button or the Google+, that particular social network's plugin will be activated and your browser will directly connect to that provider's servers. Your action in clicking on the social plug-in causes information to be passed to the social media platform.

We do not have control over the collection, use and sharing practices of social media platforms. We, therefore, encourage you to review their usage and disclosure policies and practices, including their data security practices, before using social media platforms.

How Can You "Opt-Out?"

We do not sell your information; therefore there is no need to opt-out of such reselling. Under various laws, you can opt-out of the sharing of your information for more narrow purposes. For additional detail, consult the Links under the "Legal" Notices attached below.

The "Legal" Notices

To comply with various federal and state laws, we are required to provide more complete legal notices and disclosures. In reviewing these, you will find that these notices incorporate the definitions and terminology used in the respective privacy laws which can often be somewhat convoluted and may even seem inconsistent with the descriptions above. The state-specific statutes may also give residents of those states additional rights and remedies.

Privacy Notice for California Residents - https://national.wfgnationaltitle.com/privacy-notice-california

Privacy Notice for Oregon Residents - https://national.wfgnationaltitle.com/privacy-notice-oregon

How to Contact Us

If you have any questions about WFG's privacy policy or how we protect your information, please contact WFG:

- By email: Consumerprivacy@willistonfinancial.com
- By telephone: 833-451-5718
- By fax: 503-974-9596
- By mail: 12909 SW 68th Pkwy, Suite 350, Portland, OR 97223
- In-person: 12909 SW 68th Pkwy, Suite 350, Portland, OR 97223

WFG FAMILY

WILLISTON FINANCIAL GROUP LLC
WFG NATIONAL TITLE INSURANCE COMPANY
WFG LENDER SERVICES, LLC
WFGLS TITLE AGENCY OF UTAH, LLC
WFG NATIONAL TITLE COMPANY OF WASHINGTON, LLC
WFG NATIONAL TITLE COMPANY OF CALIFORNIA
WFG NATIONAL TITLE COMPANY OF TEXAS, LLC D/B/A WFG NATIONAL TITLE COMPANY
UNIVERSAL TITLE PARTNERS, LLC
VALUTRUST SOLUTIONS, LLC
WILLISTON ENTERPRISE SOLUTIONS & TECHNOLOGY, LLC
WFG NATIONAL TITLE COMPANY OF CLARK COUNTY, WA, LLC D/B/A WFG NATIONAL TITLE

Revised 6.12.20

Rev. 12/2019

FACTS	**WHAT DOES WILLISTON FINANCIAL GROUP DO WITH YOUR PERSONAL INFORMATION?**
Why?	Financial companies choose how they share your personal information. Federal law gives consumers the right to limit some but not all sharing. Federal law also requires us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand what we do.
What?	The types of personal information we collect and share depend on the product or service you have with us. This information can include: • Social Security number and other government identification information • Your name, address, phone, and email • Information about the property, any liens and restrictions • Financial Information including credit history and other debt • Financial account information, including wire transfer instructions.
How?	All financial companies need to share customers' personal information to run their everyday business. In the section below, we list the reasons financial companies can share their customers' personal information; the reasons Williston Financial Group chooses to share; and whether you can limit this sharing.

Reasons we can share your personal information	**Does Williston Financial Group share?**	**Can you limit this sharing?**
For our everyday business purposes— such as to process your transactions, maintain your account(s), respond to court orders and legal investigations, or report to credit bureaus	Yes	No
For our marketing purposes— to offer our products and services to you	Yes	No
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes— information about your transactions and experiences	Yes	No
For our affiliates' everyday business purposes— information about your creditworthiness	No	We don't share
For our affiliates to market to you	No	We don't share
For nonaffiliates to market to you	No	We don't share

To limit our sharing	• Call 833-451-5718—our menu will prompt you through your choice(s) • Visit us online: http://bit.ly/WFGsConsumerPrivacyInformationRequestPage or e-mailing us at consumerprivacy@willistonfinancial.com • Mail the form below Please note: If you are a new customer, we can begin sharing your information from the date we sent this notice. When you are no longer our customer, we continue to share your information as described in this notice. However, you can contact us at any time to limit our sharing.
Questions?	Call 833-451-5718 or Email consumerprivacy@willistonfinancial.com

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Mail-In Form			
If you have a joint policy, your choices will apply to everyone on your account.	Mark any/all you want to limit: [ ] Do not share information about my creditworthiness with your affiliates for their everyday business purposes. [ ] Do not allow your affiliates to use my personal information to market to me. [ ] Do not share my personal information with nonaffiliates to market their products and services to me.		
	Name		Mail to: Williston Financial Group PRIVACY DEPT 12909 SW 68th Pkwy, #350 Portland, OR 97223
	Address		
	City, State, Zip		
	File Number		

Who we are	
Who is providing this notice	Williston Financial Group, LLC and its affiliates and subsidiaries as listed below:
What we do	
How does Williston Financial Group protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer safeguards and secured files and buildings. We limit access to your information to employees that need to use the information to process or protect transaction. We take industry standard (IPSEC) measures to protect against malicious intrusions or hacking
How does Williston Financial Group collect my personal information?	We collect your personal information, for example, when you • Apply for insurance • Engage us to provide appraisal, title and escrow services • Give us your contact information • Provide your mortgage information • Show your driver's license We also collect your personal information from others, such as real estate agents and brokers, mortgage brokers, lenders, credit bureaus, affiliates, and others
Why can't I limit all sharing?	Federal law gives you the right to limit only • sharing for affiliates' everyday business purposes—information about your creditworthiness • affiliates from using your information to market to you • sharing for nonaffiliates to market to you State laws and individual companies may give you additional rights to limit sharing. See below for more on your rights under state law.
What happens when I limit sharing for an account I hold jointly with someone else?	Your choices will apply to everyone on your policy.
Definitions	
Affiliates	Companies related by common ownership or control. They can be financial and nonfinancial companies. Our affiliates include companies with a common corporate identity, including those listed below.
Nonaffiliates	Companies not related by common ownership or control. They can be financial and nonfinancial companies. Nonaffilliates we share with can include real estate agents and brokers, mortgage brokers, lenders, appraisers, abstractors and title searchers and others as appropriate to facilitate your transaction.
Joint marketing	A formal agreement between nonaffiliated financial companies that together market financial products or services to you. Williston Financial Group does not jointly market.
Other important information	
As a resident or citizen of certain states, we may have to provide additional state specific privacy notices and you may have rights other than as set forth above. The links below will provide state specific information: **Privacy Notice for California Residents** - https://national.wfgnationaltitle.com/privacy-notice-california **Privacy Notice for Oregon Residents** - https://national.wfgnationaltitle.com/privacy-notice-oregon	

EXPERIENCED • INNOVATIVE • COMMITTED

PIONEER DESIGN GROUP

Preliminary Storm Drainage Report

Cedar Creek Gardens

Sherwood, Oregon

Applicant:
Westwood Homes, LLC.
1270 NW Cornell Rd.
Portland, OR 97229
503.330.2215

Owners:
Wayne and Linda Chronister
PO Box 1474
Sherwood, OR 97140

Charles and Louise Bissett
16871 SW Brookman Road
Sherwood, OR 97140

Engineer:
Pioneer Design Group, Inc.
9020 SW Washington Sq. Rd., Suite 170
Portland, Oregon 97223
503.643.8286
bfitch@pd-grp.com

Date: November 17, 2021
Revised: April 26, 2022
Prepared by: Cory Schermesser, EIT
Reviewed by: Brent Fitch, P.E.
PDG Job No. 285-021

TABLE OF CONTENTS

1.0 INTRODUCTION

This report represents the **preliminary** storm drainage and stormwater analysis for the Cedar Creek Garden development project. The basis of this report is to comply with City of Sherwood, Clean Water Services (CWS), and the State of Oregon's regulations and engineering standards as well as the latest edition of the Oregon Plumbing Specialty Code (OSPC). Compiled in this report are the design criteria for the site, the hydrologic methodology, and the **preliminary** drainage analysis.

2.0 SITE DESCRIPTION AND LOCATION

The proposed project is a 41-lot subdivision for single-family detached homes. The property is identified as tax lot 102 and 107 of Tax Map 3S106 and is approximately 20.03 acres. The site is currently addressed as 16871 & 17033 SW Brookman Road and is located on the east of the intersection of SW Brookman Road & SW Brookman Road. The property is zoned medium density residential low (MDRL).

3.0 EXISTING CONDITIONS

The site contains two single-family dwellings with one existing gravel driveways, one concrete walk, and two out-buildings. The existing homes and all other structures on site will be removed with the project.

There are various evergreen and deciduous trees throughout the site. Most of the trees on site will be removed with the development.

The site has frontage along SW Brookman Road. There are existing storm, sanitary and water systems in the existing street to serve the site.

3.1 Site Topography

The property is sloping from the south to north. The high point of the site is at the South property line at an elevation of approximately 212 feet. The low point of the site is at the north property line at an approximate elevation of 159 ft.

3.2 Soil Type

The predominant soil found on site is Aloha silt loam, McBee silty clay loam, Quantama loam, Wapato silty clay loam, Willamette silt loam, Woodburn silt loam, and Huberly silt loam with the corresponding hydrologic soil group (HSG) designations 'C/D', 'C', 'C', 'C/D', 'B', 'C', and 'C/D', as shown on the attached Natural Resources Conservation Service (NRCS) soil survey for Washington County.

3.3 Runoff Curve Numbers

Predeveloped pervious areas will use a composite runoff curve number (RCN) of 71 as per Clean Water Services' *Design and Construction Standard's for Sanitary and Storm Water Management* (R&O 09-22) Section 4.08.6d. Developed pervious areas will use a runoff curve number (RCN) of 75 corresponding to "Open Space" cover type (HSG designations 'B', 'C', and 'C/D') in good condition. A runoff curve number of 98 will be used for all predeveloped and developed impervious areas (refer to the *SCS Runoff Curve Numbers* Exhibit).

RUNOFF CURVE NUMBERS		
Land Description	**Existing RCN**	**Proposed RCN**
Predeveloped Pervious	--	71
Open Space, Good Condition	75	--
Impervious	98	98

4.0 PROPOSED IMPROVEMENTS

We will be constructing impervious surfaces as a result of the public and private street improvements, and private driveways along with the eventual homes and sidewalks. Public utilities will be extended throughout the site for the use of the proposed lots. This project proposes to construct two stormwater facilities located in the southeast corner of the north west basin (Basin A) and the north west corner of the south basin (Basin B) of the site to accommodate for water quality treatment and detention for the currently proposed subdivision. LIDA planters will be installed to treat runoff in the north east basin (Basin C).

4.1 Hydrology/Hydraulic Methodology

Using the Santa Barbara Urban Hydrograph (SBUH) method based on a Type 1A rainfall distribution, the site has been analyzed to determine the proposed peak runoff rates for the 2, 5, 10, and 25-year 24-hour storm event. The SBUH method uses runoff curve numbers in conjunction with the property's hydrologic soil group to model the site's permeability.

A predeveloped time of concentration of 8.55 minutes for Basin A (north basin) and 82.49 minutes for Basin B (south basin), and a developed time of concentration of 7.00 minutes for Basin A and 9.57 minutes for Basin B were calculated using the methodology outlined in the TR-55 technical manual *(refer to the Time of Concentration Calculations and Exhibits)*.

Rainfall depths for all storm events used in the calculations and design of the proposed storm drainage system are found in latest edition of Clean Water Services (CWS) Design and Construction Standards and as shown below.

24-Hour Rainfall Depths (CWS)				
Recurrence Interval, Years	2	5	10	25
24-Hour Depths, Inches	2.50	3.10	3.45	3.90

4.2 Water Quality

As required by Clean Water Services, we will treat runoff from any new impervious surface created as a result of the proposed development and for any existing impervious areas to remain. The water quality facility will be designed to treat storm water generated by 0.36 inches of precipitation falling in 4 hours with an average storm return period of 96 hours. The water quality facility, in conjunction with the sumped catch basins, will remove a minimum of 65% of the Total Phosphorous (TP) from the storm water runoff.

Runoff for the development will be conveyed into a proposed water quality ponds and LIDA planters providing treatment for all impervious surfaces relevant to the proposed development in accordance with Clean Water Services' *Design and Construction Standard's for Sanitary and Storm Water Management* (R&O 09-22) Sections 4.05 and 4.06.

The water quality facility in Basin A will treat a total of 34,279 square feet of new impervious area, and the water quality facility in Basin B will treat a total of 147,087 square feet of new impervious area as well as the 5,280 square feet of new impervious area from Basin C that cannot convey stormwater to the facility. A water quality manhole upstream of the water quality ponds will provide pretreatment for the stormwater removing trash, sediment, and debris from the runoff.

The following summarizes the water quality pond parameters of the development:

CEDAR CREEK GARDEN - WATER QUALITY POND (BASIN A)
• *Min. Pond Volume = 1,032 cuft. (See WQ Pond Calculations)*
• *Water Quality Depth = 1.81 ft.*
• *Side Slopes= 3:1*
• *Design Inflow = 0.07 ft./s*

CEDAR CREEK GARDEN - WATER QUALITY POND (BASIN B)
• *Min. Pond Volume = 4,417 cuft. (See WQ Pond Calculations)*
• *Water Quality Depth = 1.77 ft.*
• *Side Slopes= 3:1*
• *Design Inflow = 0.31 ft./s*

LIDA planters will treat 5,280 square feet of new impervious area in Basin C. Runoff from the roofs of the proposed homes in Basin C will be discharged into flow through LIDA planters for treatment. The shared driveway will be porous pavement. The LIDA planter facilities provide treatment for all contributing impervious surfaces in accordance with the Clean Water Services' *"Design and Construction Standard's for Sanitary and Storm Water Management"* (R&O 19-22) Sections 4.04 and 4.09.

LIDA PLANTER SUMMARY TABLE				
Facility	**Imp. Area (sq. ft.)**	**Sizing Factor**	**Min. Planter Area (sq. ft.)**	**Actual Planter Area (sq. ft.)**
Lot 40	2,640	0.12	317	323
Lot 41	2,640	0.12	317	323

4.3 Detention

The property will be analyzed for water quantity control as required by R&O 19-22 for hydromodification. Per the CWS Hydromodifcation Map, the site lies in an area with a Hydromod Risk Level of ***high***. This site is considered ***Expansion*** and our developed area is 189,328 sf, thus greater than 80,000 sf, quantifying the site as ***large***. Per Table 4-2 of CWS R&O 19-22, this categorizes the site as ***Category 3.*** Therefore, the site is subject to peak flow matching per CWS R&O Section 4.08.6. The post developed peak flow rates for the 2-, 5-, and 10-year storm events will be attenuated to the half the 2, the 5, the 10, and the 25-year predeveloped flow rates respectively. (See tables below and *Appendix 'B' Stormwater Detention Facility Report*). A flow control manhole will attenuate the flow rates for the facility as follows:

Table 4.3c – CEDAR CREEK GARDEN– DETENTION SUMMARY (R&O 19-22) (BASIN A)					
Storm Event (yr)	**Pre-Developed (cfs)**	**Developed (cfs)**	**Required Released Outflow (cfs)**	**Actual Released Outflow (cfs)**	**Water Surface Elevation in Facility (ft.)**
WQ	-	0.07	0.01	0.01	173.81
2	0.10	0.47	0.05 (1/2-2yr)	0.05	176.13
5	0.23	0.70	0.23	0.15	176.22
10	0.33	0.84	0.33	0.20	176.23
25	0.46	1.02	0.46	0.29	176.24

Pond Bottom = 172.00
25-year Pond Volume = 5,135 cuft
Freeboard Elevation = 177.24

Table 4.3d – CEDAR CREEK GARDEN – DETENTION SUMMARY (R&O 19-22) (BASIN B)					
Storm Event (yr)	**Pre-Developed (cfs)**	**Developed (cfs)**	**Required Released Outflow (cfs)**	**Actual Released Outflow (cfs)**	**Water Surface Elevation in Facility (ft.)**
WQ	-	0.08	0.03	0.03	174.77
2	0.22	1.90	0.11 (1/2-2yr)	0.11	177.74
5	0.40	2.76	0.40	0.39	178.75
10	0.55	3.82	0.55	0.55	178.78
25	0.75	3.97	0.75	0.74	178.81

Pond Bottom = 173.00
25-year Pond Volume = 34,406 cuft
Freeboard Elevation = 179.81

4.4 Conveyance

Runoff from the public and private streets and the proposed lots in Basins A and B will be conveyed to the proposed stormwater facility via sumped catch basins and area drains, manholes, and underground storm drain lines. The conveyance system for Basin C consists of an underground pipe system and LIDA planters. Treated stormwater will be discharged from the facilities to a rip rap pad at the existing creek in the center of the site. The existing creek flows to the northeast where it connects to Cedar Creek

Per the requirements of CWS, the drainage system has been designed to convey the 25-year storm event using a Manning's 'n' value of 0.013 without surcharging the proposed underground pipe network. The Basin A and C shed area can be safely conveyed in a 12" pipe with a 0.50% slope, and Basin B shed area can be safely conveyed in a 15" pipe with 0.50% slope (refer to the *Conveyance Calculations)*.

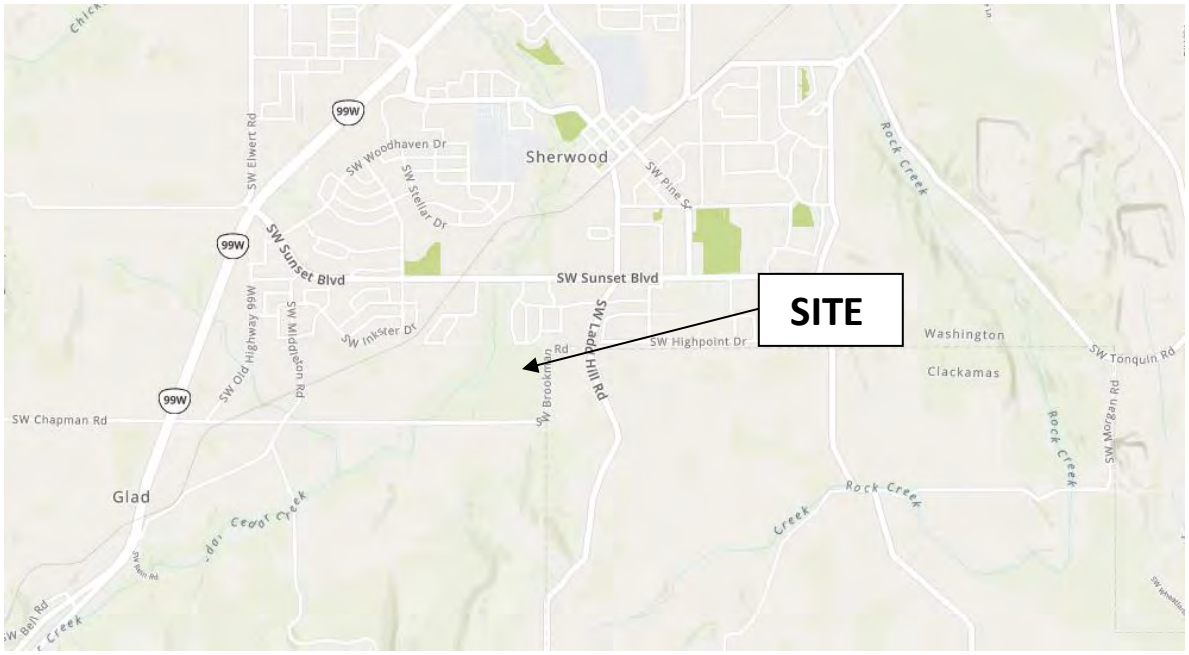
5.0 DOWNSTREAM ANALYSIS

Because we are proposing a detention facility that will release stormwater meeting the hydromodification requirements of Clean Water Services, which matches the 2-year developed stormwater runoff rate to half of the existing 2-year stormwater runoff rate and matches the existing conditions of the 5, 10, and 25 year stormwater runoff rates, and LIDA facilities with a 12% sizing factor, PDG has not conducted a downstream analysis.

6.0 CONCLUSION

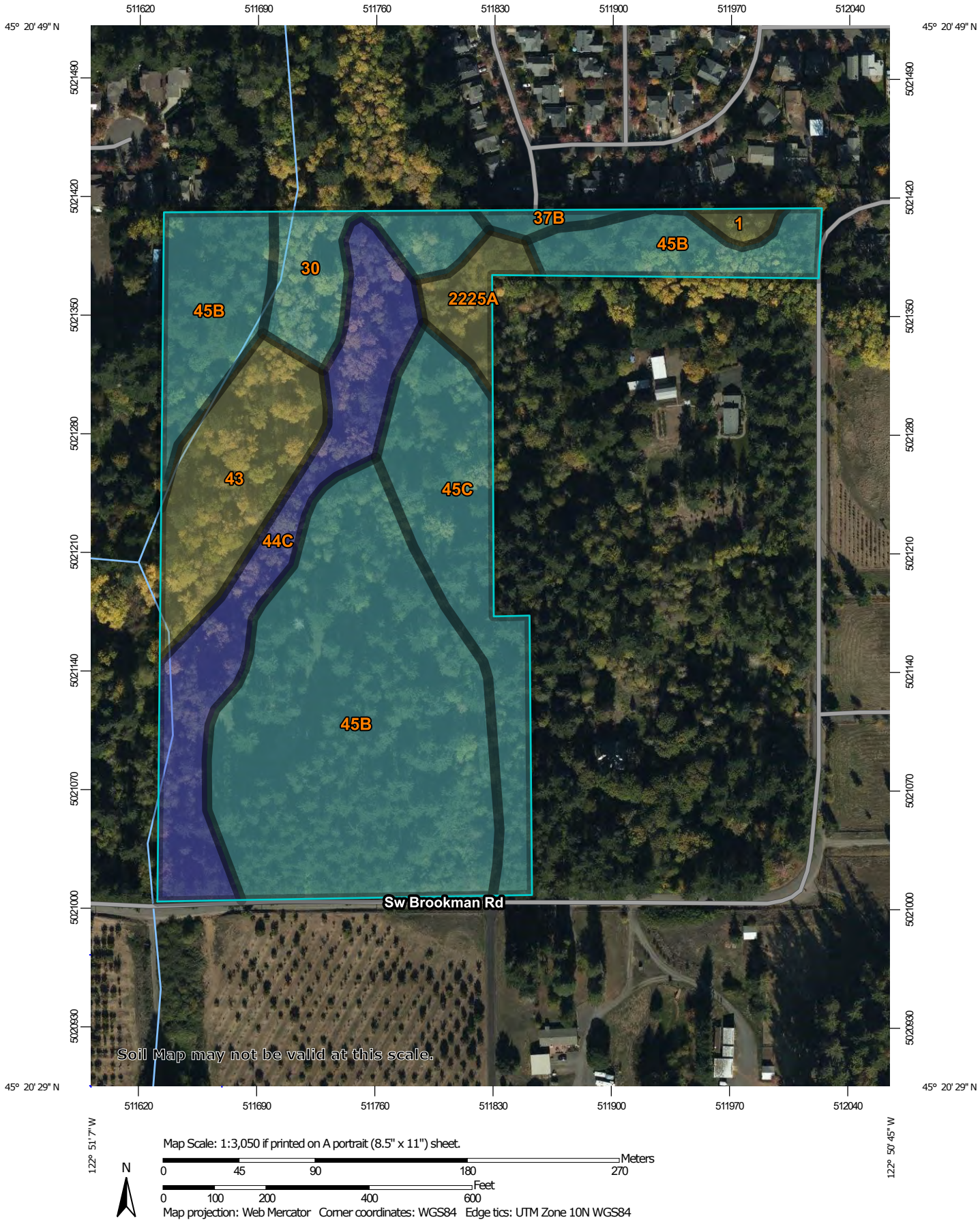
Based on the supporting stormwater calculations and attached analysis, it is the opinion of Pioneer Design Group that the development of the Cedar Creek Garden project will not adversely affect the existing downstream drainage system or adjacent property owners. Water quality treatment for all new impervious areas created by the development as well as stormwater detention will be provided by on-site water quality ponds and LIDA planters; therefore, all the code requirements associated with the City of Sherwood and Clean Water Services' design and construction standards have been met for this project.

7.0 VICINITY MAP



ENGINEERING CALCULATIONS AND SPREADSHEETS

Hydrologic Soil Group—Washington County, Oregon



Map Scale: 1:3,050 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 100 200 400 600

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: Washington County, Oregon
Survey Area Data: Version 18, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 19, 2018—Oct 20, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1	Aloha silt loam	C/D	0.2	0.9%
30	McBee silty clay loam	C	1.4	6.3%
37B	Quatama loam, 3 to 7 percent slopes	C	0.2	1.1%
43	Wapato silty clay loam	C/D	2.5	10.8%
44C	Willamette silt loam, 7 to 12 percent slopes	B	3.4	15.2%
45B	Woodburn silt loam, 3 to 7 percent slopes	C	11.1	48.9%
45C	Woodburn silt loam, 7 to 12 percent slopes	C	3.1	13.6%
2225A	Huberly silt loam, 0 to 3 percent slopes	C/D	0.7	3.2%
Totals for Area of Interest			**22.6**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

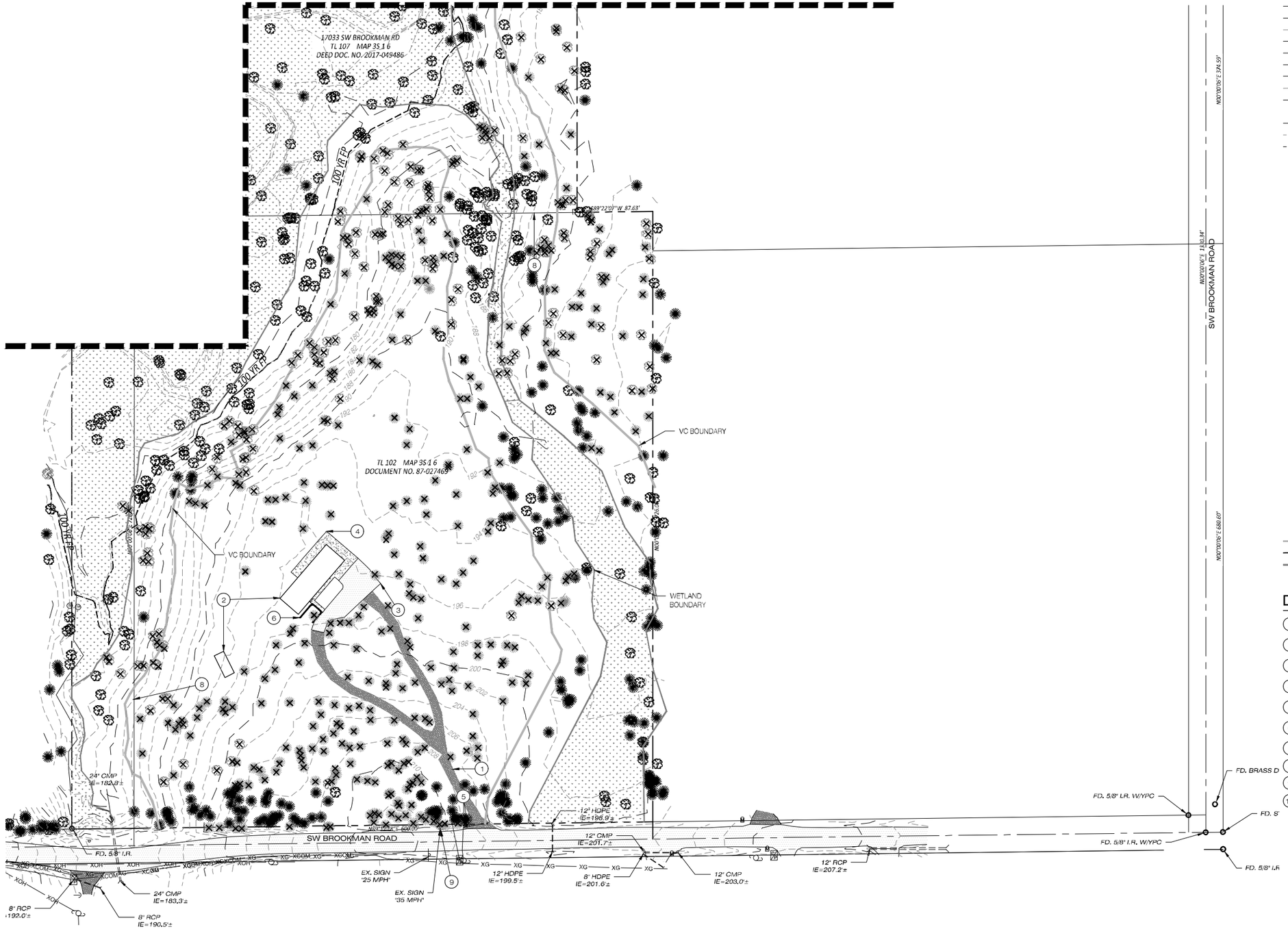
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Exhibit A10

MATCHLINE - SEE SHEET P2.1



LEGEND

- RIGHT-OF-WAY LINE
- BOUNDARY LINE
- EXISTING LOT LINE
- CENTER LINE
- SD — STORM DRAINAGE LINE
- XSS — SANITARY SEWER LINE
- XW — WATER LINE
- XG — GAS LINE
- XCOM — COMMUNICATION LINE
- XE — UNDERGROUND POWER LINE
- XOH — OVERHEAD WIRE
- X — WOOD FENCE (AS NOTED)
- 202 — EXISTING 2' CONTOUR
- 200 — EXISTING 10' CONTOUR
- CONIFEROUS TREE (DBH)
- DECIDUOUS TREE (DBH)
- CATCH BASIN/DRAIN INLET
- STORM DITCH INLET
- STORM MANHOLE
- SANITARY MANHOLE
- WATER VALVE
- FIRE HYDRANT ASSEMBLY
- WATER METER
- GAS VALVE
- GAS METER
- STREET SIGN
- MAILBOX
- ELECTRIC PEDESTAL
- LIGHT POLE
- POWER POLE
- COMMUNICATION VAULT
- TELECOMMUNICATION PEDESTAL
- UTILITY EXTENSION
- FOUND SURVEY MONUMENT AS NOTED
- EXISTING CONCRETE
- EXISTING ASPHALT PAVEMENT
- EXISTING GRAVEL SURFACE
- EXISTING BUILDING FOOTPRINT
- EXISTING WOOD DECK
- EXISTING TREE TO BE REMOVED
- -1.0% — EXISTING SLOPE DIRECTION
- EXISTING VEGETATED CORRIDOR
- 100-YEAR FLOOD PLAIN
- EXISTING WETLANDS

DEMOLITION NOTES

1. EXISTING GRAVEL DRIVEWAY TO BE REMOVED.
2. EXISTING BUILDING TO BE REMOVED.
3. EXISTING PAVEMENT TO BE REMOVED.
4. EXISTING CONCRETE TO BE REMOVED.
5. EXISTING MAILBOX TO BE REMOVED.
6. EXISTING WALLS TO BE REMOVED.
7. EXISTING BARRICADE TO BE REMOVED.
8. EXISTING PROPERTY LINE TO BE VACATED.
9. EXISTING SIGN TO BE REMOVED AND REPLACED.
10. EXISTING POLE TO BE RELOCATED

SCALE
60 0 30 60
1 INCH = 60 FEET

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EXISTING CONDITIONS AND DEMOLITION PLAN (SOUTH)

CEDAR CREEK GARDENS
CITY OF SHERWOOD, OREGON

Designed by	MLS	Date	08/2021
Drawn by	CFS	Date	08/2021
Reviewed by	MLS	Date	08/2021
Project No.	285-021	REF.	
Horiz. Scale:			
Vert. Scale:			28521_P2.0excn.dwg

No.	Date	Revision	By

Project
CEDAR CREEK GARDENS
No.
285-021
Type
PLANNING
Sheet
P2.0

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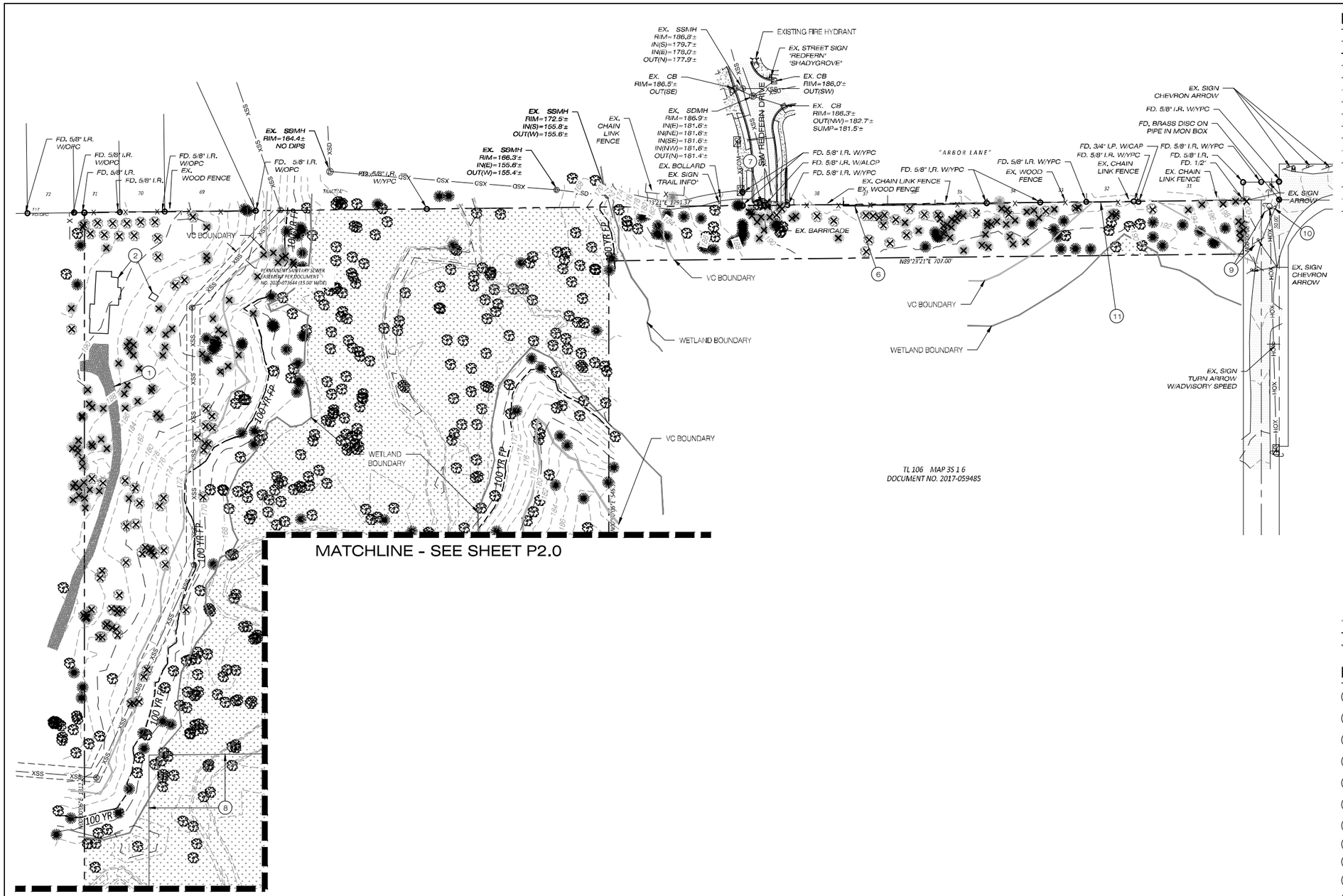
Exhibit A10



LEGEND

- RIGHT-OF-WAY LINE
- BOUNDARY LINE
- EXISTING LOT LINE
- CENTER LINE
- STORM DRAINAGE LINE
- SANITARY SEWER LINE
- WATER LINE
- GAS LINE
- COMMUNICATION LINE
- UNDERGROUND POWER LINE
- OVERHEAD WIRE
- WOOD FENCE (AS NOTED)
- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- CONIFEROUS TREE (DBH)
- DECIDUOUS TREE (DBH)
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- STORM DITCH INLET
- STORM MANHOLE
- SANITARY MANHOLE
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- WATER METER
- GAS VALVE
- GAS METER
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- MAILBOX
- ELECTRIC PEDESTAL
- LIGHT POLE
- POWER POLE
- COMMUNICATION VAULT
- TELECOMMUNICATION PEDESTAL
- UTILITY EXTENSION
- FOUND SURVEY MONUMENT AS NOTED
- EXISTING CONCRETE
- EXISTING ASPHALT PAVEMENT
- EXISTING GRAVEL SURFACE
- EXISTING BUILDING FOOTPRINT
- EXISTING WOOD DECK
- EXISTING TREE TO BE REMOVED
- -1.0% EXISTING SLOPE DIRECTION
- EXISTING VEGETATED CORRIDOR
- 100-YEAR FLOOD PLAIN
- EXISTING WETLANDS

DEMOLITION NOTES

1. EXISTING GRAVEL DRIVEWAY TO BE REMOVED.
2. EXISTING BUILDING TO BE REMOVED.
3. EXISTING PAVEMENT TO BE REMOVED.
4. EXISTING CONCRETE TO BE REMOVED.
5. EXISTING MAILBOX TO BE REMOVED.
6. EXISTING WALLS TO BE REMOVED.
7. EXISTING BARRICADE TO BE REMOVED.
8. EXISTING PROPERTY LINE TO BE VACATED.
9. EXISTING SIGN TO BE REMOVED AND REPLACED.
10. EXISTING POLE TO BE RELOCATED
11. EXISTING FENCE TO BE RELOCATED

SCALE
60 0 30 60
1 INCH = 60 FEET

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EXISTING CONDIITONS AND DEMOLITION PLAN (NORTH)

CEDAR CREEK GARDENS
CITY OF SHERWOOD, OREGON

Designed by	MLS	Date	08/2021
Drawn by	CFS	Date	08/2021
Reviewed by	MLS	Date	08/2021
Project No.	285-021	REF.	
Horiz. Scale:			
Vert. Scale:			

28521_P2.0excn.dwg

No.	Date	Revision	By

Project
CEDAR CREEK GARDENS
No.
285-021
Type
PLANNING
Sheet
P2.1

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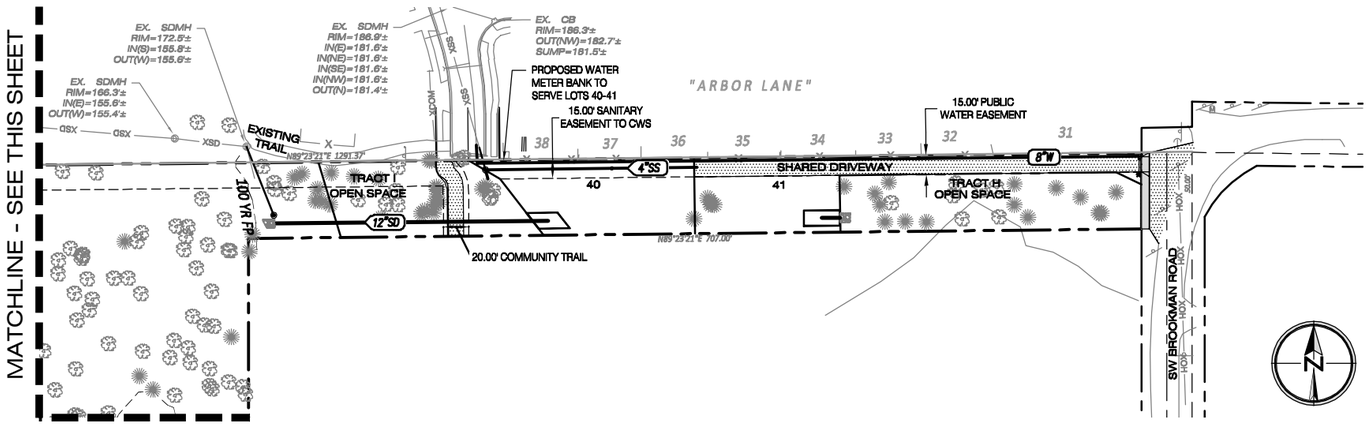
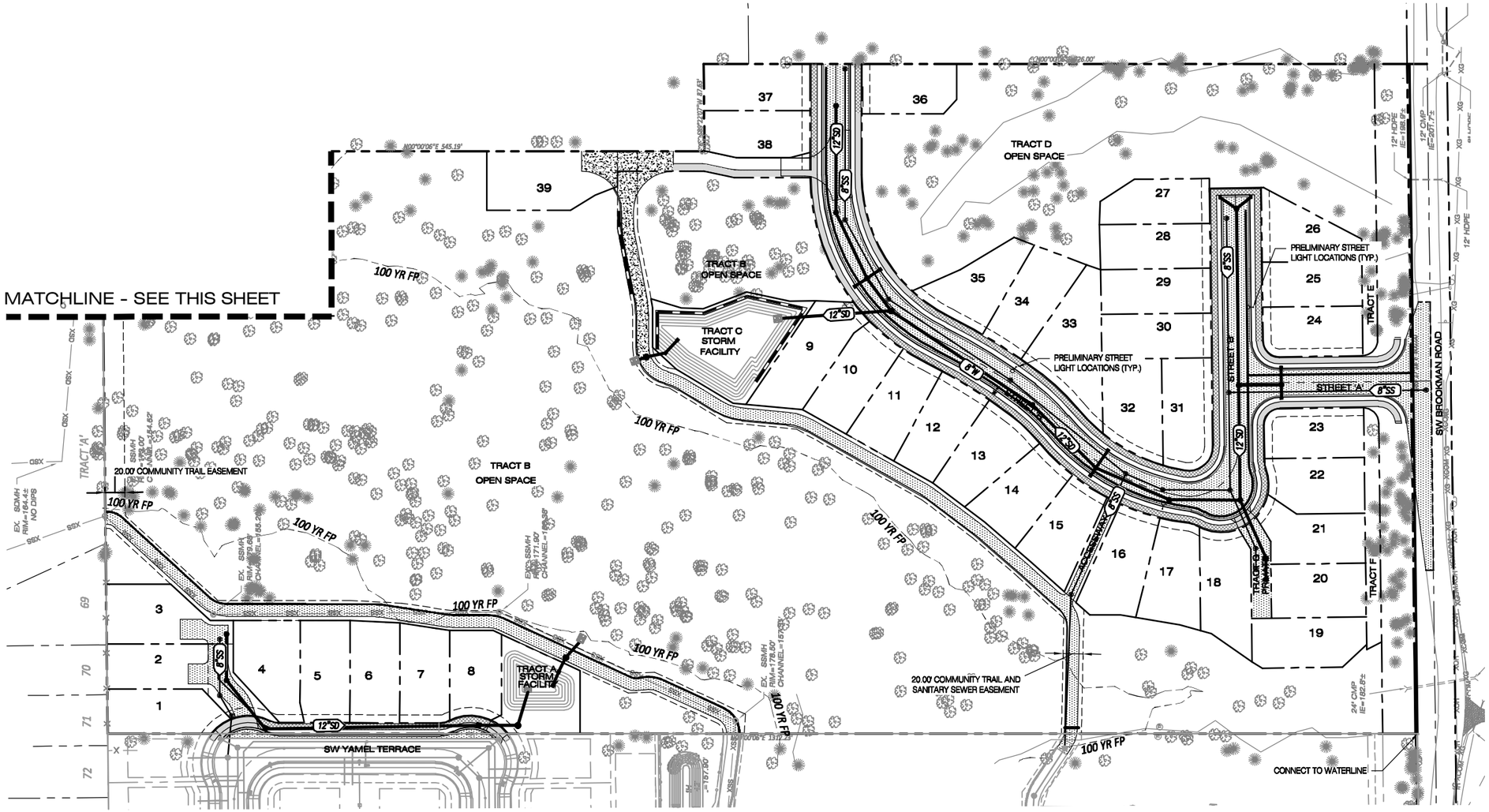
Exhibit A10





LEGEND

- PROPOSED EASEMENT LINE
- PROPOSED CENTERLINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED LOT LINE
- BOUNDARY LINE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAVEMENT
- PROPOSED STANDARD CURB
- PROPOSED STORM LINE & MANHOLE
- PROPOSED SANITARY LINE & MANHOLE
- PROPOSED WATER LINE AND VALVE
- APPROXIMATE STREET LIGHT LOCATION (FINAL LOCATION WILL BE DESIGNED BY A LIGHTING DESIGNER).

SCALE
60 0 30 60
1 INCH = 60 FEET

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PRELIMINARY COMPOSITE UTILITY PLAN

CEDAR CREEK GARDENS
CITY OF SHERWOOD, OREGON

Designed by	MLS	Date	08/2021
Drawn by	CFS	Date	08/2021
Reviewed by	MLS	Date	08/2021
Project No.	285-021	REF.	
Horiz. Scale:			
Vert. Scale:			

No.	Date	Revision	By

Project
CEDAR CREEK GARDENS
No.
285-021
Type
PLANNING
Sheet
P6.0

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SOIL FEATURES FOR WASHINGTON COUNTY

Soil name and map symbol	Hydro-logic group	Flooding		
		Frequency	Duration	Months
Aloha: 1	C	NONE	NONE	NONE
Amity: 2	C	NONE	NONE	NONE
Astoria: 3E, 3F	B	NONE	NONE	NONE
Briedwell: 4B, 5B, 5C, 5D	B	NONE	NONE	NONE
Carlton: 6B, 6C	B	NONE	NONE	NONE
Cascade: 7B, 7C, 7D, 7E, 7F	C	NONE	NONE	NONE
Chehalem: 8C	C	NONE	NONE	NONE
Chehalis: 9, 10	B	COMMON	BRIEF	NOV-MAR
Cornelius: 11B, 11C, 11D, 11E, 11F:				
Cornelius part	C	NONE	NONE	NONE
Kinton part	C	NONE	NONE	NONE
Cornelius Varient: 12A, 12B, 12C	C	NONE	NONE	NONE
Cove: 13, 14	D	COMMON	BRIEF	DEC-APR
Dayton: 15	D	NONE	NONE	NONE
Delena: 16C	D	NONE	NONE	NONE
Goble: 17B, 17C, 17D, 17E, 18E, 18F	C	NONE	NONE	NONE
Helvetia: 19B, 19C, 19D, 19E	C	NONE	NONE	NONE
Hembre: 20E, 20F, 20G	B	NONE	NONE	NONE
Hillsboro: 21A, 21B, 21C, 21D	B	NONE	NONE	NONE
Hubberly: 22	D	NONE	NONE	NONE
Jory: 23B, 23C, 23D, 23E, 23F	C	NONE	NONE	NONE
Kilchis: 24G				
Kilchis part	C	NONE	NONE	NONE
Klickitat part	B	NONE	NONE	NONE

SOIL FEATURES FOR WASHINGTON COUNTY

Soil name and map symbol	Hydro-logic group	Flooding		
		Frequency	Duration	Months
Klickitat: 25E, 25F, 25G	B	NONE	NONE	NONE
Knappa: 26	B	NONE	NONE	NONE
Lablish: 27	D	FREQUENT	VERY LONG	DEC - APR
Laurelwood: 28B, 28C, 28D, 28E, 29E, 29F	B	NONE	NONE	NONE
McBee: 30	B	FREQUENT	BRIEF	NOV - MAY
Melborne: 31B, 31C, 31D, 31E, 31F	B	NONE	NONE	NONE
Melby: 32C, 32D, 32E, 33E, 33F, 33G	C	NONE	NONE	NONE
Olyic: 34C, 34D, 34E, 35E, 35F, 35G	B	NONE	NONE	NONE
Pervina: 36C, 36D, 36E, 36F	C	NONE	NONE	NONE
Quatama: 37A, 37B, 37C, 37D	C	NONE	NONE	NONE
Saum: 38B, 38C, 38D, 38E, 38F	C	NONE	NONE	NONE
Tolke: 39E, 39F	B	NONE	NONE	NONE
Udifluvents: 40	B	FREQUENT	VERY LONG	NOV - APR
Verboot: 42	D	FREQUENT	BRIEF	DEC - APR
Wapato: 43	D	FREQUENT	BRIEF	DEC - APR
Willamette: 44A, 44B, 44C, 44D	B	NONE	NONE	NONE
Woodburn: 45A, 45B, 45C, 45D	C	NONE	NONE	NONE
Xerchrepts: 46F				
Xerochrepts part	B	NONE	NONE	NONE
Haploxerolls part	C	NONE	NONE	NONE
47D				
Xerochrepts part	D	NONE	NONE	NONE
Rock outcrop part				

RUNOFF CURVE NUMBERS (TR55)

Table 2-2a: Runoff curve numbers for urban areas [1]

Cover description		CN for hydrologic soil group			
Cover type and hydrologic condition	Average percent impervious area[2]	A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) [3]:					
Poor condition (grass cover <50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover >75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) [4]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation) [5]	77	86	91	94	
Idle lands (CNs are determined using cover types similar to those in table 2-2c)					

1: Average runoff condition, and $I_a = 0.2S$.

2: The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas hava a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

3: CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

4: Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

5: Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

RUNOFF CURVE NUMBERS (TR55)

Table 2-2c: Runoff curve numbers for other agricultural lands [1]

Cover description		Curve numbers for hydrologic soil group			
Cover type	Hydrologic condition	A	B	C	D
Pasture, grassland, or range -- continuous forage for grazing					
<50% ground cover or heavily grazed with no mulch.	Poor	68	79	86	89
50% to 75% ground cover and not heavily grazed.	Fair	49	69	79	84
>75% ground cover and lightly or only occasionally grazed.	Good	39	61	74	80
Meadow -- continuous grass, protected from grazing and generally mowed for hay	--	30	58	71	78
Brush – weed-grass mixture with brush as the major element					
<50% ground cover	Poor	48	67	77	83
50% to 75% ground cover	Fair	35	56	70	77
>75% ground cover	Good	30 [2]	48	65	73
Woods – grass combination (orchard or tree farm) [3]	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods					
Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.	Poor	45	66	77	83
Woods are grazed but not burned, and some forest litter covers the soil.	Fair	36	60	73	79
Woods are protected from grazing, and litter and brush adequately cover the soil.	Good	30 [2]	55	70	77
Farmsteads -- buildings, lanes, driveways, and surrounding lots	--	59	74	82	86

1: Average runoff condition, and $I_a = 0.2S$.

2: Actual curve number is less than 30; use CN = 30 for runoff computations.

3: CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.

PIONEER DESIGN GROUP

EXISTING CONDITIONS - PERVIOUS COMPOSITE CURVE NUMBERS

JOB NUMBER: 285-021
PROJECT: Cedar Creek Garden
FILE: 28521_hydro_planning

TOTAL AREA= 19.2 AC

EXISTING CONDITIONS

COVER TYPE	SOIL TYPE	AREA (AC)	SOIL GRADE	CURVE NUMBER
WOODS	1 Aloha silt loam	0.2	D	77
WOODS	30 McBee sily clay loam	1.4	C	70
WOODS	37B Quatama loam	0.2	C	70
WOODS	43 Wapato sily clay loam	2.5	D	77

WOODS	45B Woodburn silt loam 45C Woodburn silt loam	14.2	C	70
WOODS	2225A Huberly silt loam	0.7	D	77

EXISTING COMPOSITE CN (PERVIOUS) = $\frac{(3.4 \times 77) + (15.8 \times 70)}{19.2}$ = **71.2**

PIONEER DESIGN GROUP

DEVELOPED CONDITIONS - PERVIOUS COMPOSITE CURVE NUMBERS

JOB NUMBER: 285-021
PROJECT: Cedar Creek Garden
FILE: 28521_hydro_planning

TOTAL AREA= 19.2 AC

DEVELOPED CONDITIONS

COVER TYPE	SOIL TYPE	AREA (AC)	SOIL GRADE	CURVE NUMBER
OPEN SPACE GOOD CONDITION	1 Aloha silt loam	0.2	D	80
OPEN SPACE GOOD CONDITION	30 McBee sily clay loam	1.4	C	74
OPEN SPACE GOOD CONDITION	37B Quatama loam	0.2	C	74
OPEN SPACE GOOD CONDITION	43 Wapato sily clay loam	2.5	D	80

OPEN SPACE GOOD CONDITION	45B Woodburn silt loam 45C Woodburn silt loam	14.2	C	74
OPEN SPACE GOOD CONDITION	2225A Huberly silt loam	0.7	D	80

DEVELOPED COMPOSITE CN (PERVIOUS) = $\frac{(3.4 \times 80) + (15.8 \times 74)}{19.2}$ = **75.1**

MANNING'S "n" VALUES

SHEET FLOW EQUATION MANNING'S VALUES	n_s
Smooth Surfaces (concrete, asphault, gravel, or bare hand packed soil)	0.011
Fallow Fields or loose soil surface (no residue)	0.05
Cultivated soil with residue cover (≤ 20%)	0.06
Cultivated soil with residue cover (> 20%)	0.17
Short prairie grass and lawns	0.15
Dense grasses	0.24
Bermuda grasses	0.41
Range (natural)	0.13
Woods or forest with light underbrush	0.40
Woods or forest with dense underbrush	0.80

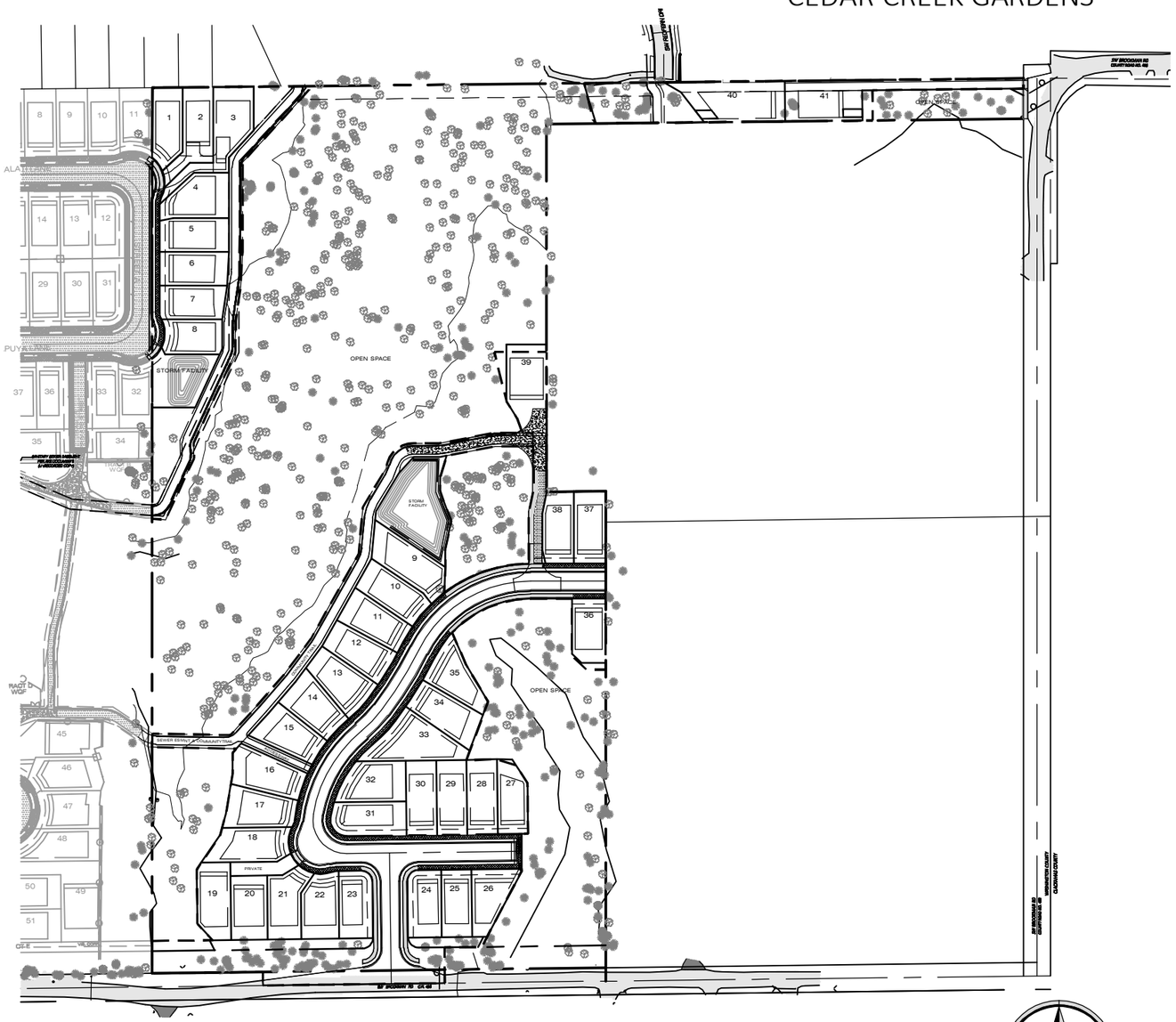
SHALLOW CONCENTRATED FLOW (after initial 300 ft of sheet flow, R = 0.1)	k_s
Forest with heavy ground litter and meadows (n = 0.010)	3
Brushy ground with some trees (n = 0.060)	5
Fallow or minimum tillage cultivation (n = 0.040)	8
High grass (n = 0.035)	9
Short grass, pasture and lawns (n = 0.030)	11
Nearly bare ground (n = 0.25)	13
Paved and gravel areas (n = 0.012)	27

CHANNEL FLOW (Intermittent) (At the beginning of all visible channels, R = 0.2)	k_c
Forested swale with heavy ground cover (n = 0.10)	5
Forested drainage course/ravine with defined channel bed (n = 0.050)	10
Rock-lined waterway (n = 0.035)	15
Grassed waterway (n = 0.030)	17
Earth-lined waterway (n = 0.025)	20
CMP pipe (n = 0.024)	21
Concrete pipe (n = 0.012)	42
Other waterways and pipe 0.508/n	

CHANNEL FLOW (continuous stream, R = 0.4)	k_c
Meandering stream (n = 0.040)	20
Rock-lined stream (n = 0.035)	23
Grass-lined stream (n = 0.030)	27
Other streams, man-made channels and pipe (n = 0.807/n)	

IMPERVIOUS AREA EXHIBIT

CEDAR CREEK GARDENS



SCALE
200 0 100 200
1 INCH = 200 FEET

BASINS

BASIN A (NORTH)	=	74,916 SF (1.72 AC)
BASIN B (SOUTH)	=	283,831 SF (6.52 AC)
BASIN C (NORTHEAST)	=	28,507 SF (0.65 AC)

EXISTING IMPERVIOUS AREA

BASIN A (NORTH)		
BUILDINGS	=	1,688 SF
GRAVEL @ 60% IMPERVIOUS	=	1,656 SF
TOTAL EXISTING IMPERVIOUS	=	3,344 SF (0.08 AC)
BASIN B (SOUTH)		
BUILDINGS	=	2,649 SF
CONCRETE	=	1,503 SF
GRAVEL @ 60% IMPERVIOUS	=	2,720 SF
STREET PAVEMENT	=	5,344 SF
TOTAL EXISTING IMPERVIOUS	=	12,216 SF (0.28 AC)
BASIN C (NORTHWEST)		
STREET PAVEMENT	=	0 SF
TOTAL EXISTING IMPERVIOUS	=	0 SF (0.00 AC)

PROPOSED IMPERVIOUS AREA

BASIN A (NORTH)		
8 LOTS AT 2,640 SF/LOT	=	21,120 SF
SIDEWALKS	=	1,882 SF
TRAILS	=	8,377 SF
STREET PAVEMENT (PRIVATE)	=	1,364 SF
STREET PAVEMENT (PUBLIC)	=	1,536 SF
TOTAL PROPOSED IMPERVIOUS	=	34,279 SF (0.79 AC)
BASIN B (SOUTH)		
31 LOTS AT 2,640 SF/LOT	=	81,840 SF
SIDEWALKS	=	13,254 SF
TRAILS	=	11,010 SF
STREET PAVEMENT (PRIVATE)	=	2,012 SF
STREET PAVEMENT (PUBLIC)	=	38,971 SF
TOTAL PROPOSED IMPERVIOUS	=	147,087 SF (3.38 AC)
BASIN C (NORTHWEST)		
2 LOTS AT 2,640 SF/LOT	=	5,280 SF
TOTAL PROPOSED IMPERVIOUS	=	5,280 SF (0.12 AC)

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PH: 503.643.8286 PH: 808.753.2376
WWW.PD-GRP.COM

Designed by	JPB	8/2021
Drawn by	JPB	8/2021
Reviewed by	JPB	8/2021
Project No.	285-021	REF.
Horiz. Scale:	1"=200'	
Vert. Scale:	N/A	

28521_PROPOSED IMPERVIOUS AREA EXHIBIT.DWG

Project
CEDAR CREEK GARDENS

No.
285-021

Type
PLANNING

Sheet
1 of 1

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PIONEER DESIGN GROUP

IMPERVIOUS AREA CALCULATIONS

JOB NUMBER: 285-021
PROJECT: Cedar Creek Garden
FILE: 28521_hydro_planning

NEW IMPERVIOUS AREA		
NORTH (BASIN A)		
8 LOTS AT 2,640-SF IMPERVIOUS AREA / LOT	21,120.00 ft^2	
SIDEWALKS	1,882.00 ft^2	
TRAILS	8,377.00 ft^2	
STREET PAVEMENT (PRIVATE)	1,364.00 ft^2	
STREET PAVEMENT	1,536.00 ft^2	
	34,279.00 ft^2	**0.79 ac**
SOUTH (BASIN B)		
31 LOTS AT 2,640-SF IMPERVIOUS AREA / LOT	81,840.00 ft^2	
SIDEWALKS	13,254.00 ft^2	
TRAILS	11,010.00 ft^2	
STREET PAVEMENT (PRIVATE)	2,012.00 ft^2	
STREET PAVEMENT (PUBLIC)	38,971.00 ft^2	
	147,087.00 ft^2	**3.38 ac**
NORTHWEST (BASIN C)		
2 LOTS AT 2,640-SF IMPERVIOUS AREA / LOT	5,280.00 ft^2	
	5,280.00 ft^2	**0.12 ac**
EXISTING IMPERVIOUS AREA		
NORTH (BASIN A)		
BUILDINGS	1,688.00 ft^2	
GRAVEL AT 60% IMPERVIOUS	1,656.00 ft^2	
	3,344.00 ft^2	**0.08 ac**
SOUTH (BASIN B)		
BUILDINGS	2,649.00 ft^2	
CONCRETE	1,503.00 ft^2	
GRAVEL AT 60% IMPERVIOUS	2,720.00 ft^2	
STREET PAVEMENT	5,344.00 ft^2	
	12,216.00 ft^2	**0.28 ac**
NORTHWEST (BASIN C)		
STREET PAVEMENT	0.00 ft^2	
	0.00 ft^2	**0.00 ac**

PIONEER DESIGN GROUP

IMPERVIOUS AREA CALCULATIONS

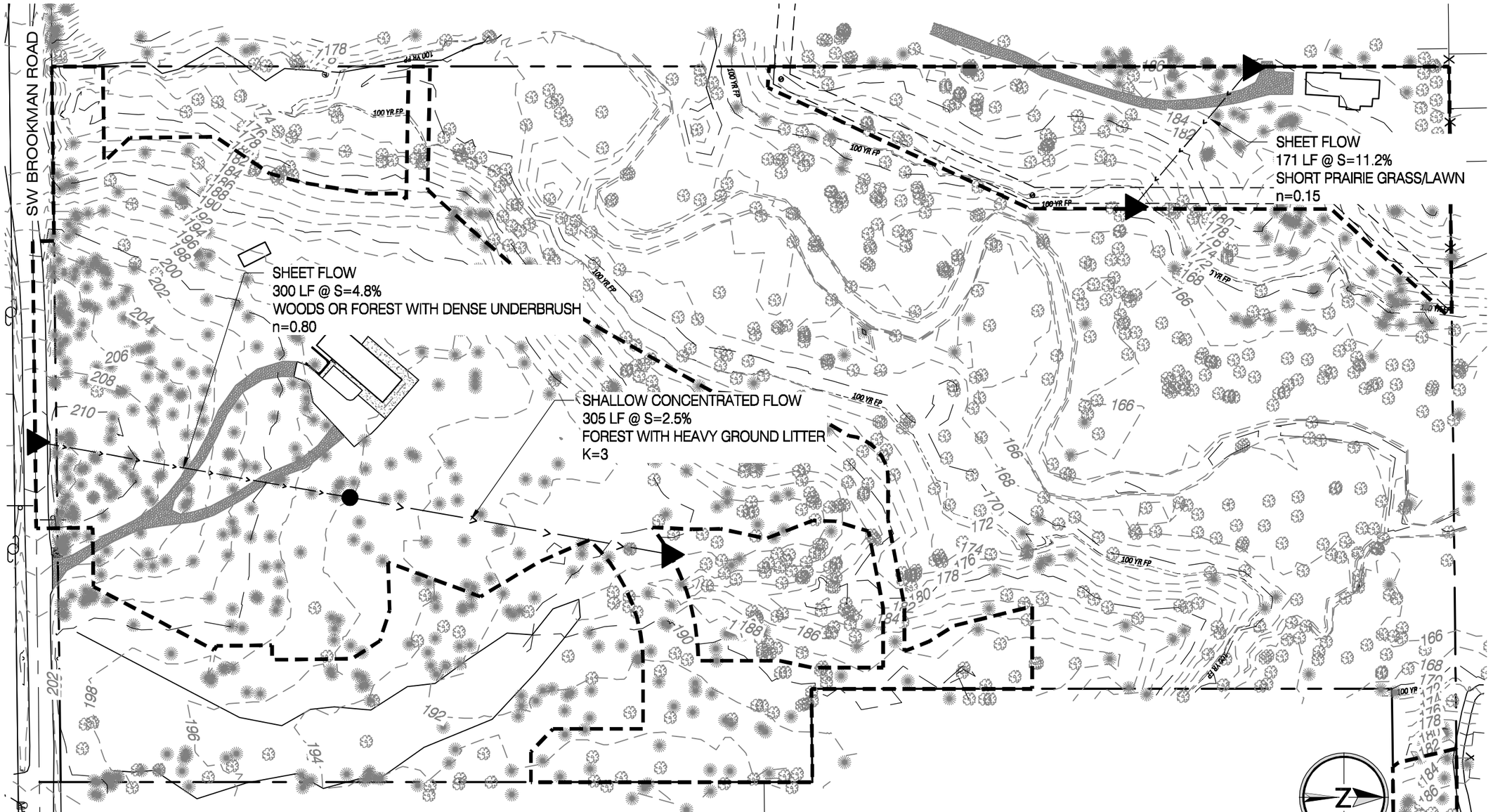
JOB NUMBER: 285-021
PROJECT: Cedar Creek Garden
FILE: 28521_hydro_planning

NEW IMPERVIOUS AREA		
NORTH (BASIN A)		
8 LOTS AT 2,640-SF IMPERVIOUS AREA / LOT	21,120.00 ft^2	
SIDEWALKS	1,882.00 ft^2	
TRAILS	8,377.00 ft^2	
STREET PAVEMENT (PRIVATE)	1,364.00 ft^2	
STREET PAVEMENT	1,536.00 ft^2	
	34,279.00 ft^2	**0.79 ac**
SOUTH (BASIN B)		
31 LOTS AT 2,640-SF IMPERVIOUS AREA / LOT	81,840.00 ft^2	
SIDEWALKS	13,254.00 ft^2	
TRAILS	11,010.00 ft^2	
STREET PAVEMENT (PRIVATE)	2,012.00 ft^2	
STREET PAVEMENT (PUBLIC)	38,971.00 ft^2	
	147,087.00 ft^2	**3.38 ac**
NORTHWEST (BASIN C)		
2 LOTS AT 2,640-SF IMPERVIOUS AREA / LOT	5,280.00 ft^2	
	5,280.00 ft^2	**0.12 ac**
EXISTING IMPERVIOUS AREA		
NORTH (BASIN A)		
BUILDINGS	1,688.00 ft^2	
GRAVEL AT 60% IMPERVIOUS	1,656.00 ft^2	
	3,344.00 ft^2	**0.08 ac**
SOUTH (BASIN B)		
BUILDINGS	2,649.00 ft^2	
CONCRETE	1,503.00 ft^2	
GRAVEL AT 60% IMPERVIOUS	2,720.00 ft^2	
STREET PAVEMENT	5,344.00 ft^2	
	12,216.00 ft^2	**0.28 ac**
NORTHWEST (BASIN C)		
STREET PAVEMENT	0.00 ft^2	
	0.00 ft^2	**0.00 ac**

Exhibit A10

PREDEVELOPED TIME OF CONCENTRATION

CEDAR CREEK GARDEN



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PH: 503.643.8286 PH: 808.753.2376
WWW.PD-GRP.COM

Designed by	CFS	Date	08/2021
Drawn by	CFS	Date	08/2021
Reviewed by	BEF	Date	08/2021
Project No.	285-021	REF.	
Horiz. Scale:			N/A
Vert. Scale:			

PREDEV TOC.DWG

Project
CEDAR CREEK GARDEN

No.
285-021

Type
PLANNING

Sheet
1 of 1

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PIONEER DESIGN GROUP

PREDEVELOPED TIME OF CONCENTRATION: BASIN 'A' (NORTH)

JOB NUMBER: 285-021
PROJECT: Cedar Creek Garden
FILE: 28521_hydro_planning

			Accum. Tc
LAG ONE: SHEET FLOW (FIRST 171 FEET)			
Tt = Travel time			
Manning's "n " =	0.15		
Flow Length, L =	171 ft	(300 ft. max.)	
P = 2-year, 24hr storm =	2.5 in		
Slope, S_0 =	0.112 ft/ft		
$T_T = \frac{(0.42)(n*L)^{0.8}}{(P)^{0.5}(S_0)^{0.4}}$	8.55 min.		8.55 min.

TOTAL PREDEVELOPED TIME OF CONCENTRATION (Tc) = 8.55 min.

PIONEER DESIGN GROUP

PREDEVELOPED TIME OF CONCENTRATION: BASIN 'B' (SOUTH)

JOB NUMBER: 285-021
PROJECT: Cedar Creek Garden
FILE: 28521_hydro_planning

				Accum. Tc
LAG ONE: SHEET FLOW (FIRST 300 FEET)				
Tt = Travel time				
Manning's "n " =	0.80			
Flow Length, L =	300	ft	(300 ft. max.)	
P = 2-year, 24hr storm =	2.5	in		
Slope, S_0 =	0.048	ft/ft		
$T_T = \frac{(0.42)(n*L)^{0.8}}{(P)^{0.5}(S_0)^{0.4}}$	71.77	min.		71.77 min.
LAG TWO: SHALLOW CONCENTRATED FLOW (NEXT 305 FEET)				
Tc Velocity factor, k=	3			
Slope, S_0 =	0.025	ft/ft		
$V = k\sqrt{S_0}$	0.47	ft/s		
Flow Length, L =	305	ft		
$T = \frac{L}{(60)(V)}$	10.72	min.		82.49 min.

TOTAL PREDEVELOPED TIME OF CONCENTRATION (Tc) = 82.49 min.

PIONEER DESIGN GROUP

PREDEVELOPED TIME OF CONCENTRATION: BASIN 'C' (THROUGH LIDA)

JOB NUMBER: 285-021
PROJECT: Cedar Creek Garden
FILE: 28521_hydro_planning

LAG ONE: SHEET FLOW (FIRST 20 FEET)			Accum. Tc
Tt = Travel time			
Manning's "n " =	0.24		
Flow Length, L =	20 ft	(300 ft. max.)	
P = 2-year, 24hr storm =	2.5 in		
Slope, S_0 =	0.048 ft/ft		
$T_T = \frac{(0.42)(n * L)^{0.8}}{(P)^{0.5}(S_0)^{0.4}}$	3.14 min.		3.14 min.

TOTAL PREDEVELOPED TIME OF CONCENTRATION (Tc) = 3.14 min.

PIONEER DESIGN GROUP

DEVELOPED TIME OF CONCENTRATION

JOB NUMBER: 285-021
PROJECT: Cedar Creek Garden
FILE: 28521_hydro_planning

BASIN A:

Catchment Time	5	min.
Longest Run of Pipe	360	ft
Velocity of Flow	3	ft/s
Time in Pipe = (360 ft)/(3.00 ft/s) =	120	s
TOTAL DEVELOPED Tc =	**7.00**	**min.**

BASIN B:

Catchment Time	5	min.
Longest Run of Pipe	822	ft
Velocity of Flow	3	ft/s
Time in Pipe = (822 ft)/(3.00 ft/s) =	274	s
TOTAL DEVELOPED Tc =	**9.57**	**min.**

BASIN C:

Catchment Time	3.14	min.
Longest Run of Pipe	340	ft
Velocity of Flow	3	ft/s
Time in Pipe = (340 ft)/(3.00 ft/s) =	113	s
TOTAL DEVELOPED Tc =	**5.03**	**min.**

PIONEER DESIGN GROUP

WATER QUALITY POND CALCULATIONS - BASIN 'A' (NORTH)

JOB NUMBER: 285-021
PROJECT: Cedar Creek Garden
FILE: 28521_hydro_planning

REFERENCES:
1. Clean Water Services R&O 07-20.
2. Discussions with Clean Water Services.

REQUIRED WATER QUALITY TREATMENT: 65% Phosphorus Removal.

PROPOSED TREATMENT METHODS:

1. Sumped Catch Basins	15%
2. Water quality Pond	50%
total	65%

DESIGN STORM

Precipitation:	0.36	inches
Storm Duration:	4	hours
Storm Return Period:	96	hours
Storm Window:	2	weeks

IMPERVIOUS AREA:

Watershed Area:	1.72	acres
Percent imp:	45.8	%
Impervious Area:	0.79	acres

Design Inflow = (0.79 ac)*(43560 ft^2/ac)*(0.36 in / 4.0 hrs) = **0.07 cfs**

VOLUME CALCULATION:

POND VOLUME = (0.79 acres)(43560 sqft/acre)(0.36 inch)/(12 in/ft) = **1,032 ft^3**

POND PARAMETERS:

Storage Volume (Sd)=	1,032	ft^3
Storage Depth (Hd)=	3	ft (3' maximum)
Side Slopes =	3	:1

SOLVE FOR BOTTOM AREA:

Bottom Area (Ab) = 370 ft^2

STAGE VS STORAGE CALCULATIONS:

Stage, H* ft	Storage, S(H) ft^3	Water Surface Area S.F.
0.0	0.0	257.0
0.5	163.8	398.0
1.0	398.0	539.0
1.5	713.0	721.0
1.90	1032.0	867.2
2.0	1119.0	903.0
2.5	1626.3	1126.0
3.0	2245.0	1349.0
3.5	2985.4	1612.5
4.0	3857.5	1876.0
4.5	4871.6	2180.5
5.0	6038.0	2485.0

LOW FLOW TO POND ORIFICE CALCULATIONS:

$$Q = C_0 A\sqrt{2gh}$$

Q = 0.07 cfs (Design Discharge from above)
A = Cross sectional area of orifice
C_o = orifice coefficient = 0.62
g = gravity (32.2 ft/sec^2)
h = average hydraulic head = 6 inches below high flow

$$A = \frac{Q}{C_0\sqrt{2gh}}$$

A = 0.02 ft^2
$A = \pi r^2$
r = 0.08 ft. radius
d = 2r
d = 1.91 in. diameter, use **2 " orifice**

POND OUTLET ORIFICE CALCULATIONS:

Q = (1,032 ft3)/(48 hrs)/(60 min/hrs)/(60 s/min)= 0.01 cfs

h = average hydraulic head = 12 inches below high flow

A = 0.00 ft^2
$A = \pi r^2$
r = 0.02 ft. radius
d = 2r
d = 0.47 in. diameter, use **4/8 " orifice**

PIONEER DESIGN GROUP

WATER QUALITY POND CALCULATIONS - BASIN 'B' (SOUTH)

JOB NUMBER: 285-021
PROJECT: Cedar Creek Garden
FILE: 28521_hydro_planning

REFERENCES:
1. Clean Water Services R&O 07-20.
2. Discussions with Clean Water Services.

REQUIRED WATER QUALITY TREATMENT: 65% Phosphorus Removal.

PROPOSED TREATMENT METHODS:

1. Sumped Catch Basins		15%
2. Water quality Pond		50%
	total	65%

DESIGN STORM

Precipitation:	0.36	inches
Storm Duration:	4	hours
Storm Return Period:	96	hours
Storm Window:	2	weeks

IMPERVIOUS AREA:

Watershed Area:	6.52	acres
Percent imp:	51.8	%
Impervious Area:	3.38	acres

Design Inflow = (3.38 ac)*(43560 ft^2/ac)*(0.36 in / 4.0 hrs) = **0.31 cfs**

VOLUME CALCULATION:

POND VOLUME = (3.38 acres)(43560 sqft/acre)(0.36 inch)/(12 in/ft) = **4,417 ft^3**

POND PARAMETERS:

Storage Volume (Sd)=	4,417	ft^3
Storage Depth (Hd)=	3	ft (3' maximum)
Side Slopes =	3	:1

SOLVE FOR BOTTOM AREA:

Bottom Area (Ab) = 3224 ft^2

STAGE VS STORAGE CALCULATIONS:

Stage, H* ft	Storage, S(H) ft^3	Water Surface Area S.F.
0.0	0.0	3827.0
0.5	1951.9	3980.5
1.0	3980.5	4134.0
1.11	4417.0	4165.9
1.5	6085.4	4285.5
2.0	8266.0	4437.0
2.5	10521.1	4586.0
3.0	12852.0	4735.0
3.5	15254.6	4881.0
4.0	17733.0	5027.0
4.5	20280.9	5171.5
5.0	22904.5	5316.0

LOW FLOW TO POND ORIFICE CALCULATIONS:

$$Q = C_0 A\sqrt{2gh}$$

Q = 0.31 cfs (Design Discharge from above)
A = Cross sectional area of orifice
C_o = orifice coefficient = 0.62
g = gravity (32.2 ft/sec^2)
h = average hydraulic head = 6 inches below high flow

$$A = \frac{Q}{C_0\sqrt{2gh}}$$

A = 0.09 ft^2
$A = \pi r^2$
r = 0.17 ft. radius
d = 2r
d = 4.02 in. diameter, use **4 2/16 " orifice**

POND OUTLET ORIFICE CALCULATIONS:

Q = (4,417 ft3)/(48 hrs)/(60 min/hrs)/(60 s/min)= 0.03 cfs

h = average hydraulic head = 12 inches below high flow

A = 0.01 ft^2
$A = \pi r^2$
r = 0.04 ft. radius
d = 2r
d = 0.97 in. diameter, use **1 " orifice**

PIONEER DESIGN GROUP

LIDA PLANTER CALCULATIONS

JOB NUMBER: 285-021
PROJECT: Cedar Creek Garden
FILE: 28521_hydro_planning

Lot Number	Contributing Basin Area (SF)	Impervious Area (SF)	Sizing Factor	Treatment Area (Required) (SF)	Treatment Area (Provided) (SF)	Treatment Met (Y/N)
39	11,083	2,640	0.12	317	323	Y
40	8,648	2,640	0.12	317	323	Y
41	10,421	2,640	0.12	317	323	Y

PIONEER DESIGN GROUP

SANTA BARBARA URBAN HYDROGRAPHS - BASIN 'A' (NORTH)

JOB NUMBER: 285-021
PROJECT: Cedar Creek Garden
FILE: 28521_hydro_planning

DESCRIPTION	DESIGN STORM (YR)	DURATION (HR)	PRECIP (IN)	AREA TOTAL (AC)	% IMP	AREA PERV. (AC)	CN PER.	AREA IMP. (AC)	CN IMP.	TIME (MIN)	Q (CFS)
PREDEVELOPED 2-YEAR PEAK DISCHARGE	2	24	2.5	1.72	4.46	1.64	71.2	0.08	98	8.55	0.13
DEVELOPED 2-YEAR PEAK DISCHARGE	2	24	2.5	1.72	45.76	0.93	75.1	0.79	98	7.00	0.57
PREDEVELOPED 5-YEAR PEAK DISCHARGE	5	24	3.1	1.72	4.46	1.64	71.2	0.08	98	8.55	0.27
DEVELOPED 5-YEAR PEAK DISCHARGE	5	24	3.1	1.72	45.76	0.93	75.1	0.79	98	7.00	0.78
PREDEVELOPED 10-YEAR PEAK DISCHARGE	10	24	3.45	1.72	4.46	1.64	71.2	0.08	98	8.55	0.37
DEVELOPED 10-YEAR PEAK DISCHARGE	10	24	3.45	1.72	45.76	0.93	75.1	0.79	98	7.00	0.91
PREDEVELOPED 25-YEAR PEAK DISCHARGE	25	24	3.9	1.72	4.46	1.64	71.2	0.08	98	8.55	0.51
DEVELOPED 25-YEAR PEAK DISCHARGE	25	24	3.9	1.72	45.76	0.93	75.1	0.79	98	7.00	1.08
PREDEVELOPED 100-YEAR PEAK DISCHARGE	100	24	4.5	1.72	4.46	1.64	71.2	0.08	98	8.55	0.71
DEVELOPED 100-YEAR PEAK DISCHARGE	100	24	4.5	1.72	45.76	0.93	75.1	0.79	98	7.00	1.32

PIONEER DESIGN GROUP

SANTA BARBARA URBAN HYDROGRAPHS - BASIN 'B' (SOUTH)

JOB NUMBER: 285-021
PROJECT: Cedar Creek Garden
FILE: 28521_hydro_planning

DESCRIPTION	DESIGN STORM (YR)	DURATION (HR)	PRECIP (IN)	AREA TOTAL (AC)	% IMP	AREA PERV. (AC)	CN PER.	AREA IMP. (AC)	CN IMP.	TIME (MIN)	Q (CFS)
PREDEVELOPED 2-YEAR PEAK DISCHARGE	2	24	2.5	6.52	4.30	6.24	71.2	0.28	98	82.49	0.24
DEVELOPED 2-YEAR PEAK DISCHARGE	2	24	2.5	6.52	51.82	3.14	75.1	3.38	98	9.57	2.27
PREDEVELOPED 5-YEAR PEAK DISCHARGE	5	24	3.1	6.52	4.30	6.24	71.2	0.28	98	82.49	0.42
DEVELOPED 5-YEAR PEAK DISCHARGE	5	24	3.1	6.52	51.82	3.14	75.1	3.38	98	9.57	3.07
PREDEVELOPED 10-YEAR PEAK DISCHARGE	10	24	3.45	6.52	4.30	6.24	71.2	0.28	98	82.49	0.56
DEVELOPED 10-YEAR PEAK DISCHARGE	10	24	3.45	6.52	51.82	3.14	75.1	3.38	98	9.57	3.55
PREDEVELOPED 25-YEAR PEAK DISCHARGE	25	24	3.9	6.52	4.30	6.24	71.2	0.28	98	82.49	0.77
DEVELOPED 25-YEAR PEAK DISCHARGE	25	24	3.9	6.52	51.82	3.14	75.1	3.38	98	9.57	4.19
PREDEVELOPED 100-YEAR PEAK DISCHARGE	100	24	4.5	6.52	4.30	6.24	71.2	0.28	98	82.49	1.08
DEVELOPED 100-YEAR PEAK DISCHARGE	100	24	4.5	6.52	51.82	3.14	75.1	3.38	98	9.57	5.07

PIONEER DESIGN GROUP

STORMWATER CONVEYANCE CALCULATIONS

JOB NUMBER: 285-021
PROJECT: Cedar Creek Garden

FILE: 28521_hydro_planning
Design Storm: 25 YR
Storm Duration: 24 HRS
Precipitation: 3.9 IN
Manning's "n" 0.013

LINE	INC. AREA (AC)	AREA TOTAL (AC)	% IMP.	AREA PERV. (AC)	CN PER.	AREA IMP. (AC)	CN IMP.	TIME (MIN)	Q (CFS)	PIPE SIZE (IN)	SLOPE (FT/FT)	Qf (CFS)	Q/Qf (%)	Vf (FPS)	V/Vf (%)	ACTUAL V (FPS)
BASIN A	0.79	1.72	45.76	0.93	75	0.79	98	7.00	1.08	12	0.0050	2.53	0.43	3.22	0.96	3.09
BASIN B	3.38	6.52	51.82	3.14	75	3.38	98	9.57	4.19	15	0.0050	4.58	0.91	3.73	1.16	4.34
BASIN C	0.12	0.65	18.52	0.53	75	0.12	99	5.03	0.32	12	0.0050	2.53	0.13	3.22	0.63	2.04

APPENDIX 'A' – STORMWATER DETENTION FACILITY REPORT

Table of Contents

Exhibit A10

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SBUH Runoff	-------	0.00	0.10	-------	0.23	0.33	0.46	-------	-------	PREDEV - A
2	SBUH Runoff	-------	0.03	0.22	-------	0.40	0.55	0.75	-------	-------	PREDEV - B
3	SBUH Runoff	-------	0.00	0.47	-------	0.70	0.84	1.02	-------	-------	DEV - A
4	SBUH Runoff	-------	0.37	1.90	-------	2.76	3.28	3.97	-------	-------	DEV - B
5	Reservoir	3	0.00	0.05	-------	0.14	0.19	0.28	-------	-------	POND A
6	Reservoir	4	0.03	0.11	-------	0.39	0.55	0.74	-------	-------	POND B

Exhibit A10

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SBUH Runoff	0.00	5	0	0	----	------	------	PREDEV - A
2	SBUH Runoff	0.03	6	1350	1,210	----	------	------	PREDEV - B
3	SBUH Runoff	0.00	6	0	0	----	------	------	DEV - A
4	SBUH Runoff	0.37	6	486	8,756	----	------	------	DEV - B
5	Reservoir	0.00	6	0	0	3	0.00	0	POND A
6	Reservoir	0.03	6	1452	8,699	4	174.77	7,160	POND B

Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

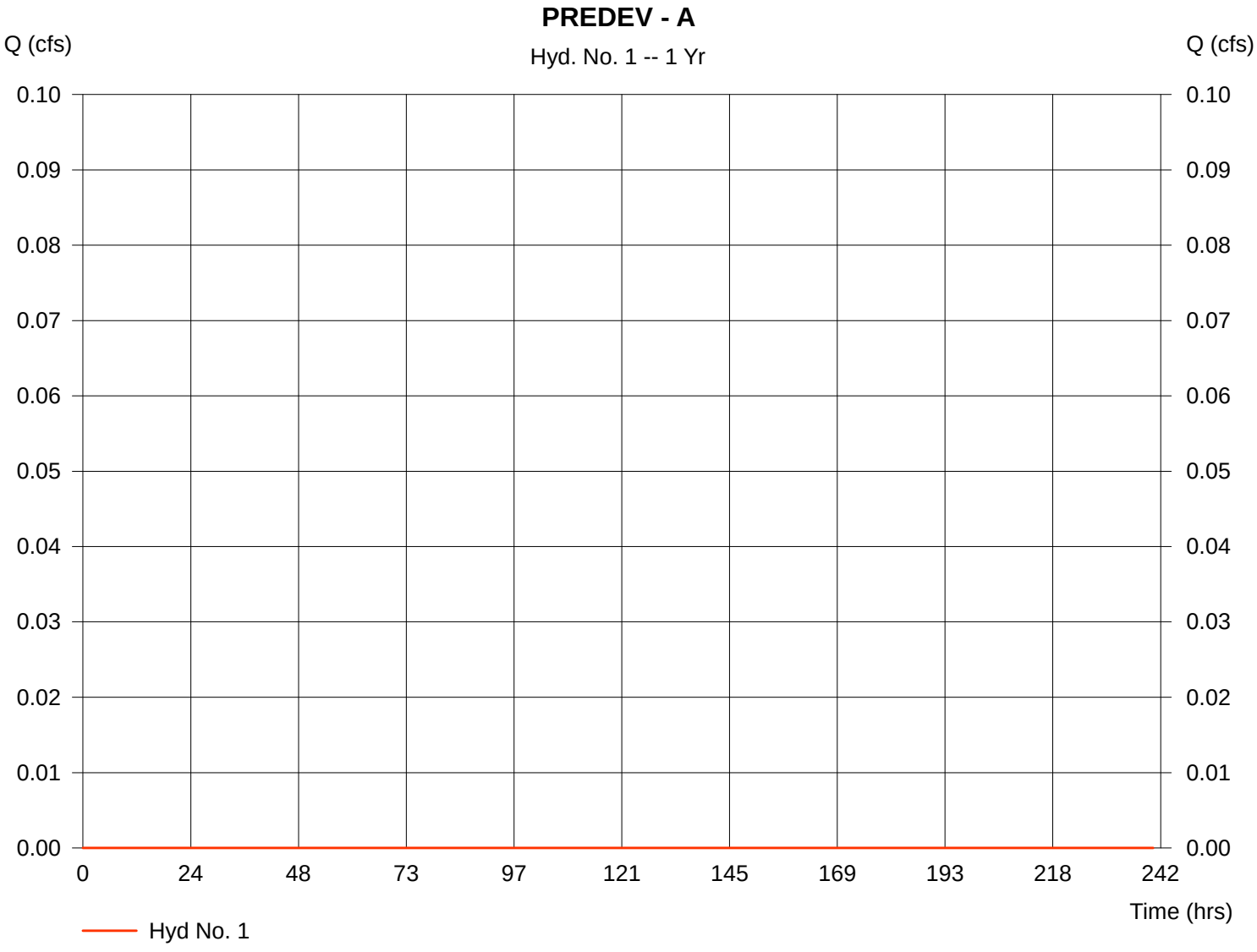
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 1

PREDEV - A

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.00 cfs
Storm frequency	= 1 yrs	Time interval	= 5 min
Drainage area	= 1.780 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 8.60 min
Total precip.	= 1.25 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 0 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

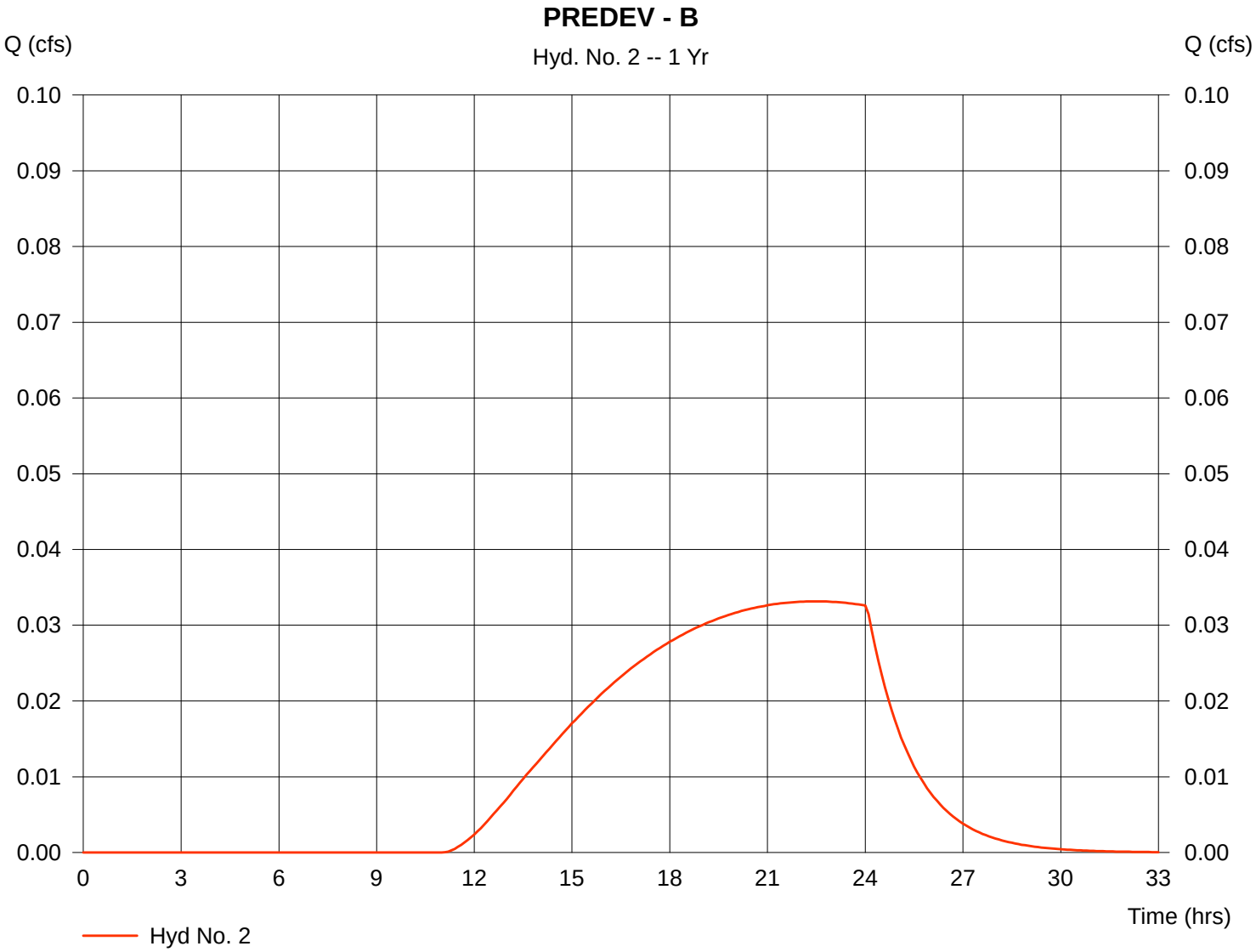
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 2

PREDEV - B

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.03 cfs
Storm frequency	= 1 yrs	Time interval	= 6 min
Drainage area	= 6.520 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 82.50 min
Total precip.	= 1.25 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 1,210 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

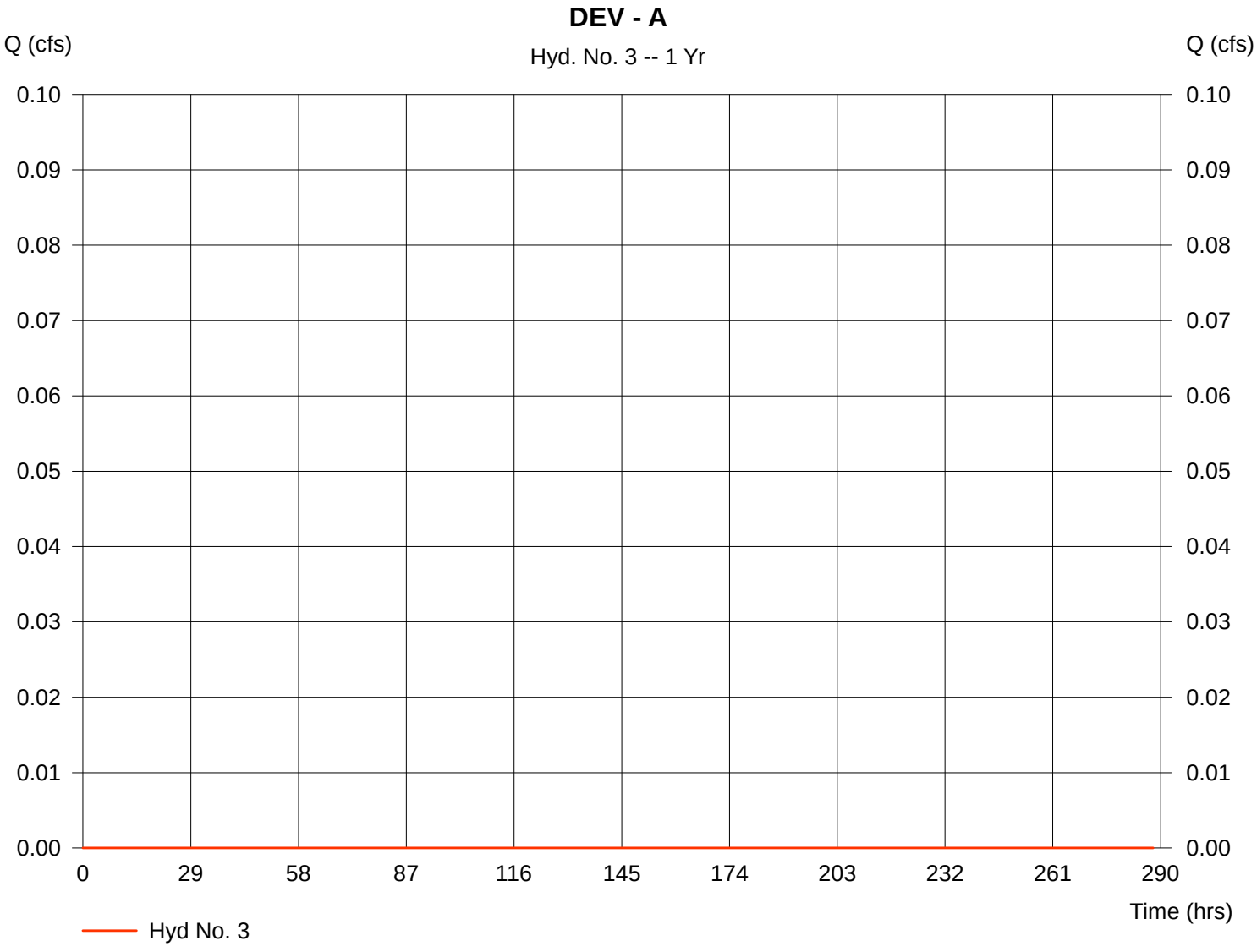
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 3

DEV - A

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.00 cfs
Storm frequency	= 1 yrs	Time interval	= 6 min
Drainage area	= 1.780 ac	Curve number	= 85
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 1.25 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 0 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

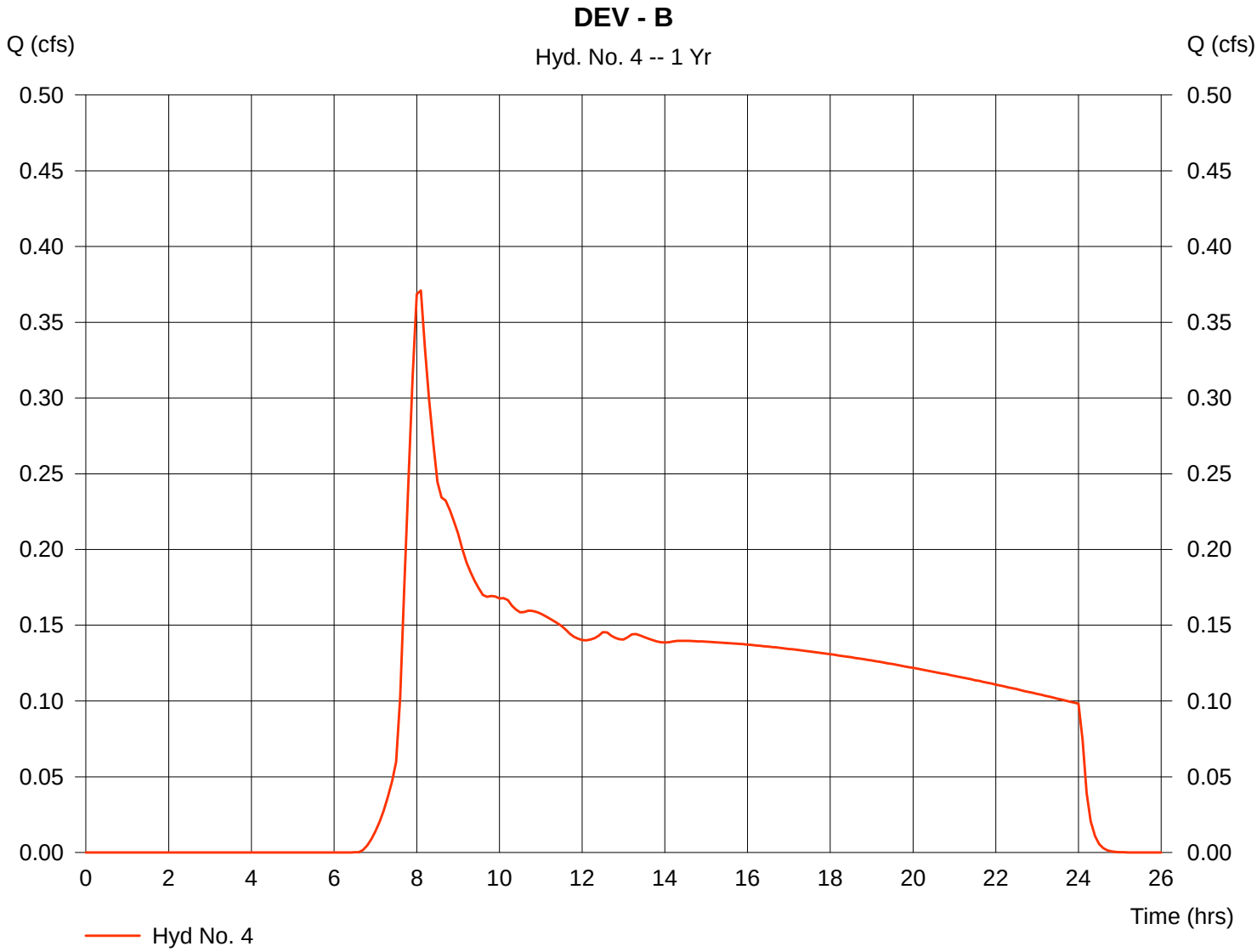
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 4

DEV - B

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.37 cfs
Storm frequency	= 1 yrs	Time interval	= 6 min
Drainage area	= 6.520 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 9.60 min
Total precip.	= 1.25 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 8,756 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

Thursday, Jan 13 2022, 5:32 PM

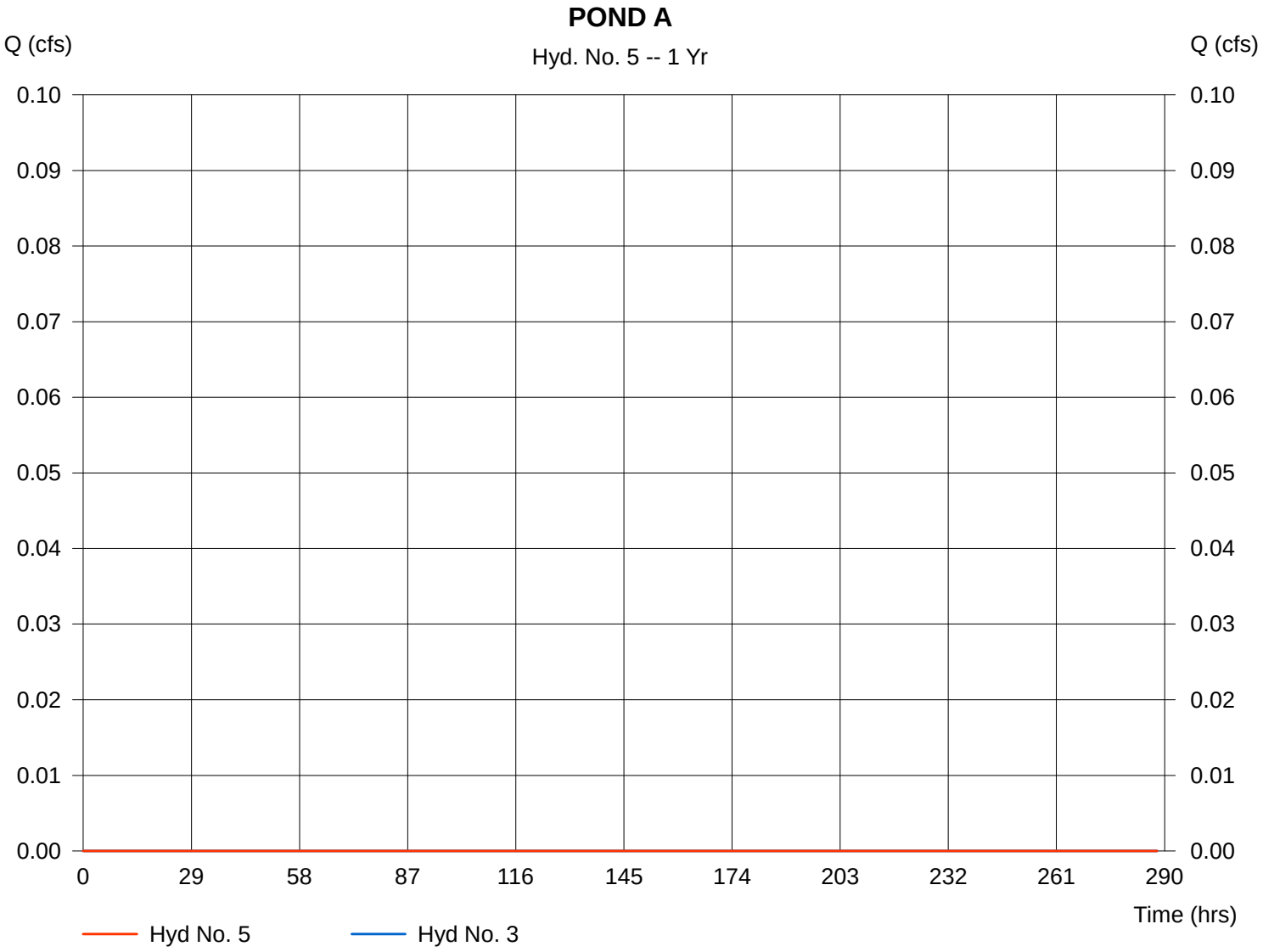
Hyd. No. 5

POND A

Hydrograph type	=	Reservoir	Peak discharge	=	0.00 cfs
Storm frequency	=	1 yrs	Time interval	=	6 min
Inflow hyd. No.	=	3	Max. Elevation	=	0.00 ft
Reservoir name	=	POND A	Max. Storage	=	0 cuft

Storage Indication method used.

Hydrograph Volume = 0 cuft



Pond Report

Exhibit A10

Pond No. 1 - POND A

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	172.00	374	0	0
1.00	173.00	691	533	533
2.00	174.00	1,084	888	1,420
3.00	175.00	1,552	1,318	2,738
4.00	176.00	2,081	1,817	4,555
5.00	177.00	2,666	2,374	6,928
6.00	178.00	3,307	2,987	9,915

Culvert / Orifice Structures

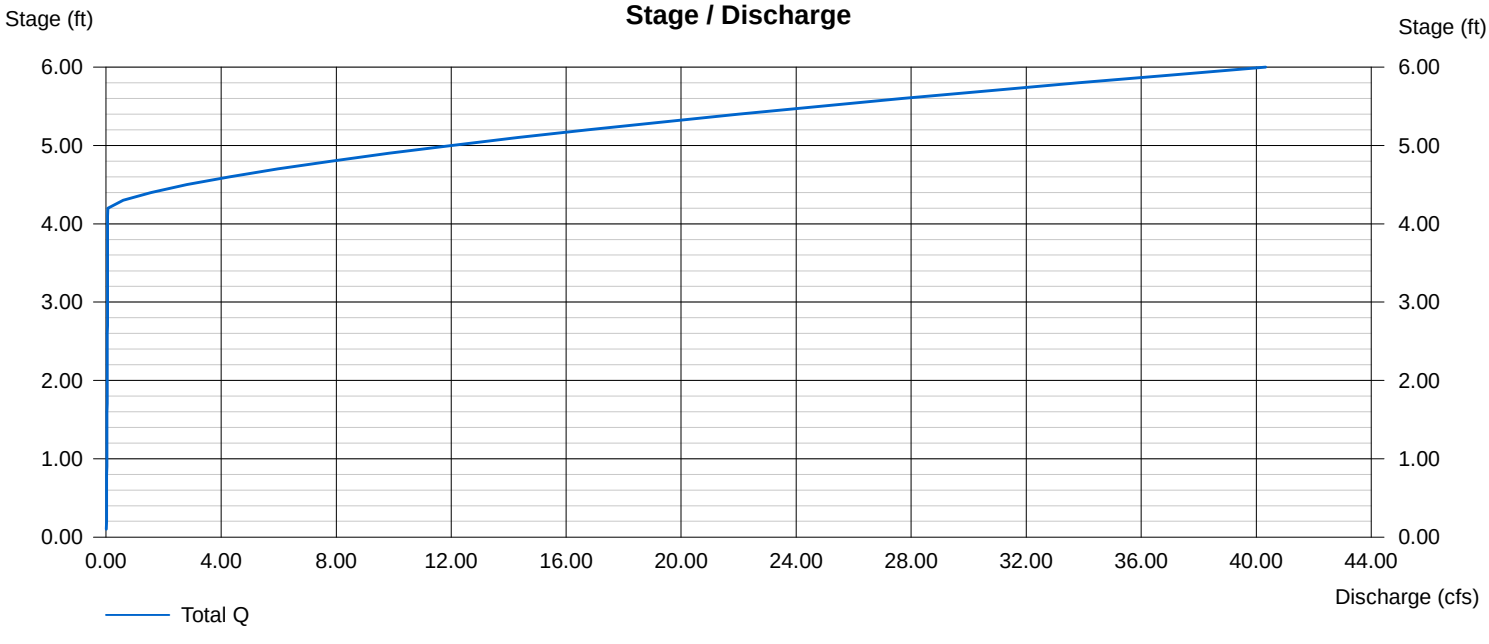
	[A]	[B]	[C]	[D]
Rise (in)	= 12.00	1.00	1.20	0.00
Span (in)	= 12.00	1.00	1.20	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 171.00	172.00	176.10	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 176.20	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

Thursday, Jan 13 2022, 5:32 PM

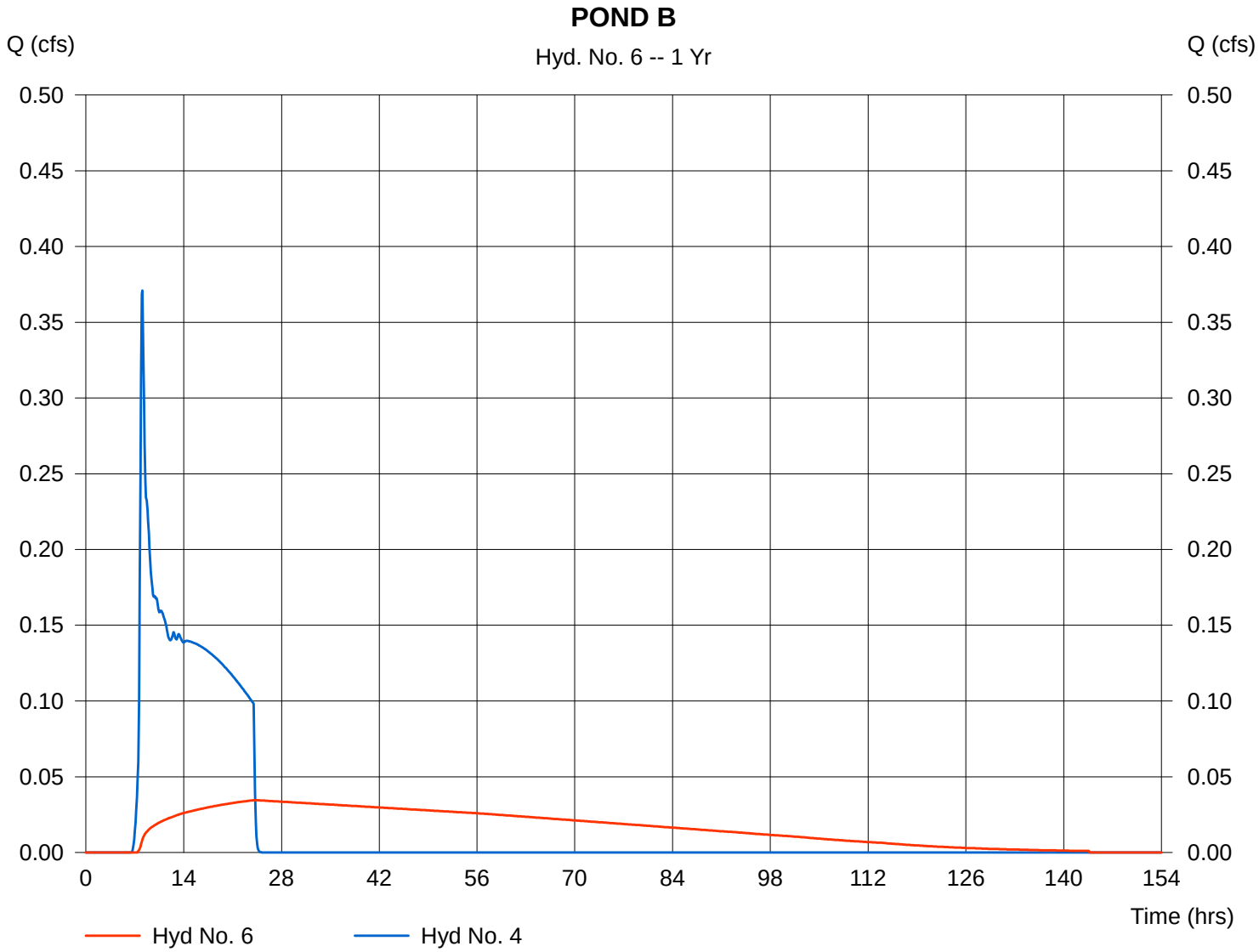
Hyd. No. 6

POND B

Hydrograph type	=	Reservoir	Peak discharge	=	0.03 cfs
Storm frequency	=	1 yrs	Time interval	=	6 min
Inflow hyd. No.	=	4	Max. Elevation	=	174.77 ft
Reservoir name	=	POND B	Max. Storage	=	7,160 cuft

Storage Indication method used.

Hydrograph Volume = 8,699 cuft



Pond Report

Exhibit A10

Pond No. 2 - POND B

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	173.00	3,224	0	0
1.00	174.00	4,081	3,653	3,653
2.00	175.00	5,017	4,549	8,202
3.00	176.00	5,992	5,505	13,706
4.00	177.00	7,006	6,499	20,205
5.00	178.00	8,057	7,532	27,737
6.00	179.00	8,426	8,241	35,978
7.00	180.00	8,797	8,612	44,590

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise (in)	= 12.00	1.00	1.10	0.00
Span (in)	= 12.00	1.00	1.10	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 172.00	173.00	175.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 178.70	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.

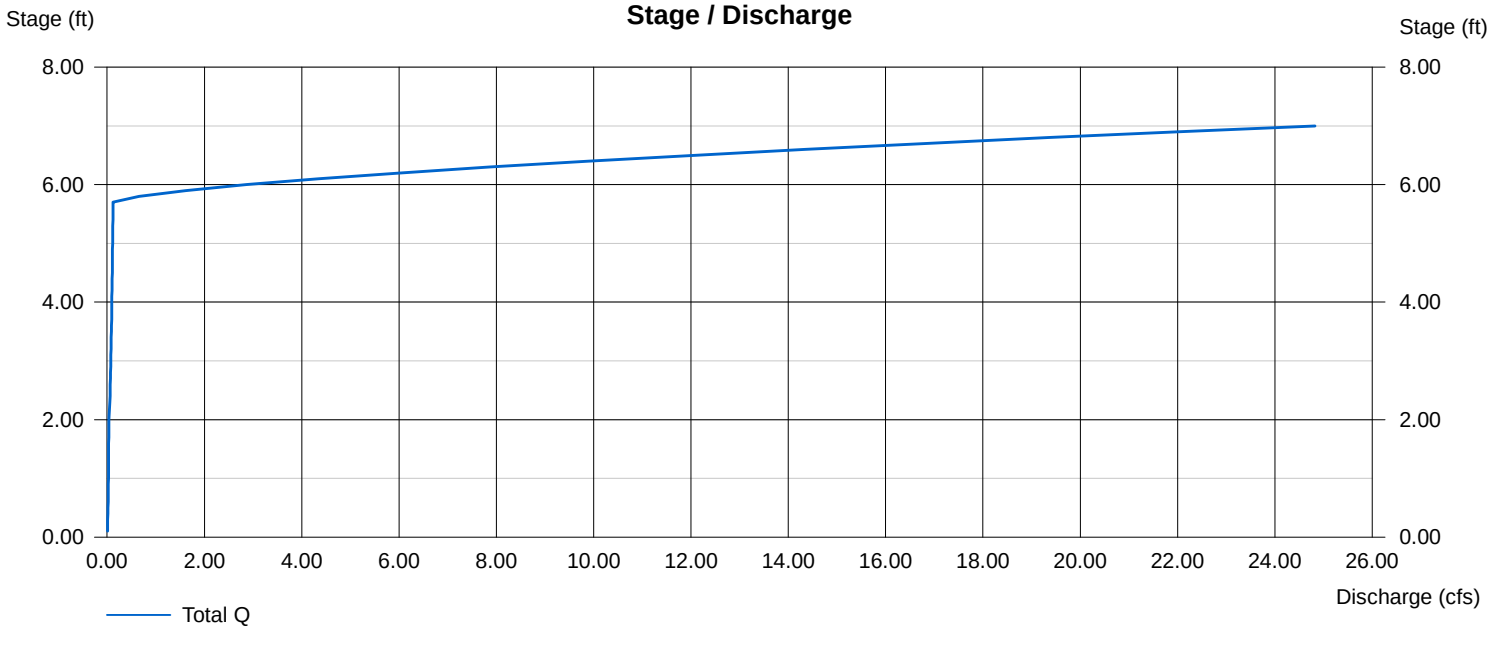


Exhibit A10

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SBUH Runoff	0.10	5	485	3,416	----	------	------	PREDEV - A
2	SBUH Runoff	0.22	6	678	12,511	----	------	------	PREDEV - B
3	SBUH Runoff	0.47	6	480	7,615	----	------	------	DEV - A
4	SBUH Runoff	1.90	6	480	31,031	----	------	------	DEV - B
5	Reservoir	0.05	6	1446	7,606	3	176.06	4,698	POND A
6	Reservoir	0.11	6	1452	30,973	4	177.74	25,749	POND B

Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

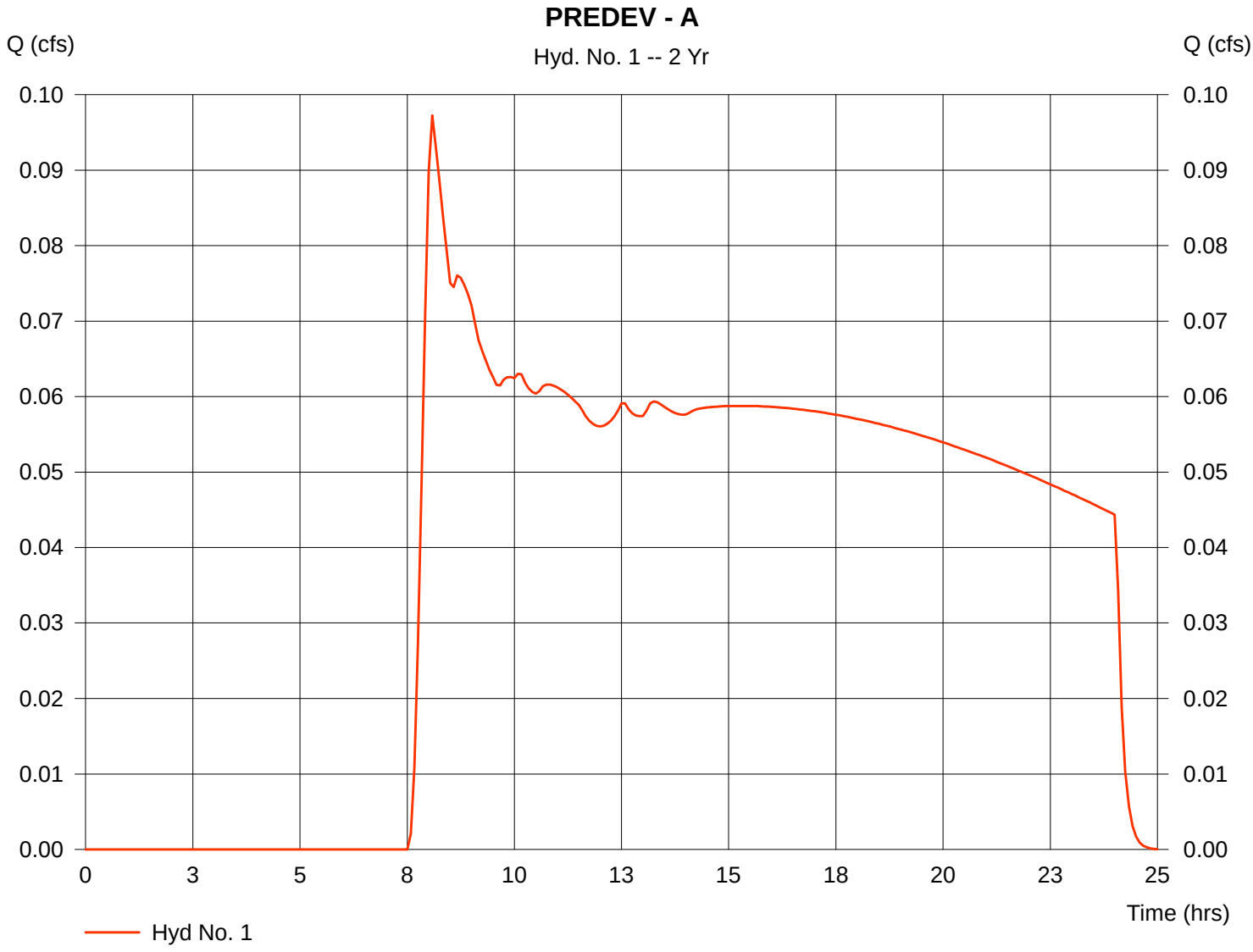
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 1

PREDEV - A

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.10 cfs
Storm frequency	= 2 yrs	Time interval	= 5 min
Drainage area	= 1.780 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 8.60 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 3,416 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

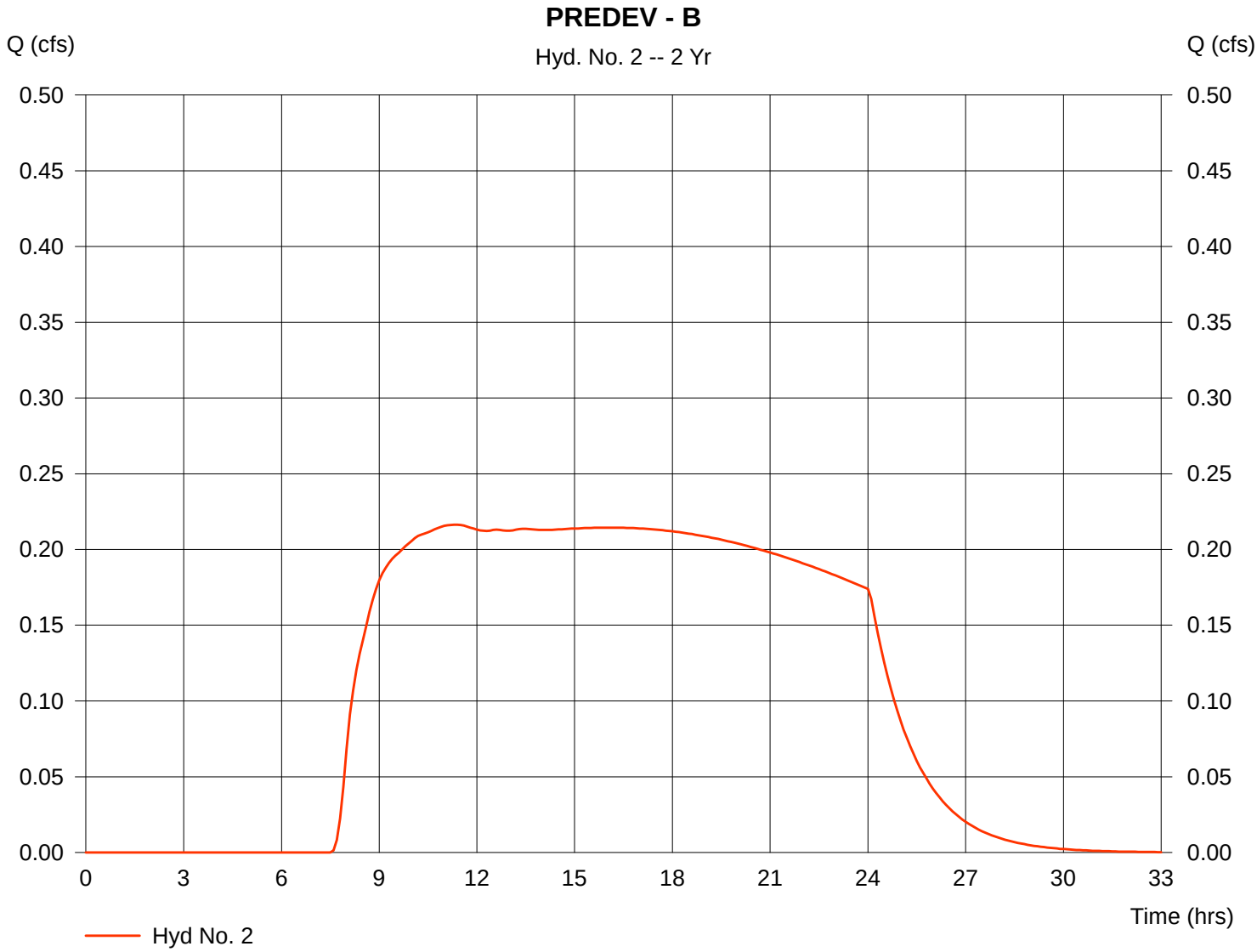
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 2

PREDEV - B

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.22 cfs
Storm frequency	= 2 yrs	Time interval	= 6 min
Drainage area	= 6.520 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 82.50 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 12,511 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

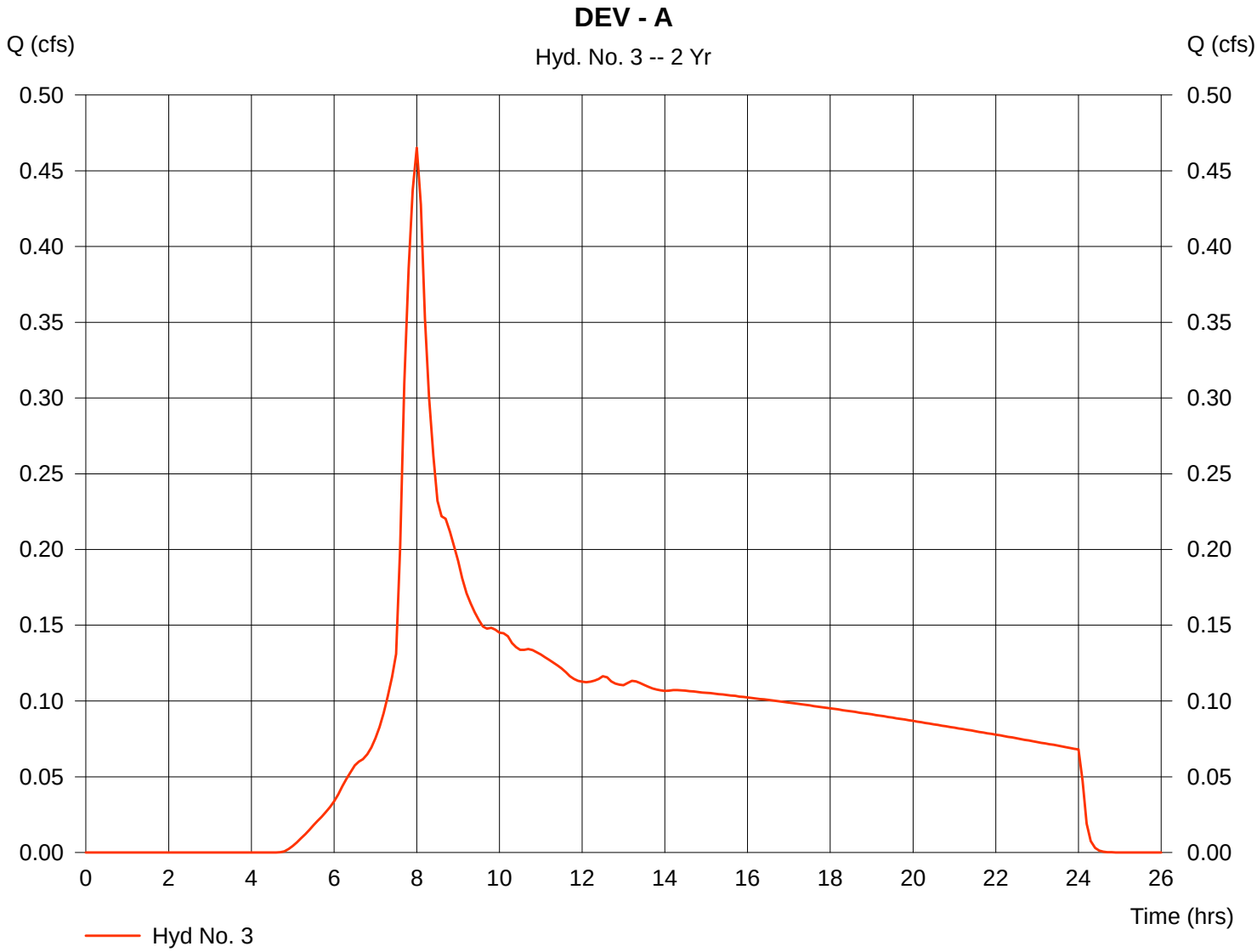
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 3

DEV - A

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.47 cfs
Storm frequency	= 2 yrs	Time interval	= 6 min
Drainage area	= 1.780 ac	Curve number	= 85
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 7,615 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

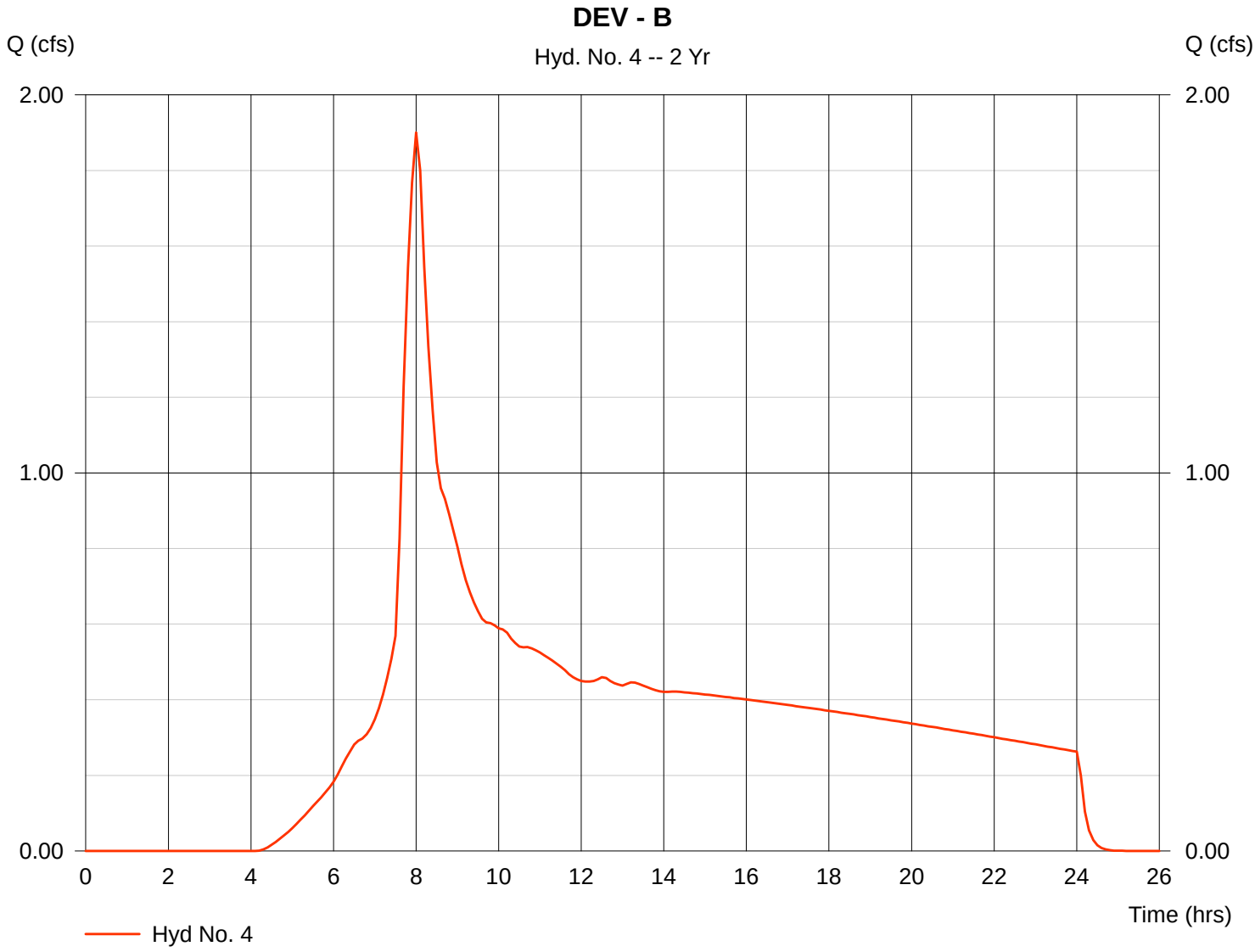
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 4

DEV - B

Hydrograph type	= SBUH Runoff	Peak discharge	= 1.90 cfs
Storm frequency	= 2 yrs	Time interval	= 6 min
Drainage area	= 6.520 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 9.60 min
Total precip.	= 2.50 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 31,031 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

Thursday, Jan 13 2022, 5:32 PM

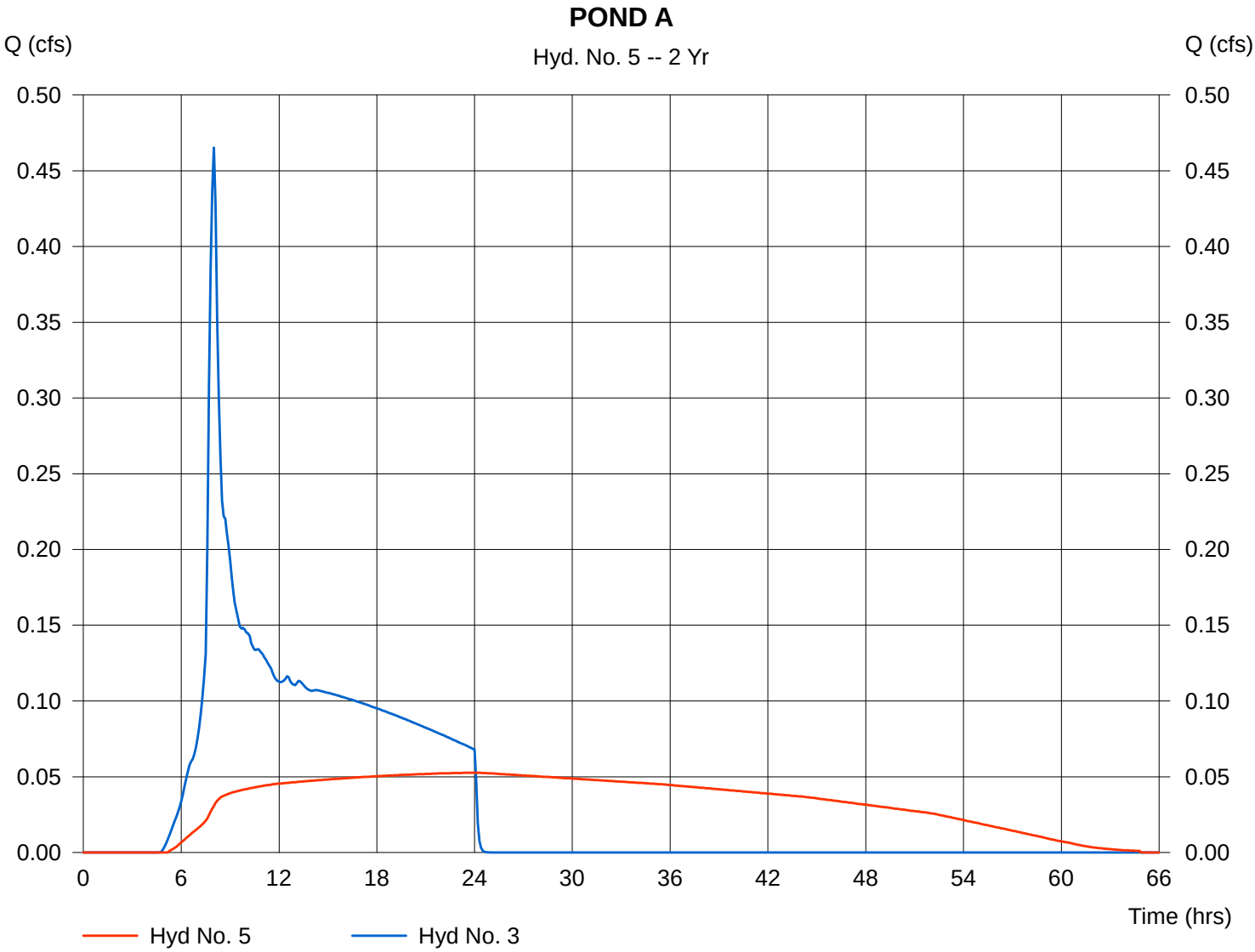
Hyd. No. 5

POND A

Hydrograph type	=	Reservoir	Peak discharge	=	0.05 cfs
Storm frequency	=	2 yrs	Time interval	=	6 min
Inflow hyd. No.	=	3	Max. Elevation	=	176.06 ft
Reservoir name	=	POND A	Max. Storage	=	4,698 cuft

Storage Indication method used.

Hydrograph Volume = 7,606 cuft



Pond Report

Exhibit A10

Pond No. 1 - POND A

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	172.00	374	0	0
1.00	173.00	691	533	533
2.00	174.00	1,084	888	1,420
3.00	175.00	1,552	1,318	2,738
4.00	176.00	2,081	1,817	4,555
5.00	177.00	2,666	2,374	6,928
6.00	178.00	3,307	2,987	9,915

Culvert / Orifice Structures

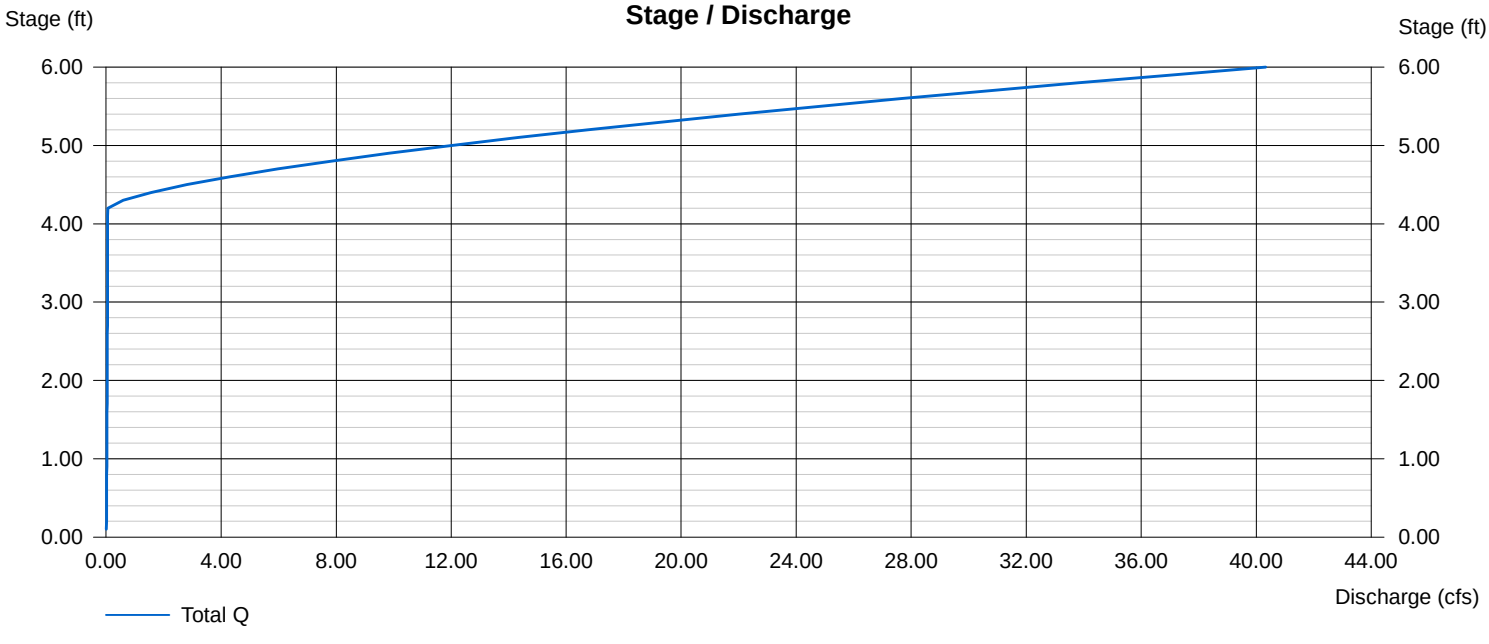
	[A]	[B]	[C]	[D]
Rise (in)	= 12.00	1.00	1.20	0.00
Span (in)	= 12.00	1.00	1.20	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 171.00	172.00	176.10	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 176.20	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

Thursday, Jan 13 2022, 5:32 PM

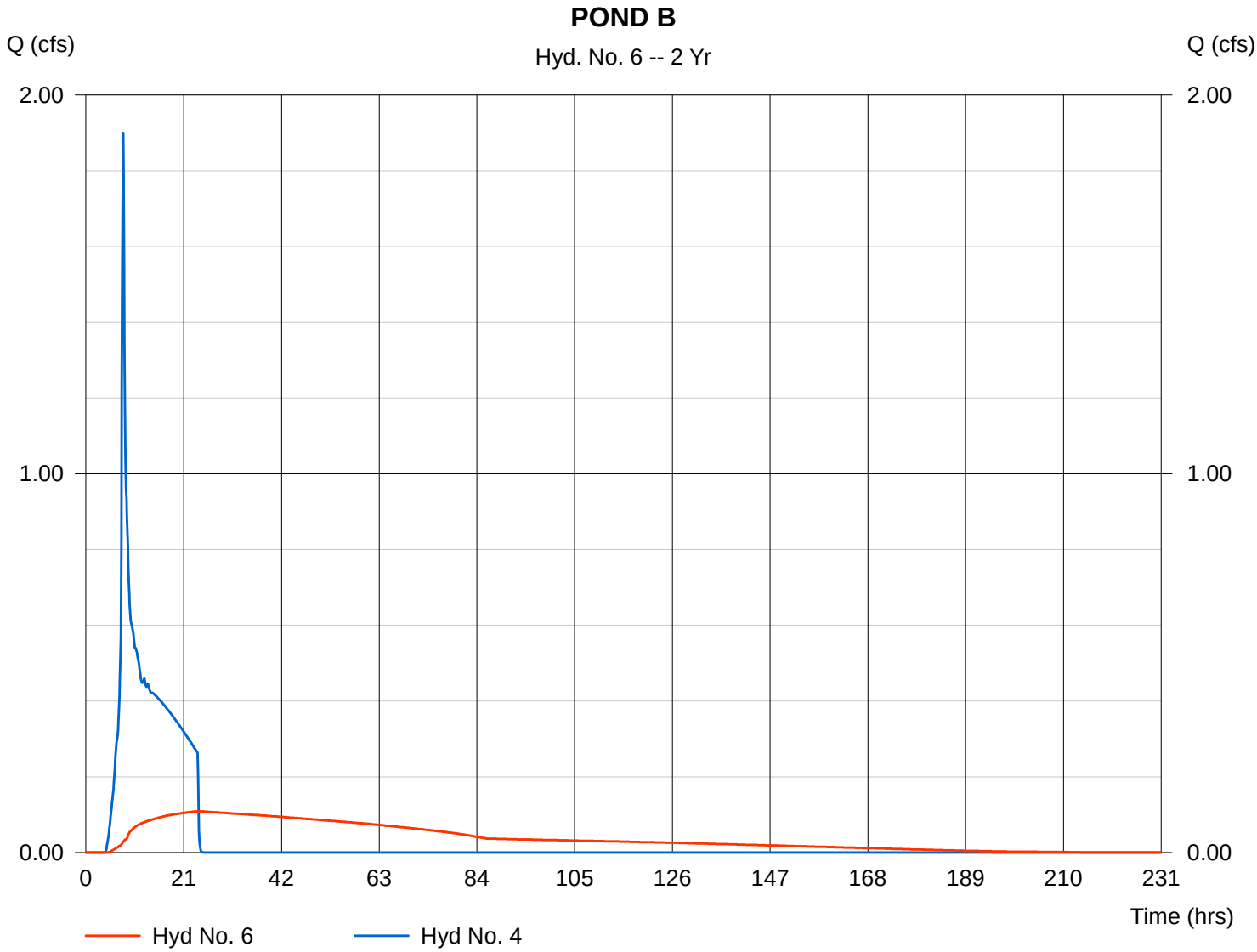
Hyd. No. 6

POND B

Hydrograph type	=	Reservoir	Peak discharge	=	0.11 cfs
Storm frequency	=	2 yrs	Time interval	=	6 min
Inflow hyd. No.	=	4	Max. Elevation	=	177.74 ft
Reservoir name	=	POND B	Max. Storage	=	25,749 cuft

Storage Indication method used.

Hydrograph Volume = 30,973 cuft



Pond Report

Exhibit A10

Hydraflow Hydrographs by Intelisolve

Thursday, Jan 13 2022, 5:32 PM

Pond No. 2 - POND B

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	173.00	3,224	0	0
1.00	174.00	4,081	3,653	3,653
2.00	175.00	5,017	4,549	8,202
3.00	176.00	5,992	5,505	13,706
4.00	177.00	7,006	6,499	20,205
5.00	178.00	8,057	7,532	27,737
6.00	179.00	8,426	8,241	35,978
7.00	180.00	8,797	8,612	44,590

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise (in)	= 12.00	1.00	1.10	0.00
Span (in)	= 12.00	1.00	1.10	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 172.00	173.00	175.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 178.70	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.

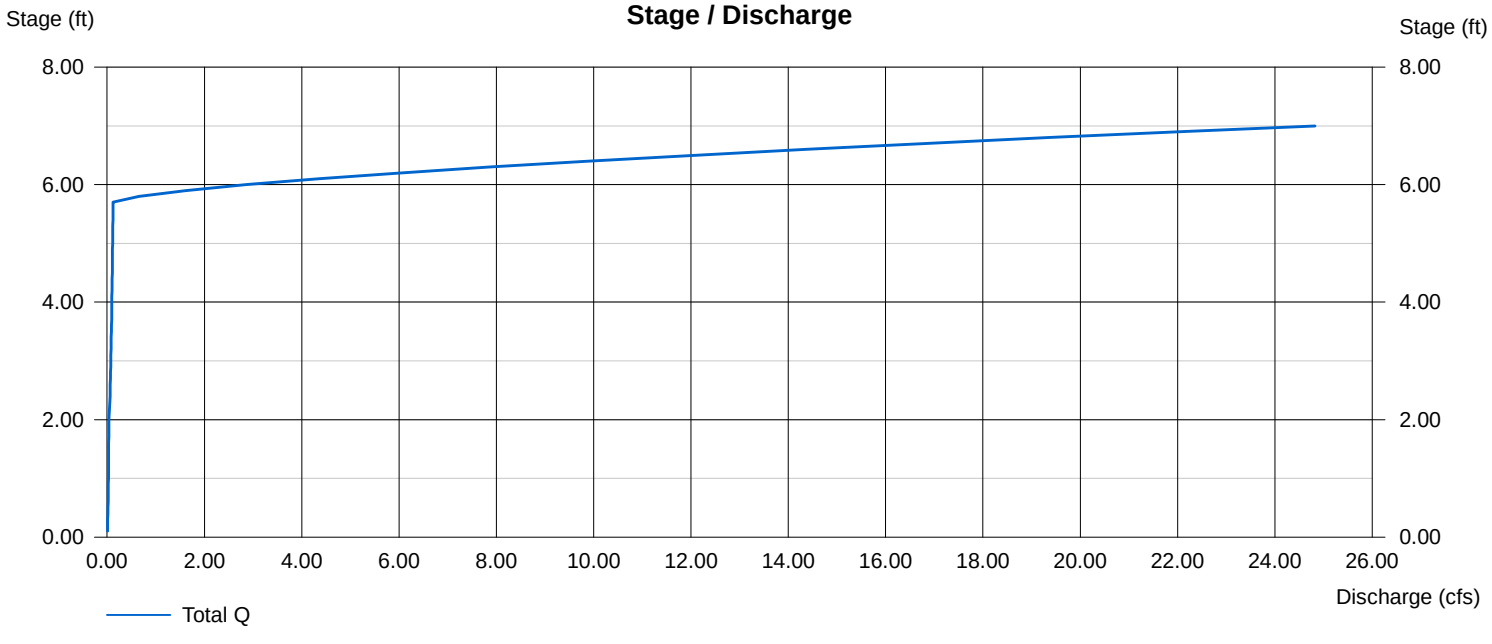


Exhibit A10

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SBUH Runoff	0.23	5	480	5,610	----	------	------	PREDEV - A
2	SBUH Runoff	0.40	6	564	20,549	----	------	------	PREDEV - B
3	SBUH Runoff	0.70	6	480	10,807	----	------	------	DEV - A
4	SBUH Runoff	2.76	6	480	43,234	----	------	------	DEV - B
5	Reservoir	0.14	6	864	10,799	3	176.22	5,066	POND A
6	Reservoir	0.39	6	1326	43,176	4	178.75	33,921	POND B

Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

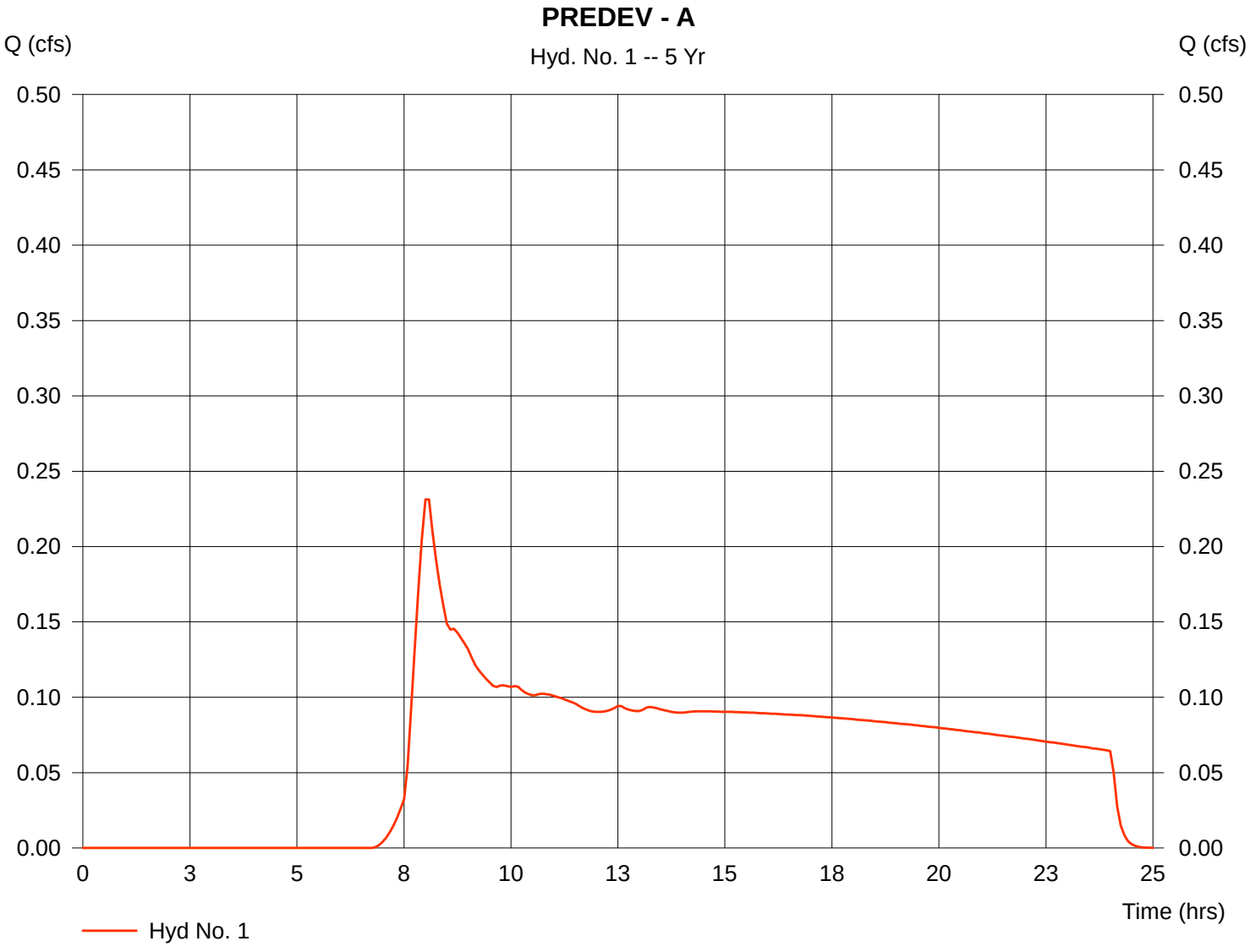
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 1

PREDEV - A

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.23 cfs
Storm frequency	= 5 yrs	Time interval	= 5 min
Drainage area	= 1.780 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 8.60 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 5,610 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

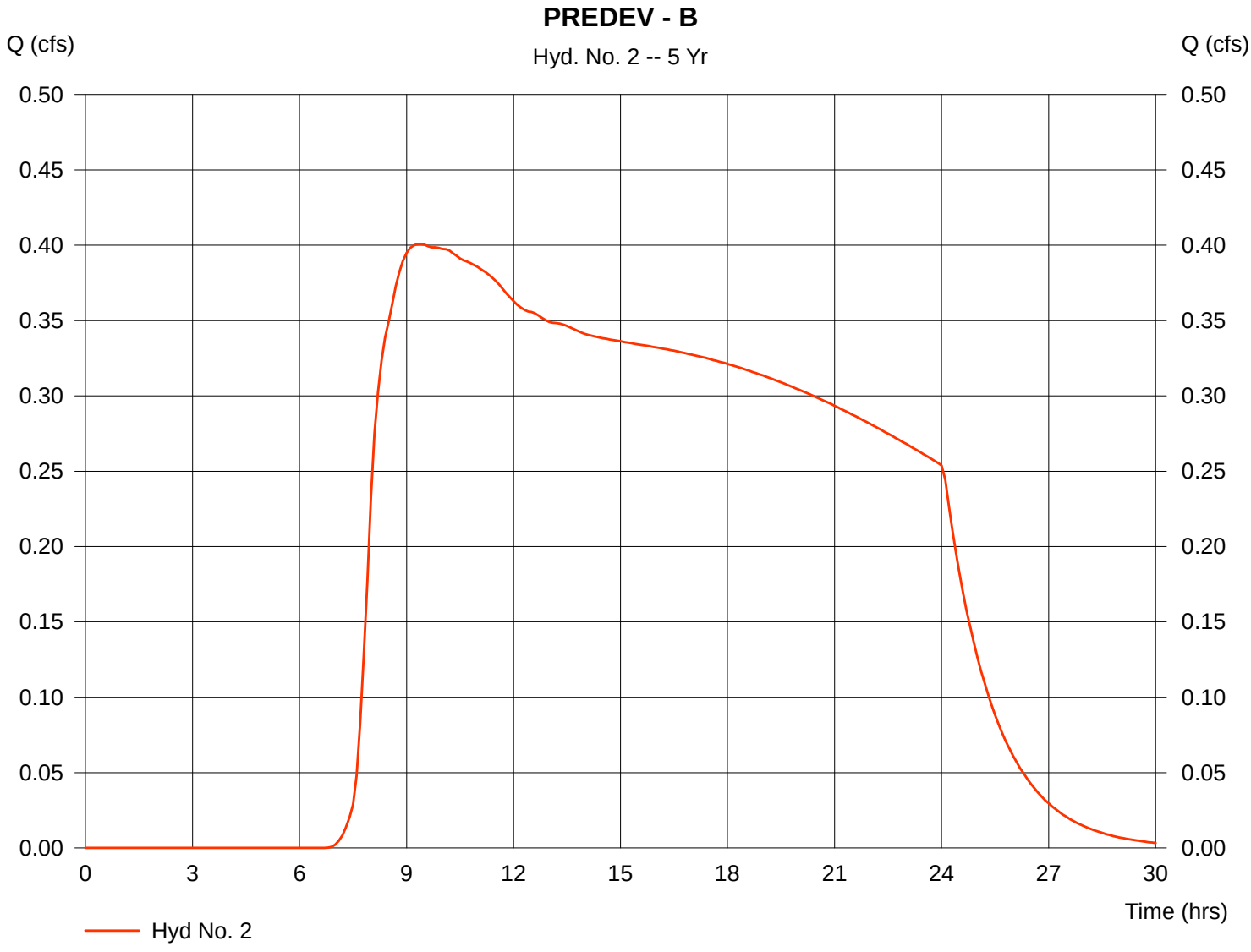
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 2

PREDEV - B

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.40 cfs
Storm frequency	= 5 yrs	Time interval	= 6 min
Drainage area	= 6.520 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 82.50 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 20,549 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

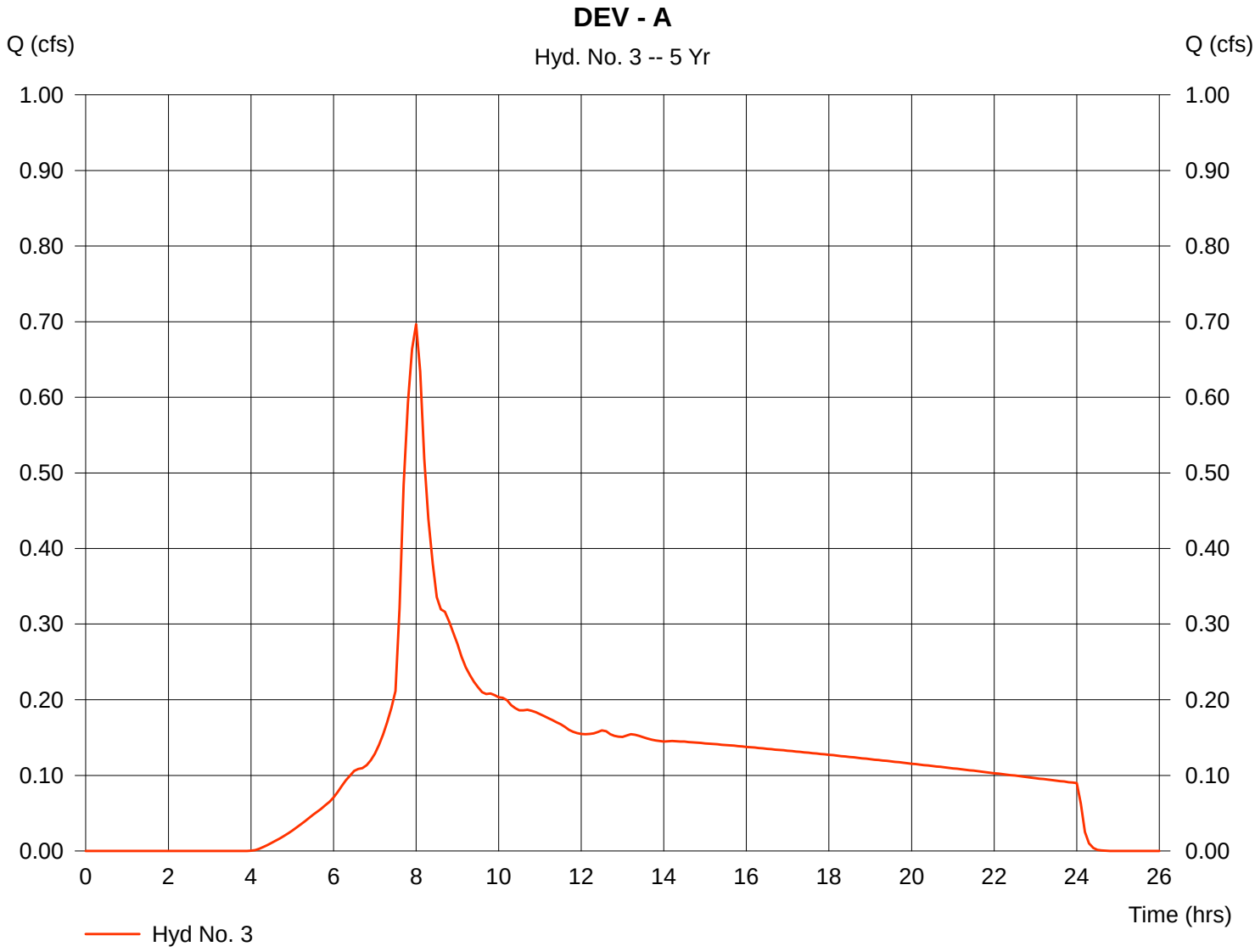
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 3

DEV - A

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.70 cfs
Storm frequency	= 5 yrs	Time interval	= 6 min
Drainage area	= 1.780 ac	Curve number	= 85
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 10,807 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

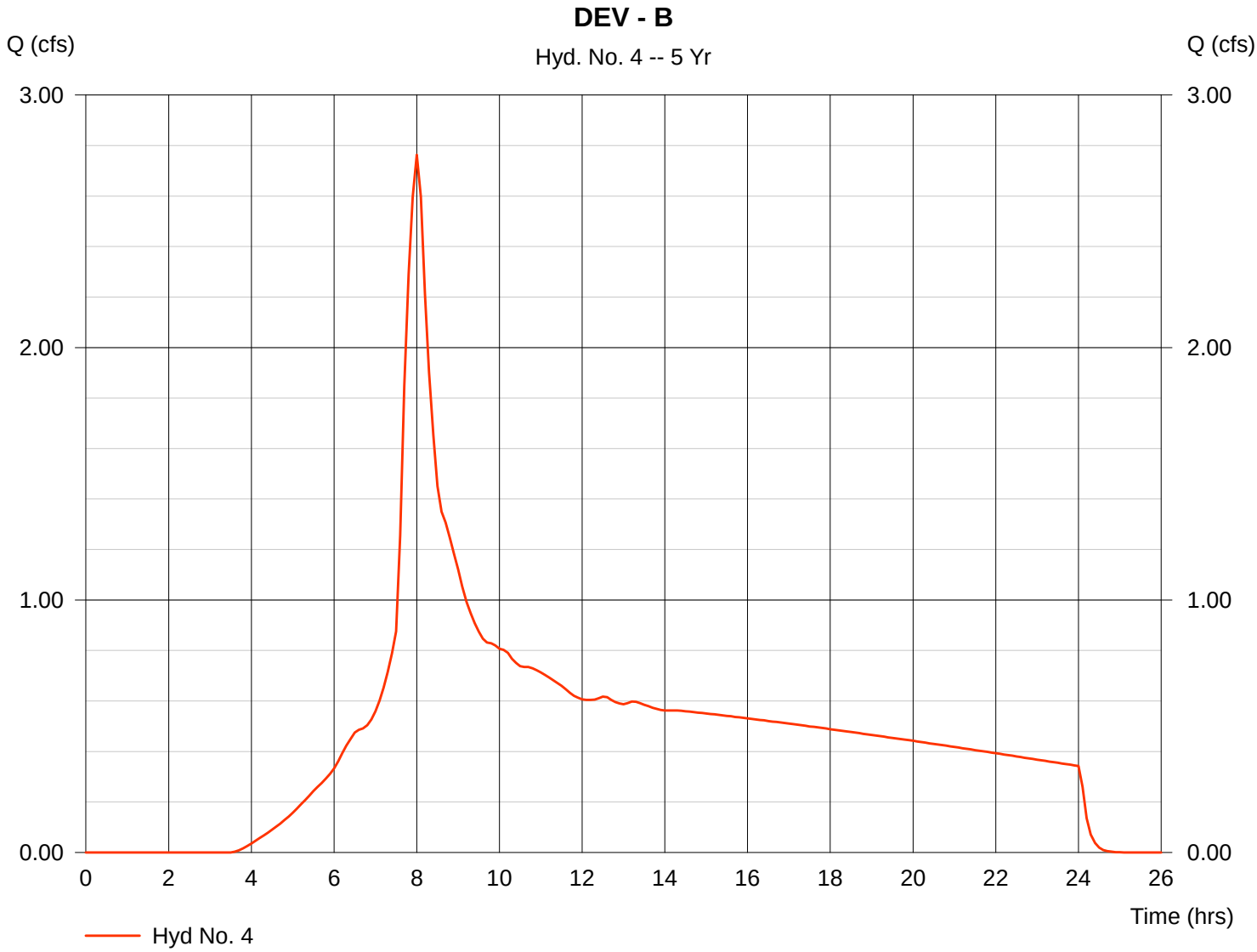
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 4

DEV - B

Hydrograph type	= SBUH Runoff	Peak discharge	= 2.76 cfs
Storm frequency	= 5 yrs	Time interval	= 6 min
Drainage area	= 6.520 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 9.60 min
Total precip.	= 3.10 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 43,234 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

Thursday, Jan 13 2022, 5:32 PM

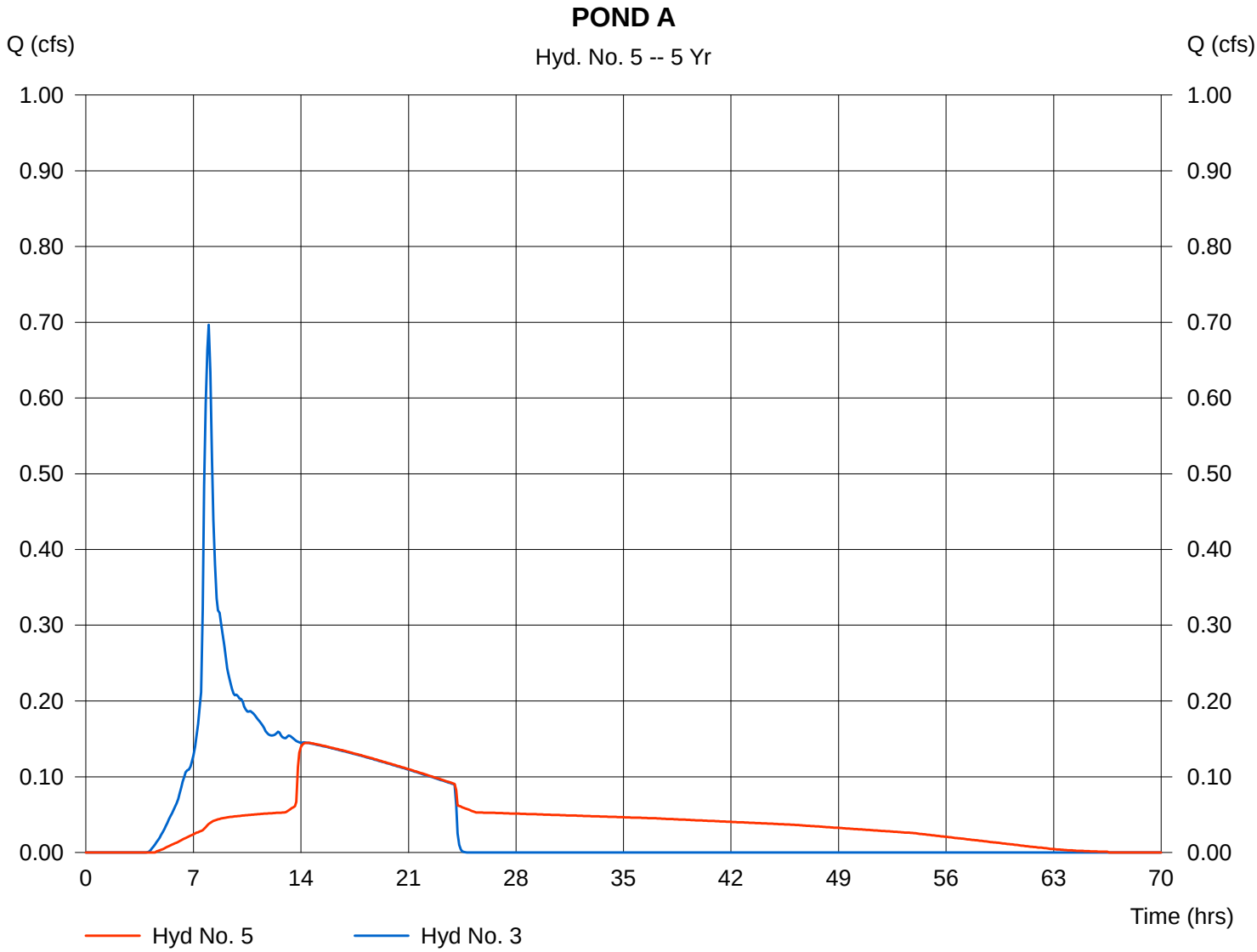
Hyd. No. 5

POND A

Hydrograph type	=	Reservoir	Peak discharge	=	0.14 cfs
Storm frequency	=	5 yrs	Time interval	=	6 min
Inflow hyd. No.	=	3	Max. Elevation	=	176.22 ft
Reservoir name	=	POND A	Max. Storage	=	5,066 cuft

Storage Indication method used.

Hydrograph Volume = 10,799 cuft



Pond Report

Exhibit A10

Pond No. 1 - POND A

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	172.00	374	0	0
1.00	173.00	691	533	533
2.00	174.00	1,084	888	1,420
3.00	175.00	1,552	1,318	2,738
4.00	176.00	2,081	1,817	4,555
5.00	177.00	2,666	2,374	6,928
6.00	178.00	3,307	2,987	9,915

Culvert / Orifice Structures

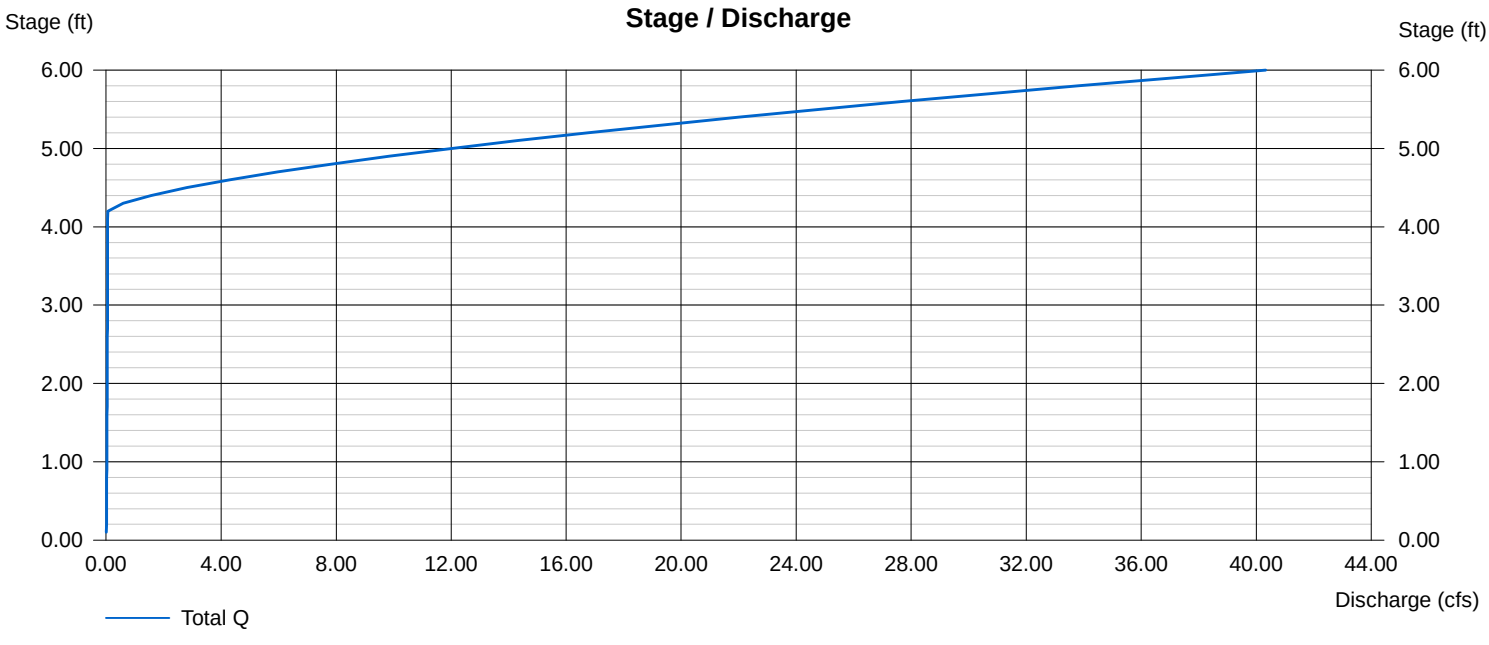
	[A]	[B]	[C]	[D]
Rise (in)	= 12.00	1.00	1.20	0.00
Span (in)	= 12.00	1.00	1.20	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 171.00	172.00	176.10	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 176.20	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

Thursday, Jan 13 2022, 5:32 PM

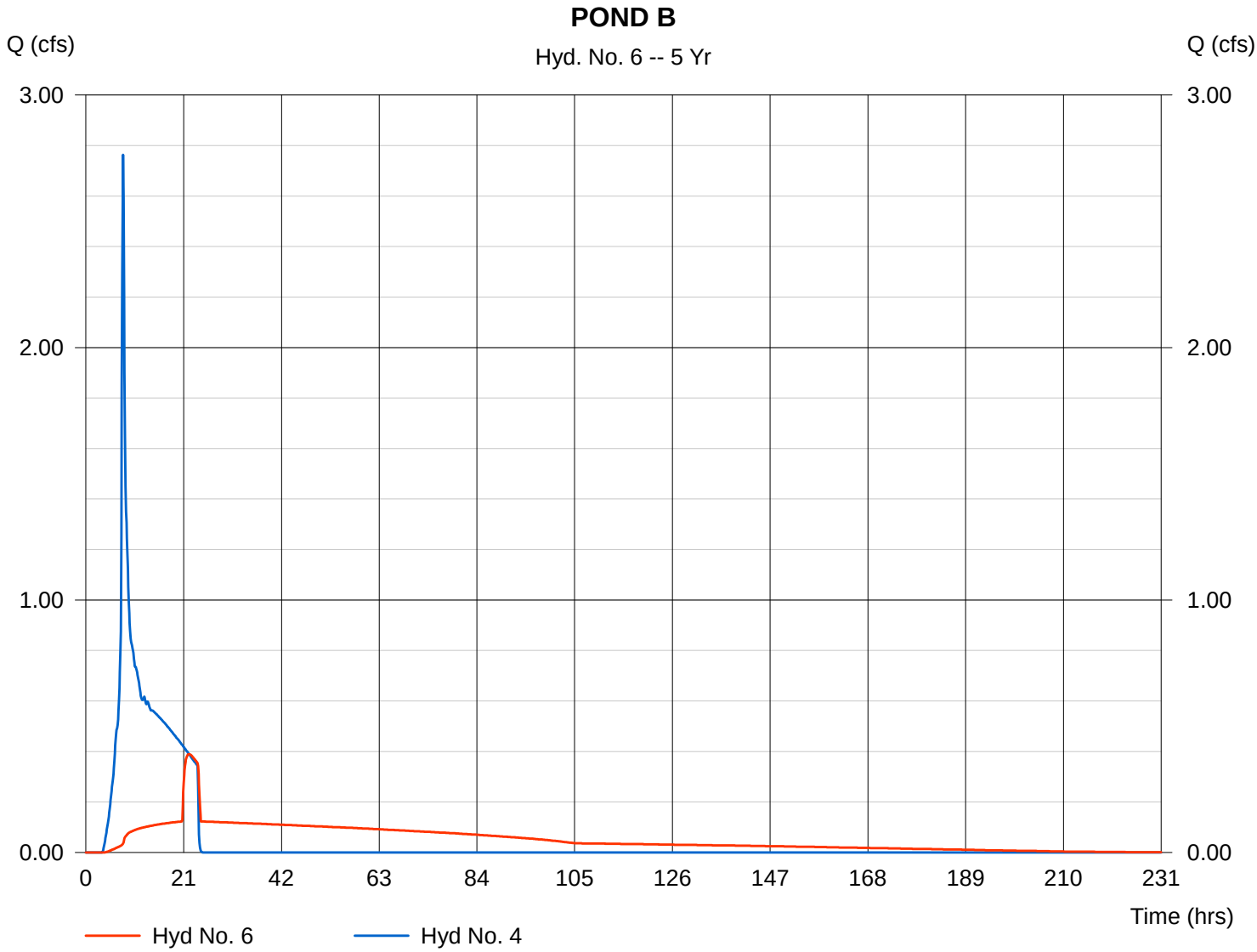
Hyd. No. 6

POND B

Hydrograph type	=	Reservoir	Peak discharge	=	0.39 cfs
Storm frequency	=	5 yrs	Time interval	=	6 min
Inflow hyd. No.	=	4	Max. Elevation	=	178.75 ft
Reservoir name	=	POND B	Max. Storage	=	33,921 cuft

Storage Indication method used.

Hydrograph Volume = 43,176 cuft



Pond Report

Exhibit A10

Pond No. 2 - POND B

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	173.00	3,224	0	0
1.00	174.00	4,081	3,653	3,653
2.00	175.00	5,017	4,549	8,202
3.00	176.00	5,992	5,505	13,706
4.00	177.00	7,006	6,499	20,205
5.00	178.00	8,057	7,532	27,737
6.00	179.00	8,426	8,241	35,978
7.00	180.00	8,797	8,612	44,590

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise (in)	= 12.00	1.00	1.10	0.00
Span (in)	= 12.00	1.00	1.10	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 172.00	173.00	175.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 178.70	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.

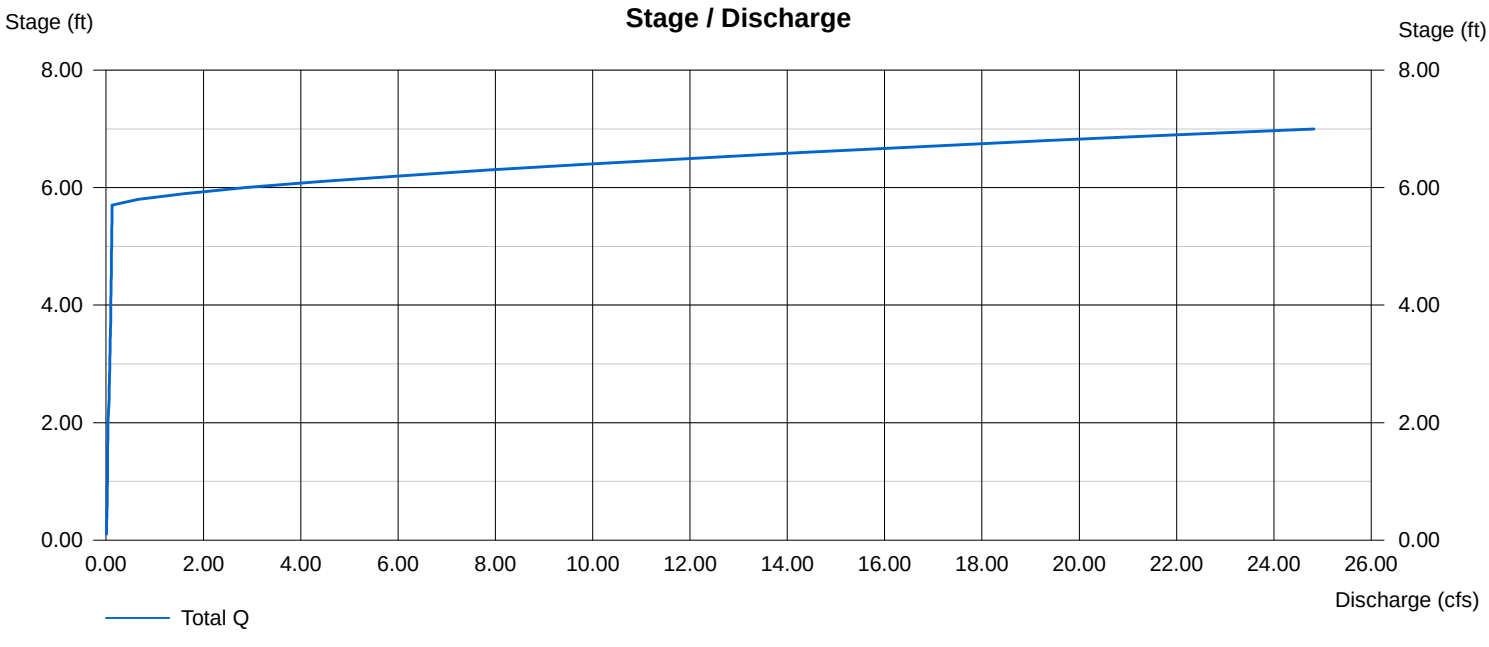


Exhibit A10

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SBUH Runoff	0.33	5	480	7,032	----	------	------	PREDEV - A
2	SBUH Runoff	0.55	6	546	25,759	----	------	------	PREDEV - B
3	SBUH Runoff	0.84	6	480	12,748	----	------	------	DEV - A
4	SBUH Runoff	3.28	6	480	50,590	----	------	------	DEV - B
5	Reservoir	0.19	6	696	12,739	3	176.22	5,087	POND A
6	Reservoir	0.55	6	1086	50,533	4	178.78	34,177	POND B

Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

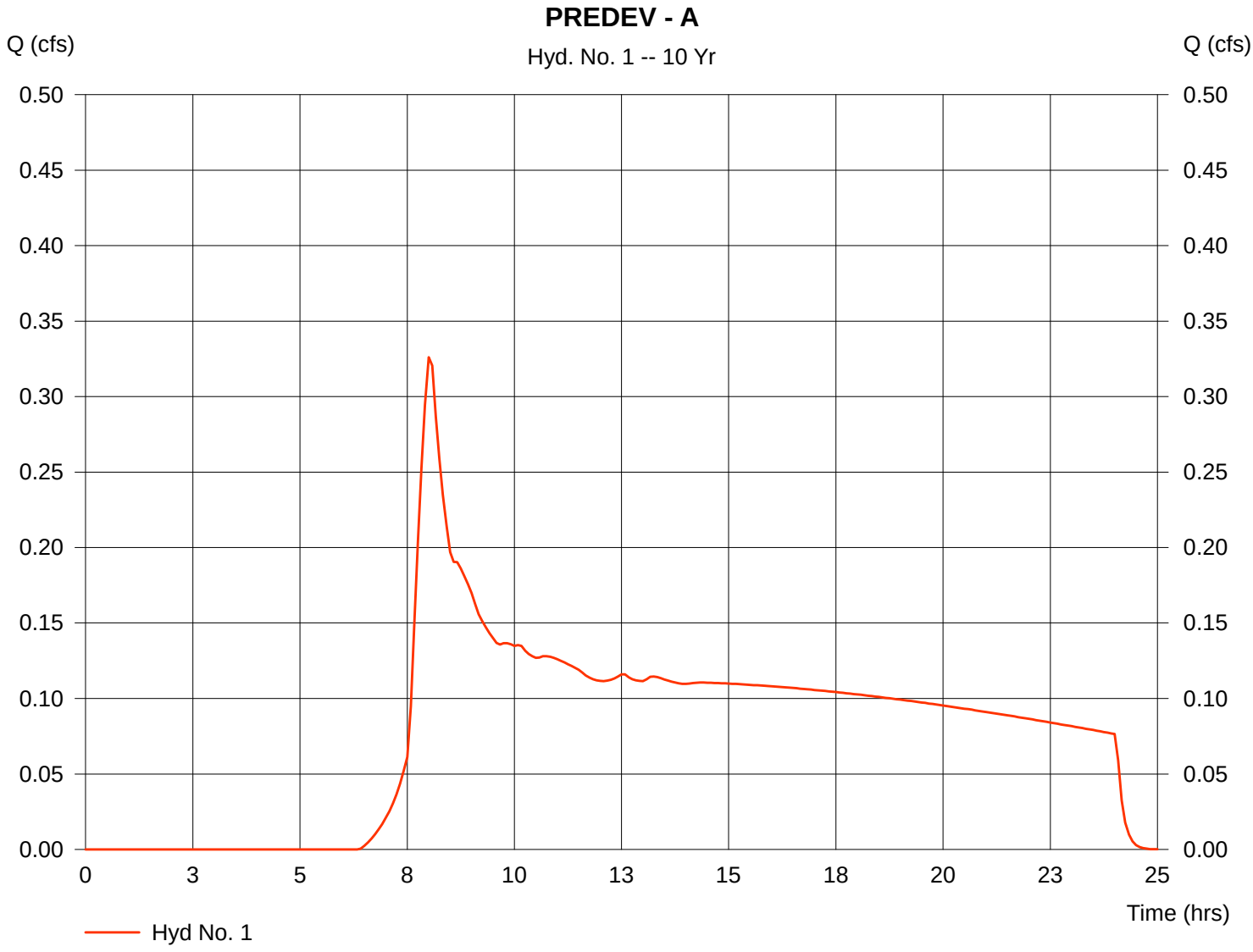
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 1

PREDEV - A

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.33 cfs
Storm frequency	= 10 yrs	Time interval	= 5 min
Drainage area	= 1.780 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 8.60 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 7,032 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

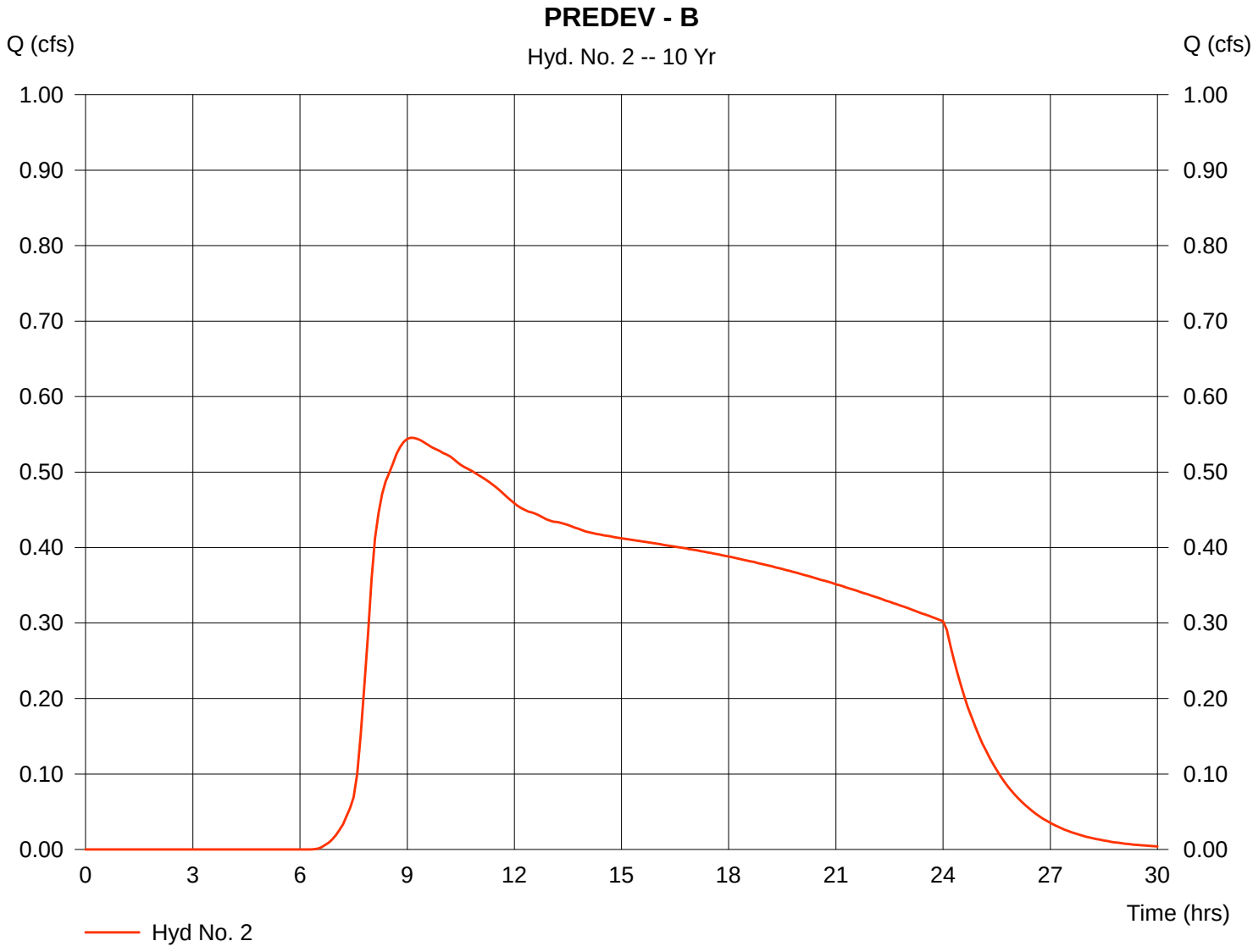
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 2

PREDEV - B

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.55 cfs
Storm frequency	= 10 yrs	Time interval	= 6 min
Drainage area	= 6.520 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 82.50 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 25,759 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

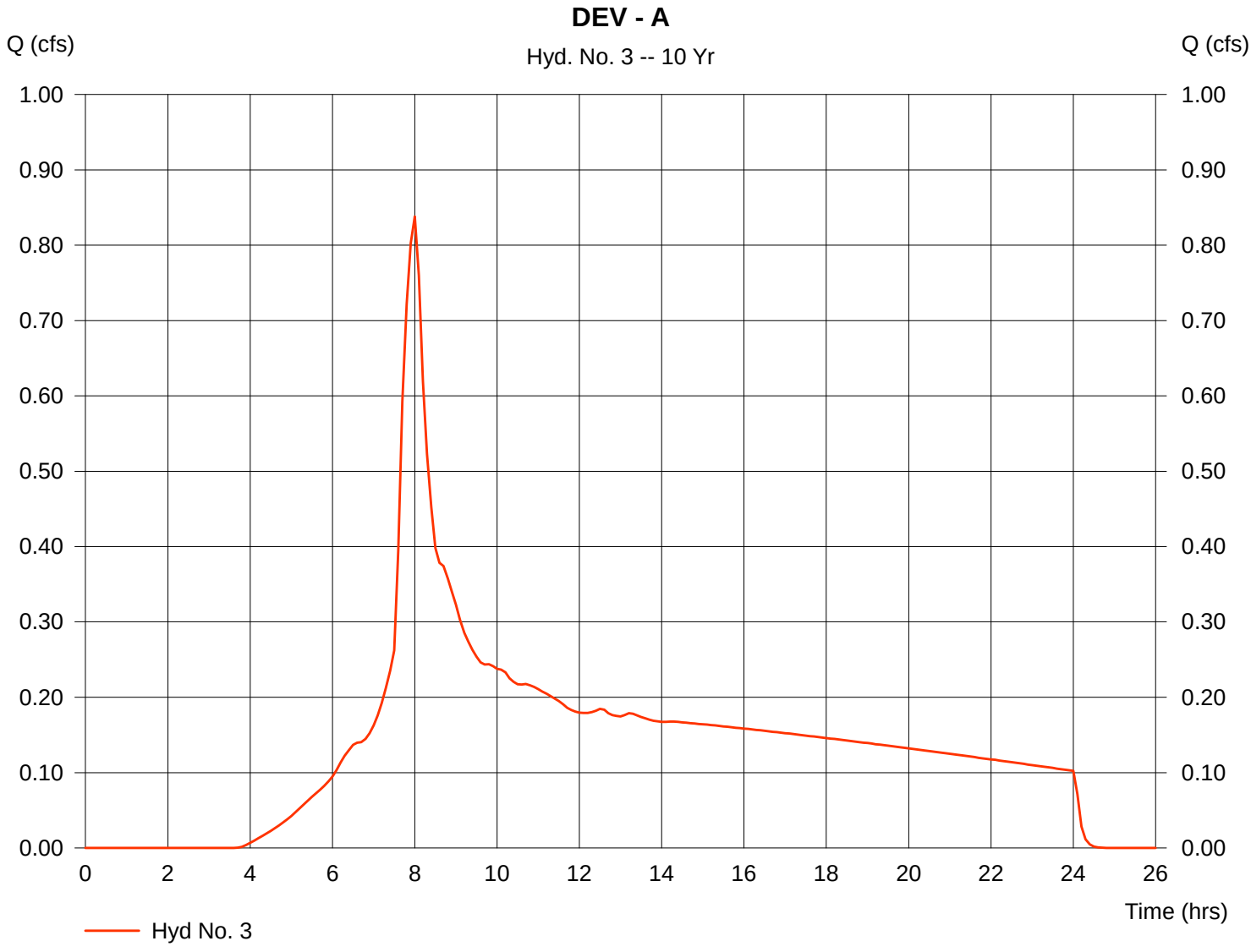
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 3

DEV - A

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.84 cfs
Storm frequency	= 10 yrs	Time interval	= 6 min
Drainage area	= 1.780 ac	Curve number	= 85
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 12,748 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

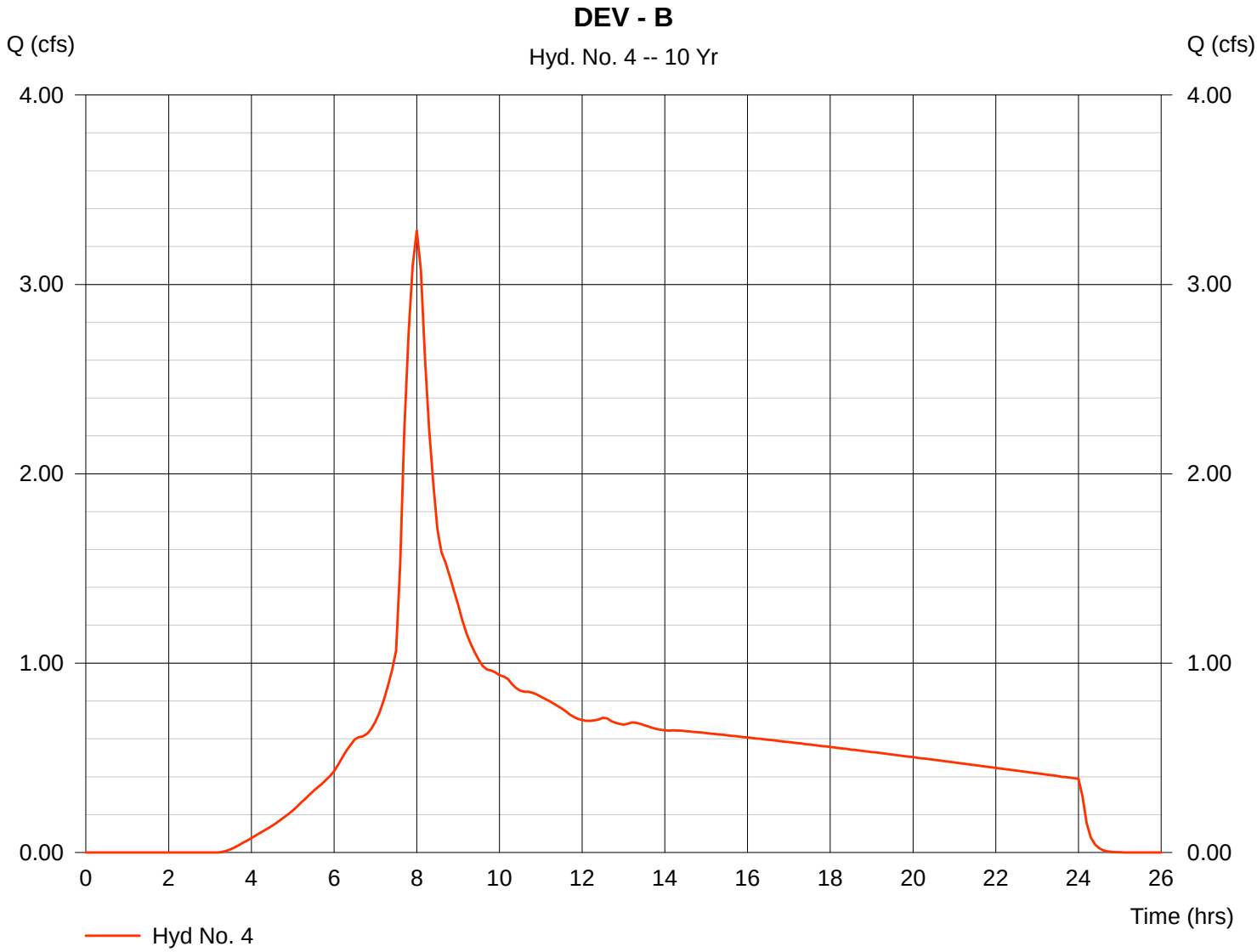
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 4

DEV - B

Hydrograph type	= SBUH Runoff	Peak discharge	= 3.28 cfs
Storm frequency	= 10 yrs	Time interval	= 6 min
Drainage area	= 6.520 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 9.60 min
Total precip.	= 3.45 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 50,590 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

Thursday, Jan 13 2022, 5:32 PM

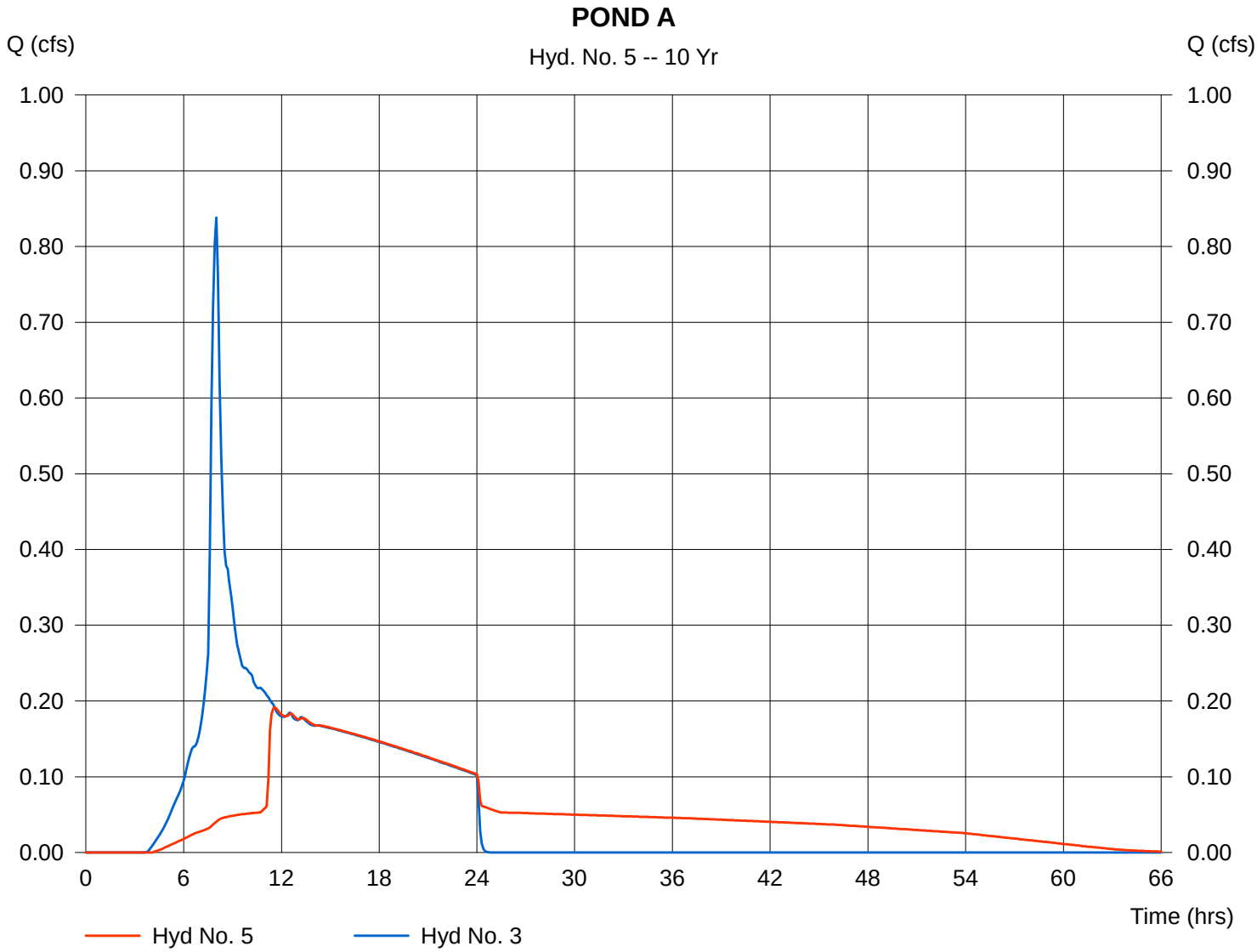
Hyd. No. 5

POND A

Hydrograph type	=	Reservoir	Peak discharge	=	0.19 cfs
Storm frequency	=	10 yrs	Time interval	=	6 min
Inflow hyd. No.	=	3	Max. Elevation	=	176.22 ft
Reservoir name	=	POND A	Max. Storage	=	5,087 cuft

Storage Indication method used.

Hydrograph Volume = 12,739 cuft



Pond Report

Exhibit A10

Pond No. 1 - POND A

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	172.00	374	0	0
1.00	173.00	691	533	533
2.00	174.00	1,084	888	1,420
3.00	175.00	1,552	1,318	2,738
4.00	176.00	2,081	1,817	4,555
5.00	177.00	2,666	2,374	6,928
6.00	178.00	3,307	2,987	9,915

Culvert / Orifice Structures

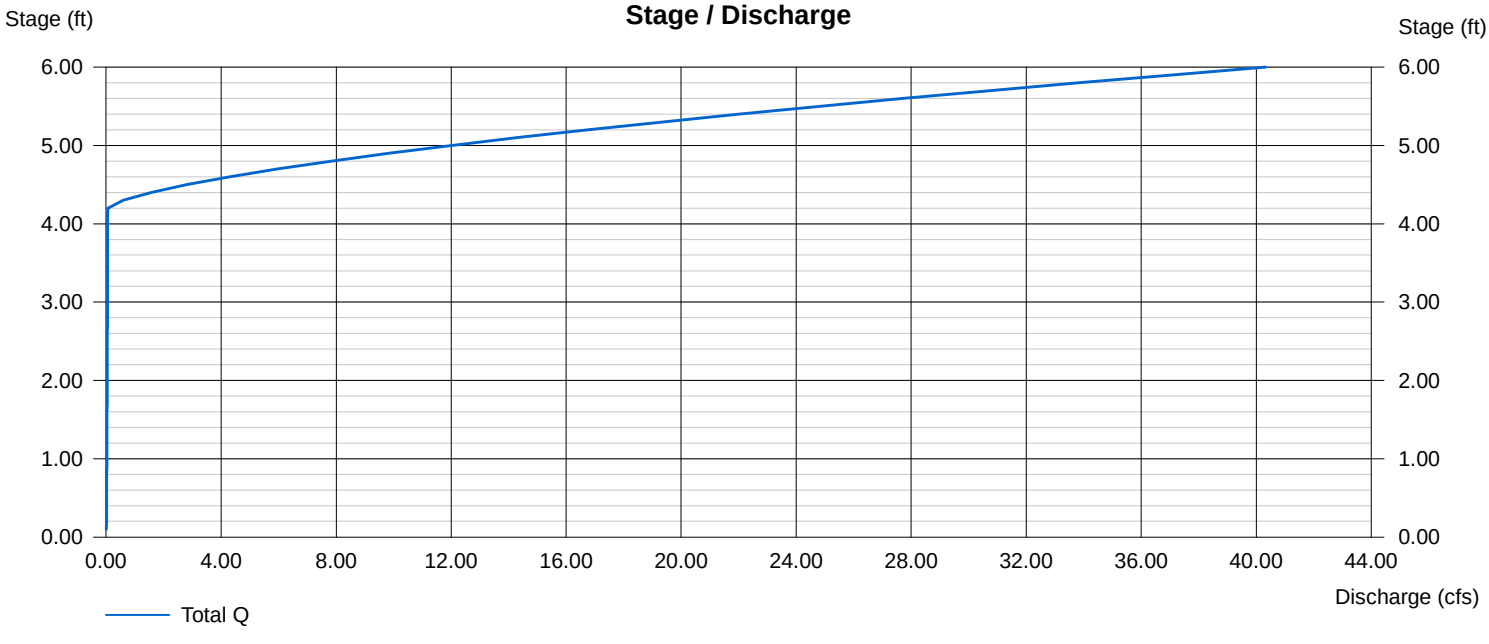
	[A]	[B]	[C]	[D]
Rise (in)	= 12.00	1.00	1.20	0.00
Span (in)	= 12.00	1.00	1.20	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 171.00	172.00	176.10	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 176.20	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

Thursday, Jan 13 2022, 5:32 PM

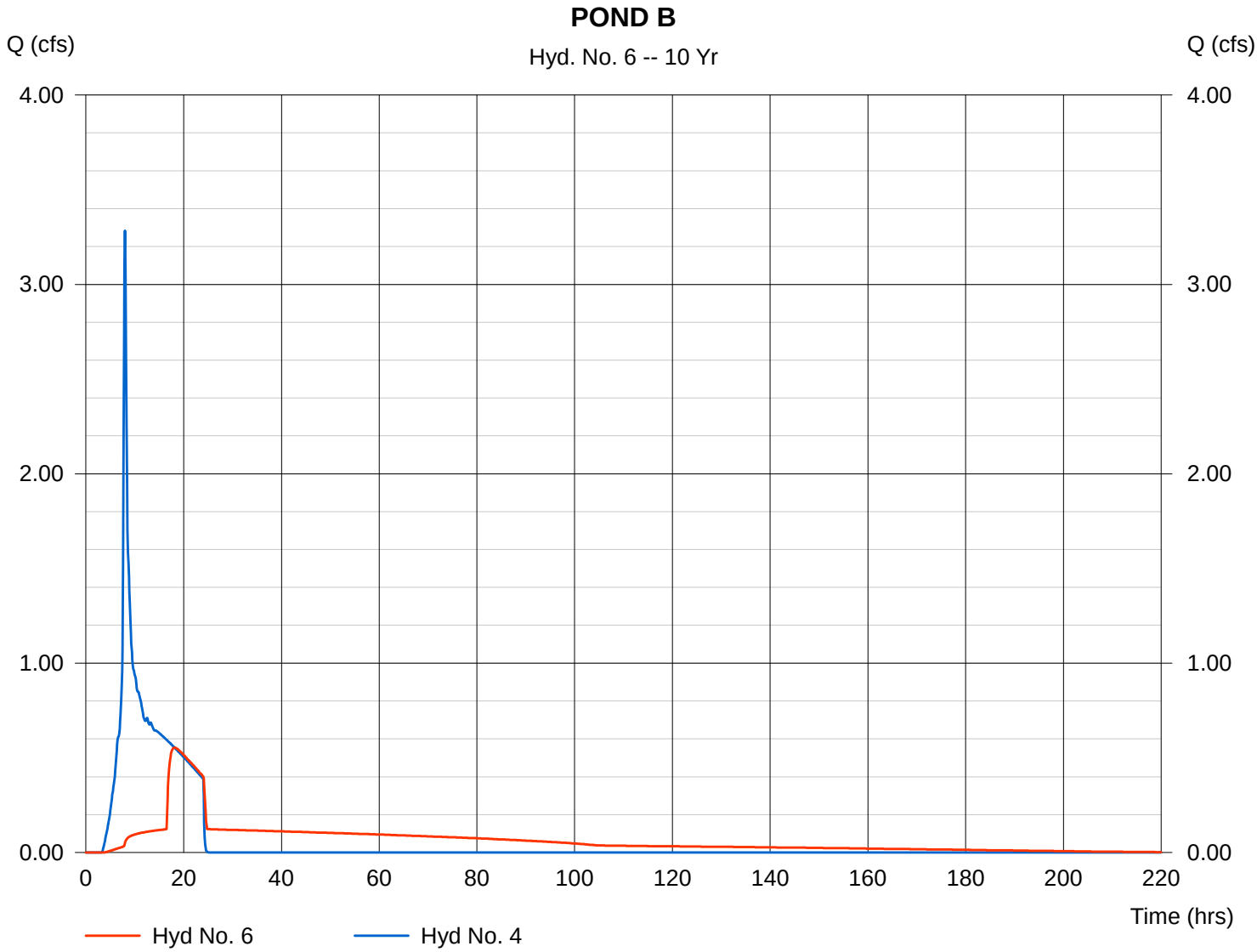
Hyd. No. 6

POND B

Hydrograph type	=	Reservoir	Peak discharge	=	0.55 cfs
Storm frequency	=	10 yrs	Time interval	=	6 min
Inflow hyd. No.	=	4	Max. Elevation	=	178.78 ft
Reservoir name	=	POND B	Max. Storage	=	34,177 cuft

Storage Indication method used.

Hydrograph Volume = 50,533 cuft



Pond Report

Exhibit A10

Pond No. 2 - POND B

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	173.00	3,224	0	0
1.00	174.00	4,081	3,653	3,653
2.00	175.00	5,017	4,549	8,202
3.00	176.00	5,992	5,505	13,706
4.00	177.00	7,006	6,499	20,205
5.00	178.00	8,057	7,532	27,737
6.00	179.00	8,426	8,241	35,978
7.00	180.00	8,797	8,612	44,590

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise (in)	= 12.00	1.00	1.10	0.00
Span (in)	= 12.00	1.00	1.10	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 172.00	173.00	175.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 178.70	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.

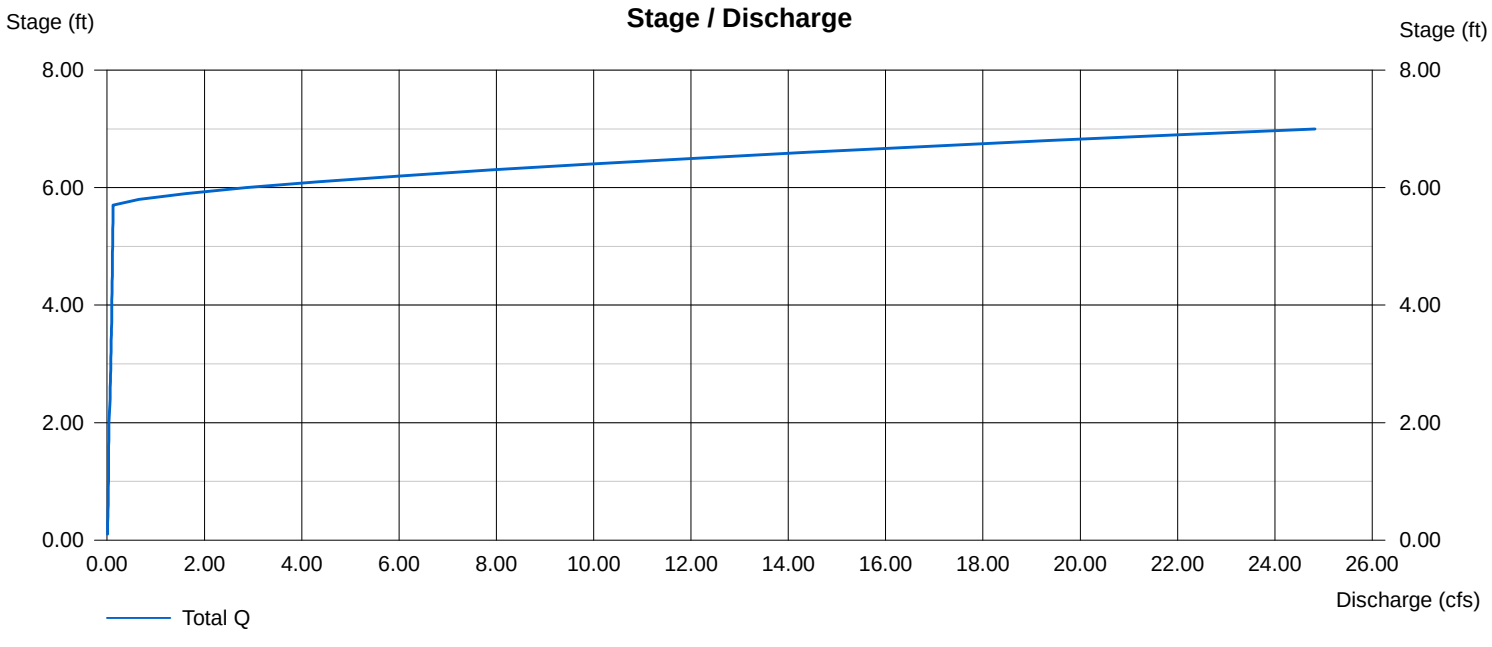


Exhibit A10

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SBUH Runoff	0.46	5	480	8,984	----	------	------	PREDEV - A
2	SBUH Runoff	0.75	6	540	32,908	----	------	------	PREDEV - B
3	SBUH Runoff	1.02	6	480	15,305	----	------	------	DEV - A
4	SBUH Runoff	3.97	6	480	60,236	----	------	------	DEV - B
5	Reservoir	0.28	6	600	15,296	3	176.24	5,128	POND A
6	Reservoir	0.74	6	882	60,179	4	178.81	34,406	POND B

Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

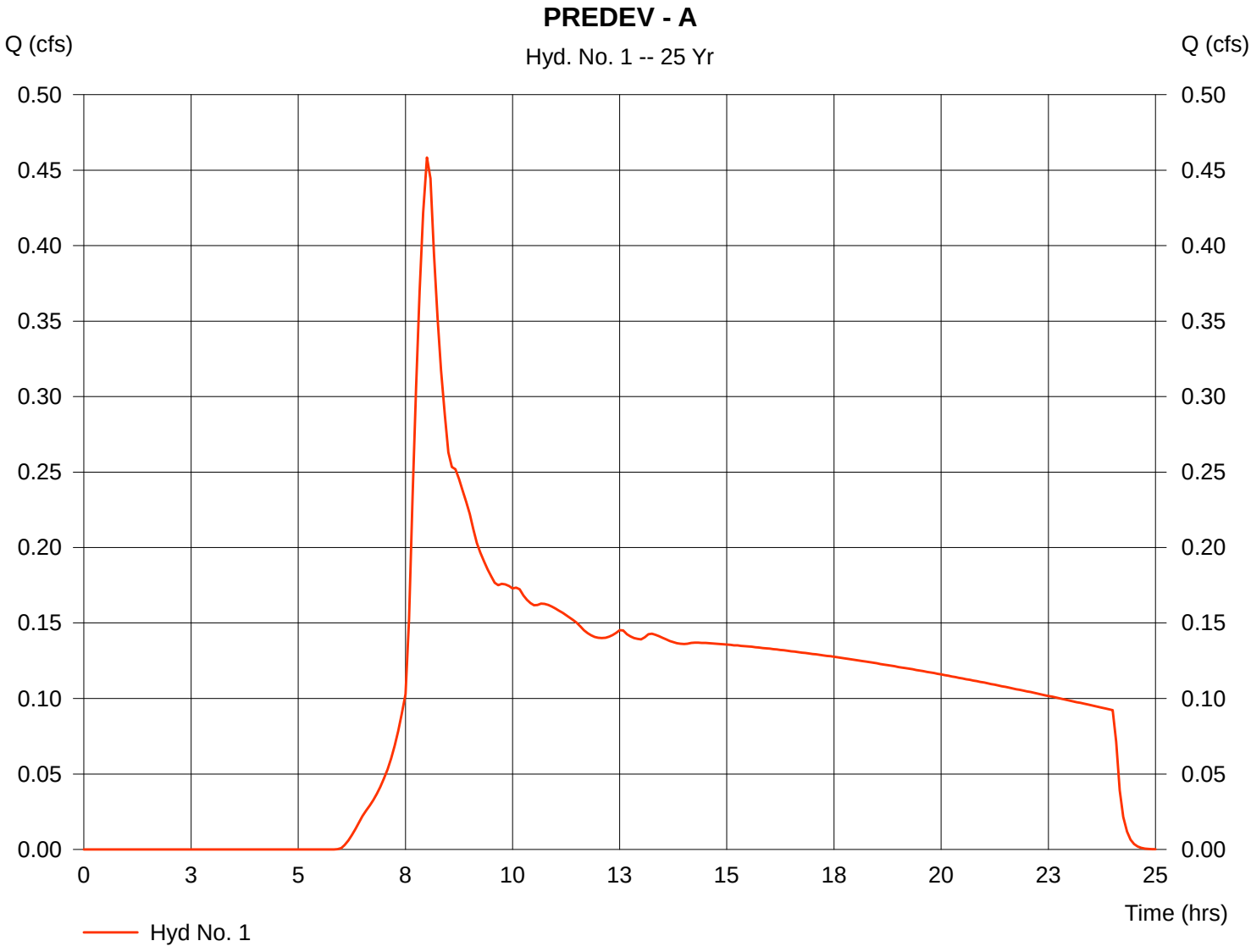
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 1

PREDEV - A

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.46 cfs
Storm frequency	= 25 yrs	Time interval	= 5 min
Drainage area	= 1.780 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 8.60 min
Total precip.	= 3.90 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 8,984 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

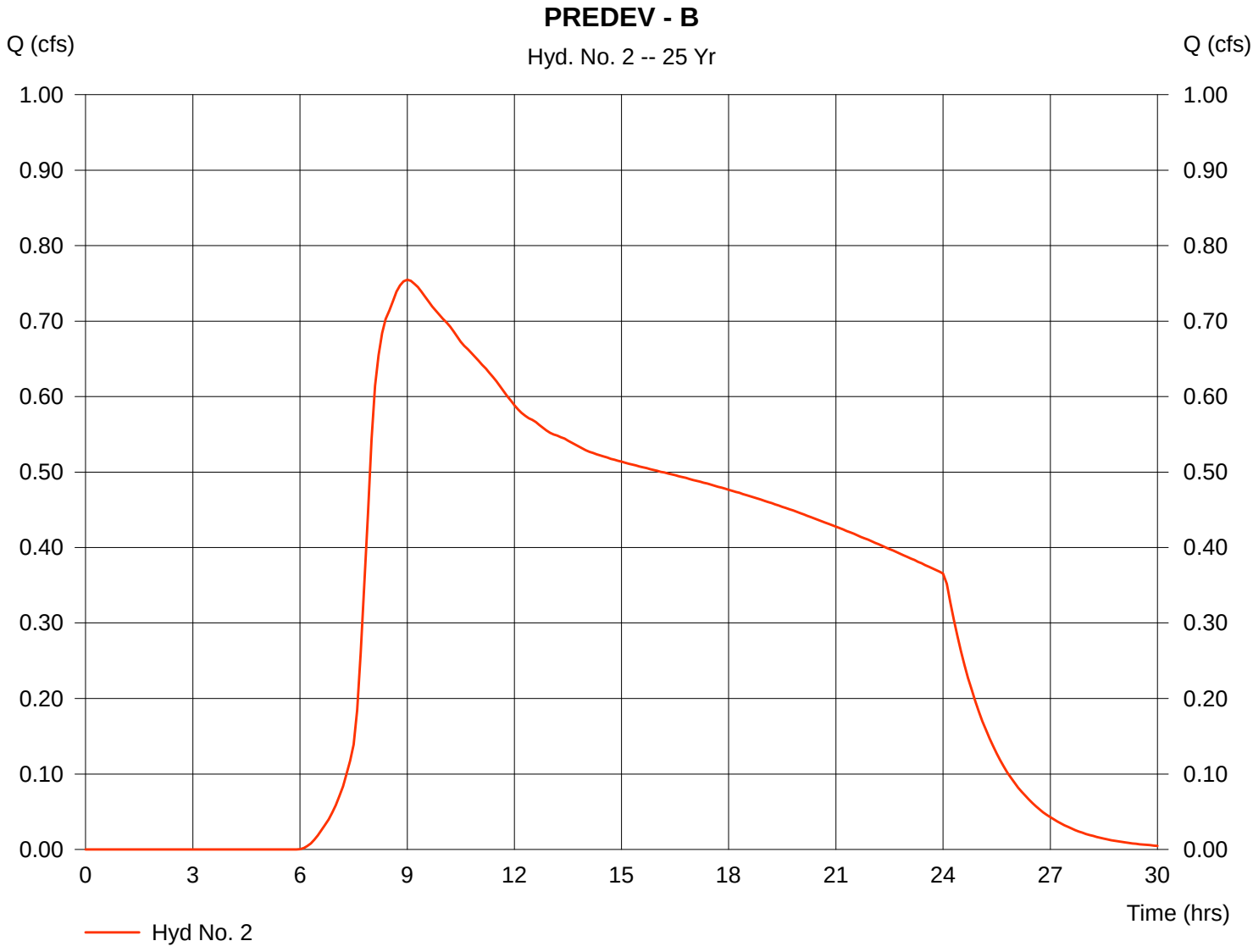
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 2

PREDEV - B

Hydrograph type	= SBUH Runoff	Peak discharge	= 0.75 cfs
Storm frequency	= 25 yrs	Time interval	= 6 min
Drainage area	= 6.520 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 82.50 min
Total precip.	= 3.90 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 32,908 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

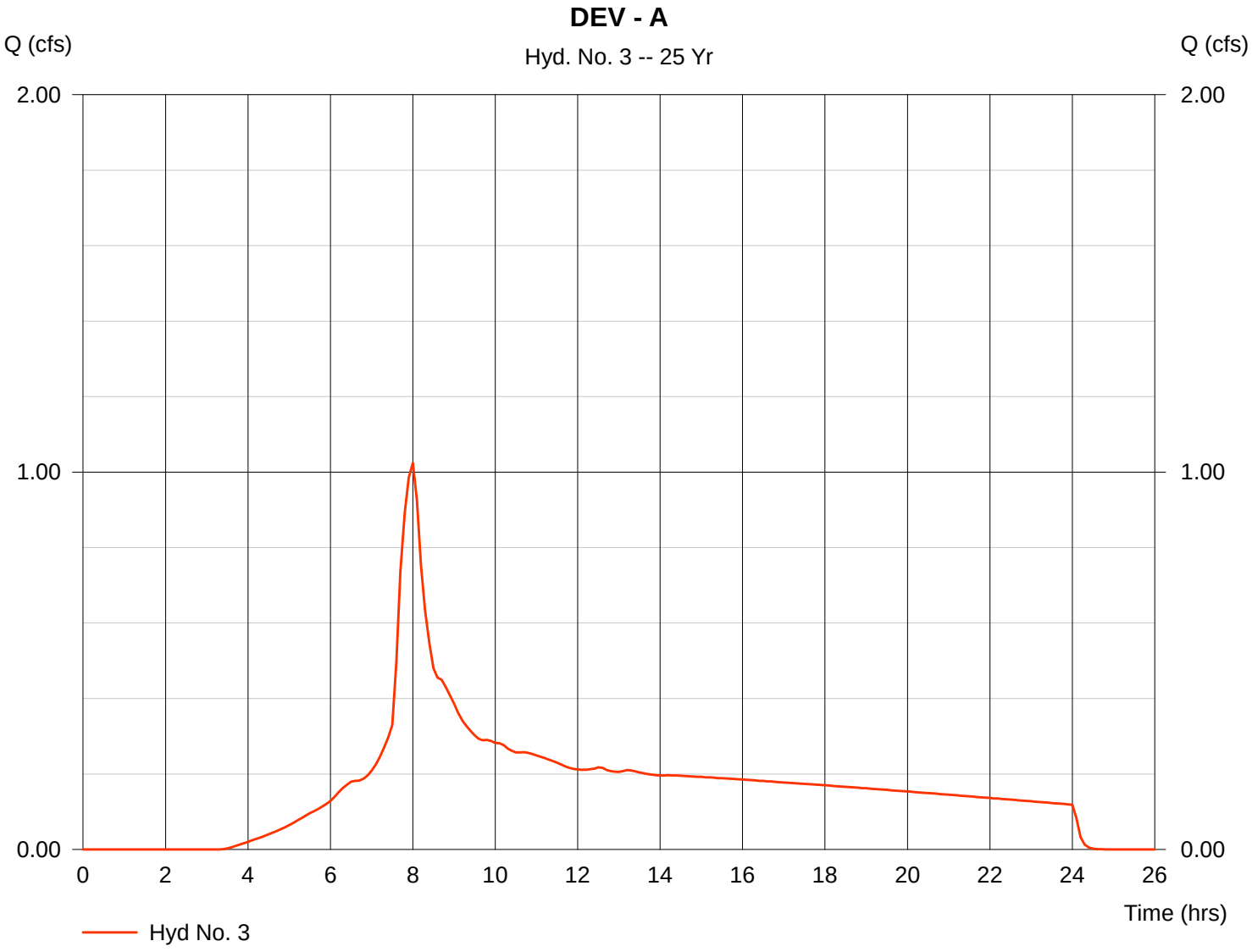
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 3

DEV - A

Hydrograph type	= SBUH Runoff	Peak discharge	= 1.02 cfs
Storm frequency	= 25 yrs	Time interval	= 6 min
Drainage area	= 1.780 ac	Curve number	= 85
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 7.00 min
Total precip.	= 3.90 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 15,305 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

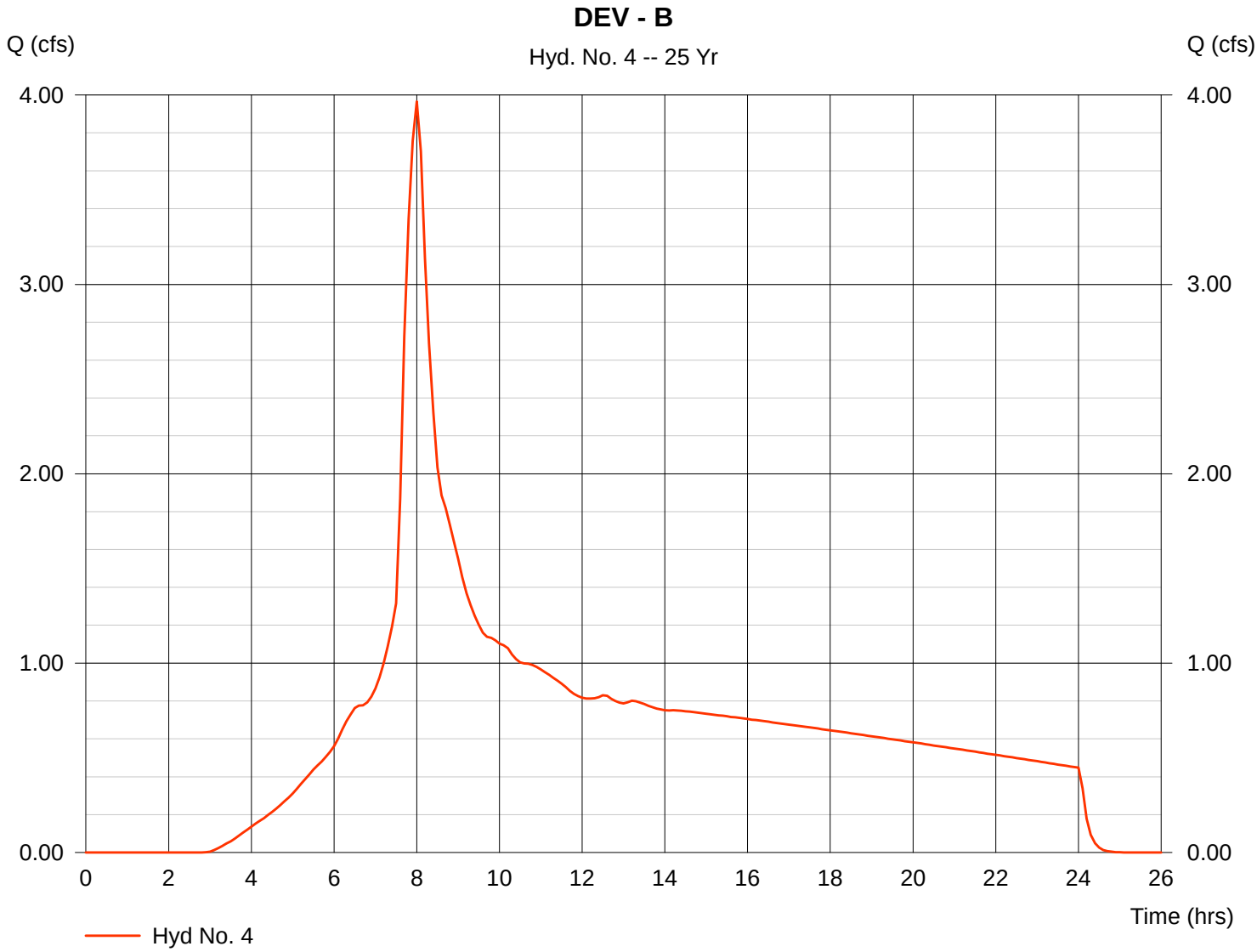
Thursday, Jan 13 2022, 5:32 PM

Hyd. No. 4

DEV - B

Hydrograph type	= SBUH Runoff	Peak discharge	= 3.97 cfs
Storm frequency	= 25 yrs	Time interval	= 6 min
Drainage area	= 6.520 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 9.60 min
Total precip.	= 3.90 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= N/A

Hydrograph Volume = 60,236 cuft



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

Thursday, Jan 13 2022, 5:32 PM

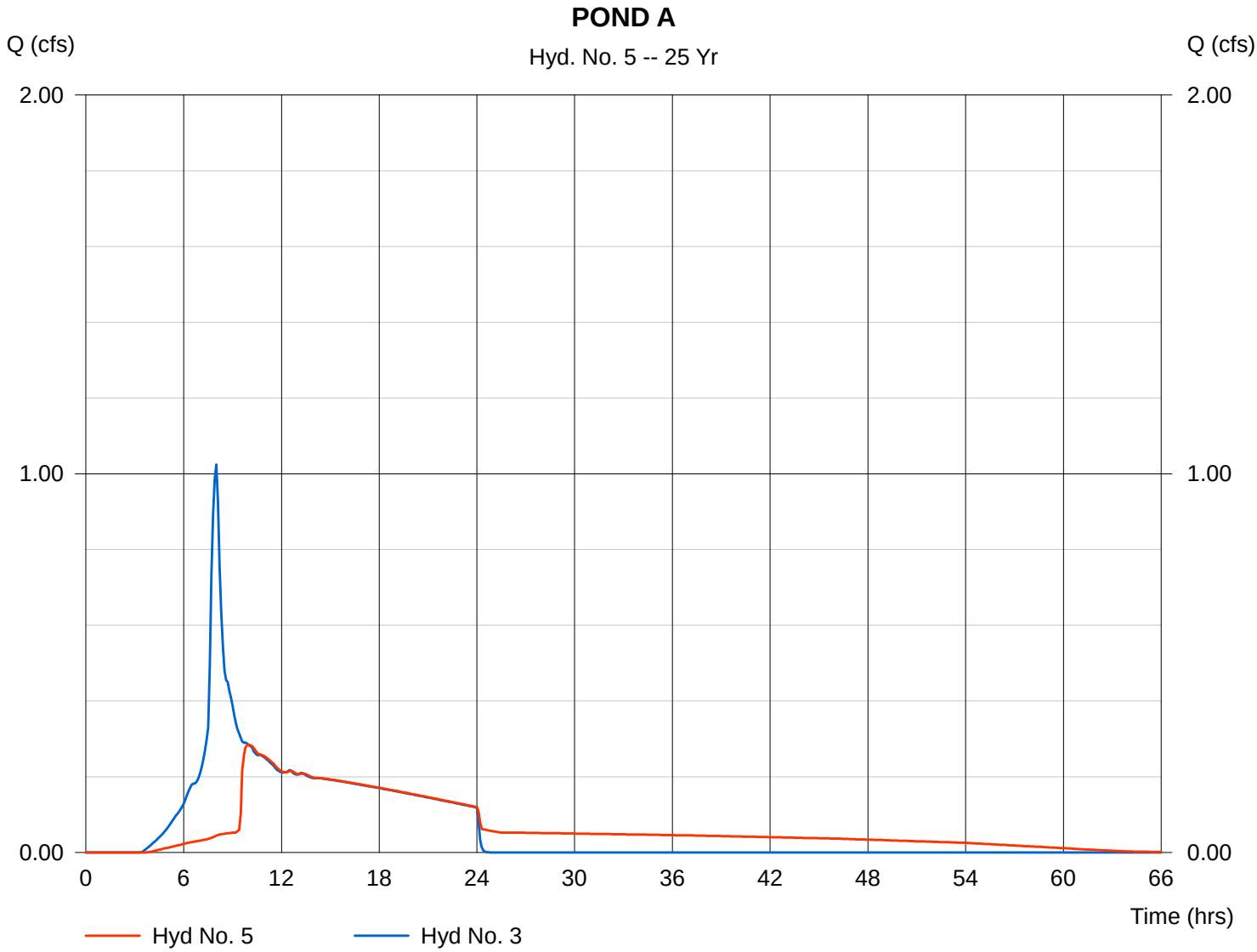
Hyd. No. 5

POND A

Hydrograph type	=	Reservoir	Peak discharge	=	0.28 cfs
Storm frequency	=	25 yrs	Time interval	=	6 min
Inflow hyd. No.	=	3	Max. Elevation	=	176.24 ft
Reservoir name	=	POND A	Max. Storage	=	5,128 cuft

Storage Indication method used.

Hydrograph Volume = 15,296 cuft



Pond Report

Exhibit A10

Pond No. 1 - POND A

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	172.00	374	0	0
1.00	173.00	691	533	533
2.00	174.00	1,084	888	1,420
3.00	175.00	1,552	1,318	2,738
4.00	176.00	2,081	1,817	4,555
5.00	177.00	2,666	2,374	6,928
6.00	178.00	3,307	2,987	9,915

Culvert / Orifice Structures

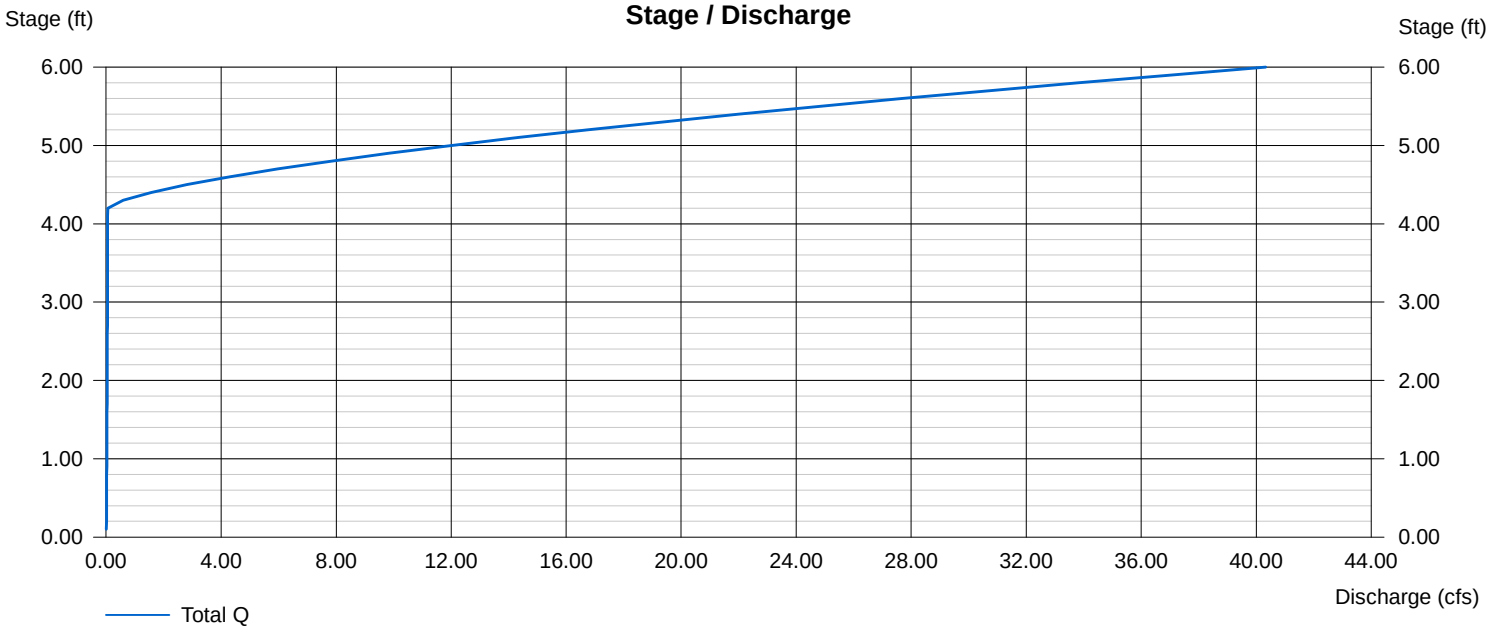
	[A]	[B]	[C]	[D]
Rise (in)	= 12.00	1.00	1.20	0.00
Span (in)	= 12.00	1.00	1.20	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 171.00	172.00	176.10	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 176.20	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



Hydrograph Plot

Exhibit A10

Hydraflow Hydrographs by Intelisolve

Thursday, Jan 13 2022, 5:32 PM

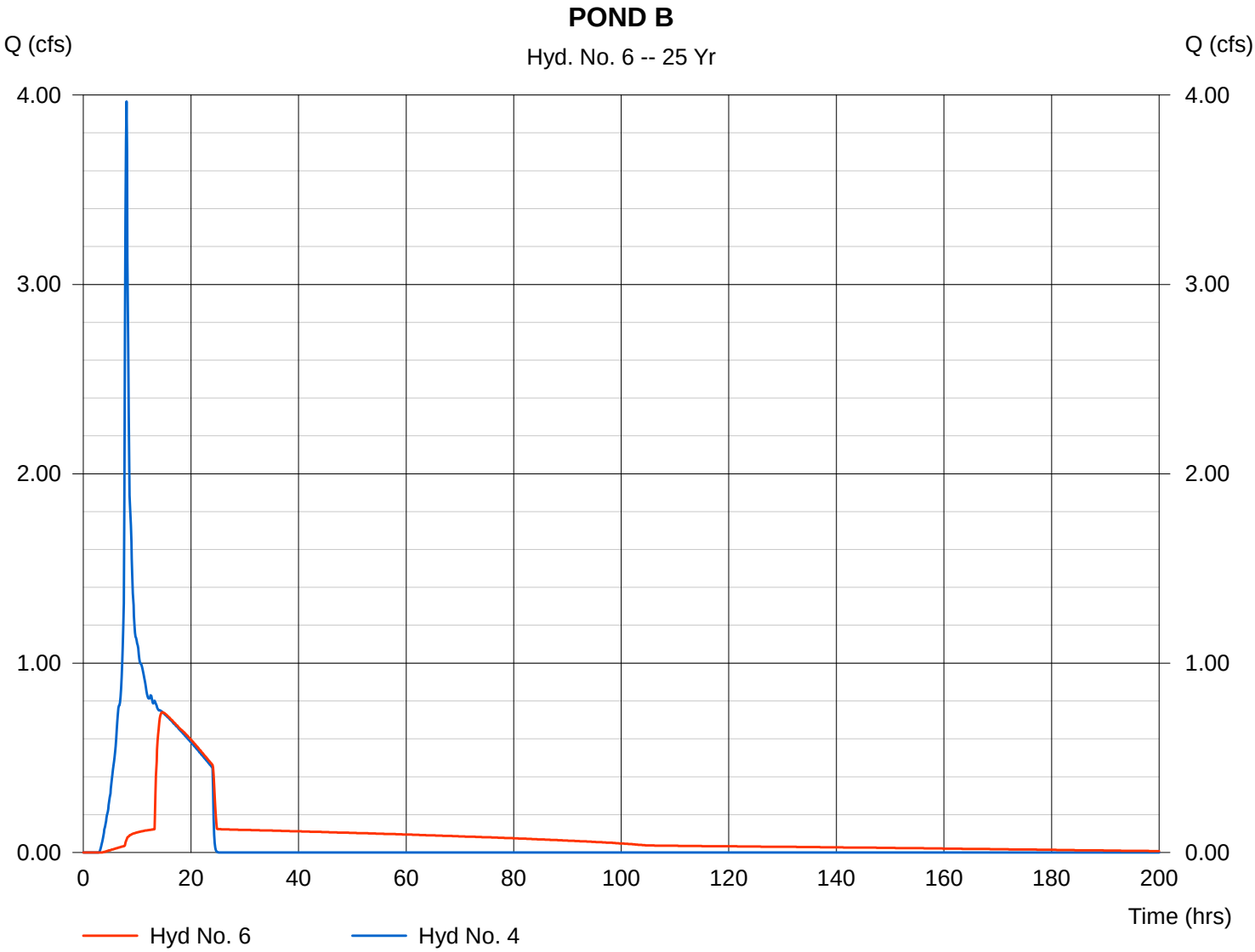
Hyd. No. 6

POND B

Hydrograph type	=	Reservoir	Peak discharge	=	0.74 cfs
Storm frequency	=	25 yrs	Time interval	=	6 min
Inflow hyd. No.	=	4	Max. Elevation	=	178.81 ft
Reservoir name	=	POND B	Max. Storage	=	34,406 cuft

Storage Indication method used.

Hydrograph Volume = 60,179 cuft



Pond Report

Exhibit A10

Pond No. 2 - POND B

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	173.00	3,224	0	0
1.00	174.00	4,081	3,653	3,653
2.00	175.00	5,017	4,549	8,202
3.00	176.00	5,992	5,505	13,706
4.00	177.00	7,006	6,499	20,205
5.00	178.00	8,057	7,532	27,737
6.00	179.00	8,426	8,241	35,978
7.00	180.00	8,797	8,612	44,590

Culvert / Orifice Structures

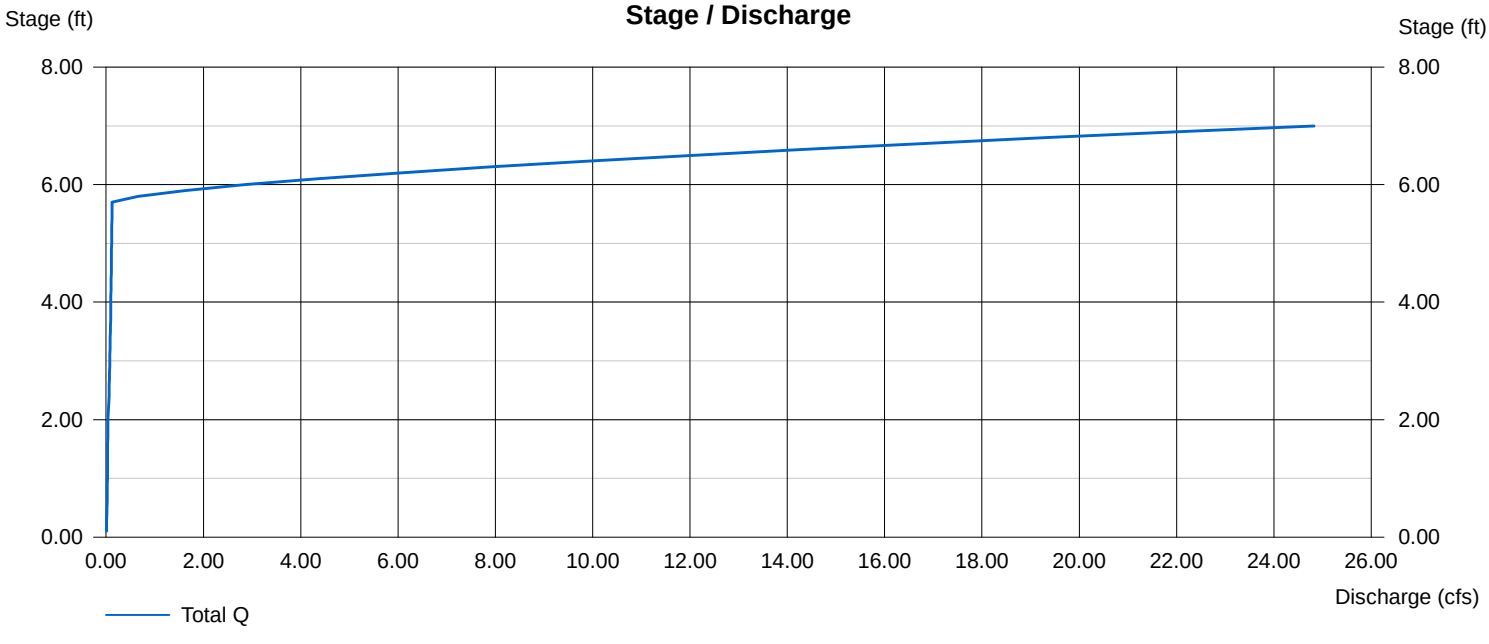
	[A]	[B]	[C]	[D]
Rise (in)	= 12.00	1.00	1.10	0.00
Span (in)	= 12.00	1.00	1.10	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 172.00	173.00	175.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 178.70	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



Clean Water Services
Our commitment is clear.

CWS File Number
21-002919

Service Provider Letter

This form and the attached conditions will serve as your Service Provider Letter in accordance with Clean Water Services Design and Construction Standards (R&O 19-5, as amended by R&O 19-22).

Jurisdiction:	City of Sherwood	**Review Type:**	Tier 2 Analysis
Site Address / Location:	17033 SW Brookman Road Sherwood, OR 97140	**SPL Issue Date:** **SPL Expiration Date:**	April 20, 2022 April 19, 2024

Applicant Information:		**Owner Information:**	
Name	BILL WAGONER	Name	MULTIPLE; SEE ATTACHED
Company	WESTWOOD HOMES LLC	Company	
Address	12700 NW CORNELL RD	Address	
	PORTLAND OR 97229		
Phone/Fax	(503) 330-2215	Phone/Fax	
E-mail:	bill@westwoodhomesllc.com	E-mail:	

Tax lot ID	**Development Activity**
3S1060000102 & 107	Cedar Creek Gardens Residential Subdivision and Community Trials

Pre-Development Site Conditions:		**Post Development Site Conditions:**	
Sensitive Area Present:	[X] On-Site [X] Off-Site	Sensitive Area Present:	[X] On-Site [X] Off-Site
Vegetated Corridor Width:	50	Vegetated Corridor Width:	50
Vegetated Corridor Condition:	Good/Marginal/Degraded		

Enhancement of Remaining Vegetated Corridor Required: [X]

Square Footage to be enhanced: 177,110

Encroachments into Pre-Development Vegetated Corridor:

Type and location of Encroachment:	Square Footage:
Lots and stormwater rip rap outfall (Permanent encroachment; Mitigation required)	8,244
Road and Trail Crossings and Frontage Improvements (Permanent encroachment contiguous with wetland impact; Mitigation required)	14,633
Stormwater outfall (Temporary encroachment; Restoration and planting in place required)	946

Mitigation Requirements:

Type/Location	Sq. Ft./Ratio/Cost
On-site Replacement Mitigation and Public Benefit	27,791
Payment-to-Provide; Per R&O 13-12 fee is waived for VC contiguous with wetland impact mitigated at wetland mitigation bank.	14,633

[X] Conditions Attached [X] Development Figures Attached (6) [ ] Planting Plan Attached [X] Geotech Report Required

This Service Provider Letter does NOT eliminate the need to evaluate and protect water quality sensitive areas if they are subsequently discovered on your property.

In order to comply with Clean Water Services water quality protection requirements the project must comply with the following conditions:

1. No structures, development, construction activities, gardens, lawns, application of chemicals, uncontained areas of hazardous materials as defined by Oregon Department of Environmental Quality, pet wastes, dumping of materials of any kind, or other activities shall be permitted within the sensitive area or Vegetated Corridor which may negatively impact water quality, except those allowed in R&O 19-5, Chapter 3, as amended by R&O 19-22.
2. Prior to any site clearing, grading or construction the Vegetated Corridor and water quality sensitive areas shall be surveyed, staked, and temporarily fenced per approved plan. During construction the Vegetated Corridor shall remain fenced and undisturbed except as allowed by R&O 19-5, Section 3.06.1, as amended by R&O 19-22 and per approved plans.
3. **Prior to any activity within the sensitive area, the applicant shall gain authorization for the project from the Oregon Department of State Lands (DSL) and US Army Corps of Engineers (USACE). The applicant shall provide Clean Water Services or its designee (appropriate city) with copies of all DSL and USACE project authorization permits.**
4. An approved Oregon Department of Forestry Notification is required for one or more trees harvested for sale, trade, or barter, on any non-federal lands within the State of Oregon.
5. Prior to any ground disturbing activities, an erosion control permit is required. Appropriate Best Management Practices (BMP's) for Erosion Control, in accordance with Clean Water Services' Erosion Prevention and Sediment Control Planning and Design Manual, shall be used prior to, during, and following earth disturbing activities.
6. Prior to construction, a Stormwater Connection Permit from Clean Water Services or its designee is required pursuant to Ordinance 27, Section 4.B.
7. Activities located within the 100-year floodplain shall comply with R&O 19-5, Section 5.10, as amended by R&O 19-22.
8. Removal of native, woody vegetation shall be limited to the greatest extent practicable.
9. The water quality swale and detention pond shall be planted with Clean Water Services approved native species, and designed to blend into the natural surroundings.
10. **Should final development plans differ significantly from those submitted for review by Clean Water Services, the applicant shall provide updated drawings, and if necessary, obtain a revised Service Provider Letter.**
11. The Vegetated Corridor width for sensitive areas within the project site shall be a minimum of 50 feet wide, as measured horizontally from the delineated boundary of the sensitive area.
12. **For Vegetated Corridors up to 50 feet wide, the applicant shall enhance the entire Vegetated Corridor to meet or exceed good corridor condition as defined in R&O 19-5, Section 3.14.2, Table 3-3, as amended by R&O 19-22.**
13. **Removal of invasive non-native species by hand is required in all Vegetated Corridors rated ""good."" Replanting is required in any cleared areas larger than 25 square feet using low impact methods. The applicant shall calculate all cleared areas larger than 25 square feet prior to the preparation of the required Vegetated Corridor enhancement/restoration plan.**
14. Prior to any site clearing, grading or construction, the applicant shall provide Clean Water Services with a Vegetated Corridor enhancement/restoration plan. Enhancement/restoration of the Vegetated Corridor shall be provided in accordance with R&O 19-5, Appendix A, as amended by R&O 19-22, and shall include planting specifications for all Vegetated Corridor, including any cleared areas larger than 25 square feet in Vegetated Corridor rated ""good.""
15. Prior to installation of plant materials, all invasive vegetation within the Vegetated Corridor shall be removed per methods described in Clean Water Services' Integrated Pest Management Plan, 2019. During removal of invasive vegetation care shall be taken to minimize impacts to existing native tree and shrub species.

16. **Clean Water Services and/or City shall be notified 72 hours prior to the start and completion of enhancement/restoration activities. Enhancement/restoration activities shall comply with the guidelines provided in Planting Requirements (R&0 19-5, Appendix A, as amended by R&O 19-22).**
17. **Maintenance and monitoring requirements shall comply with R&O 19-5, Section 2.12.2, as amended by R&O 19-22. If at any time during the warranty period the landscaping falls below the 80% survival level, the owner shall reinstall all deficient planting at the next appropriate planting opportunity and the two year maintenance period shall begin again from the date of replanting.**
18. **Performance assurances for the Vegetated Corridor shall comply with R&O 19-5, Section 2.07.2, Table 2-1 and Section 2.11, Table 2-2, as amended by R&O 19-22.**
19. **For any developments which create multiple parcels or lots intended for separate ownership, Clean Water Services shall require that the Sensitive Area and Vegetated Corridor be contained in a separate tract and subject to a ""STORM SEWER, SURFACE WATER, DRAINAGE AND DETENTION EASEMENT OVER ITS ENTIRETY"" to be granted to the City or Clean Water Services.**

FINAL PLANS

20. **Final construction plans shall include landscape plans**. In the details section of the plans, a description of the methods for removal and control of exotic species, location, distribution, condition and size of plantings, existing plants and trees to be preserved, and installation methods for plant materials is required. Plantings shall be tagged for dormant season identification and shall remain on plant material after planting for monitoring purposes.
21. **A Maintenance Plan shall be included on final plans** including methods, responsible party contact information, and dates (minimum two times per year, by June 1 and September 30).
22. **Final construction plans shall clearly depict the location and dimensions of the sensitive area and the Vegetated Corridor** (indicating good, marginal, or degraded condition). Sensitive area boundaries shall be marked in the field.
23. Protection of the Vegetated Corridors and associated sensitive areas shall be provided by the installation of permanent fencing and signage between the development and the outer limits of the Vegetated Corridors. **Fencing and signage details to be included on final construction plans.**

<u>This Service Provider Letter is not valid unless CWS-approved site plan is attached.</u>

Please call (503) 681-3653 with any questions.

Lindsey Obermiller
Environmental Plan Review

Attachments (6)

Sensitive Area Certification Form - Owner Information

Charles and Louise Bisset

TL 3S1060000107

17033 SW Brookman Rd

Sherwood, Washington County OR 97140 USA

Wayne and Linda Chronister

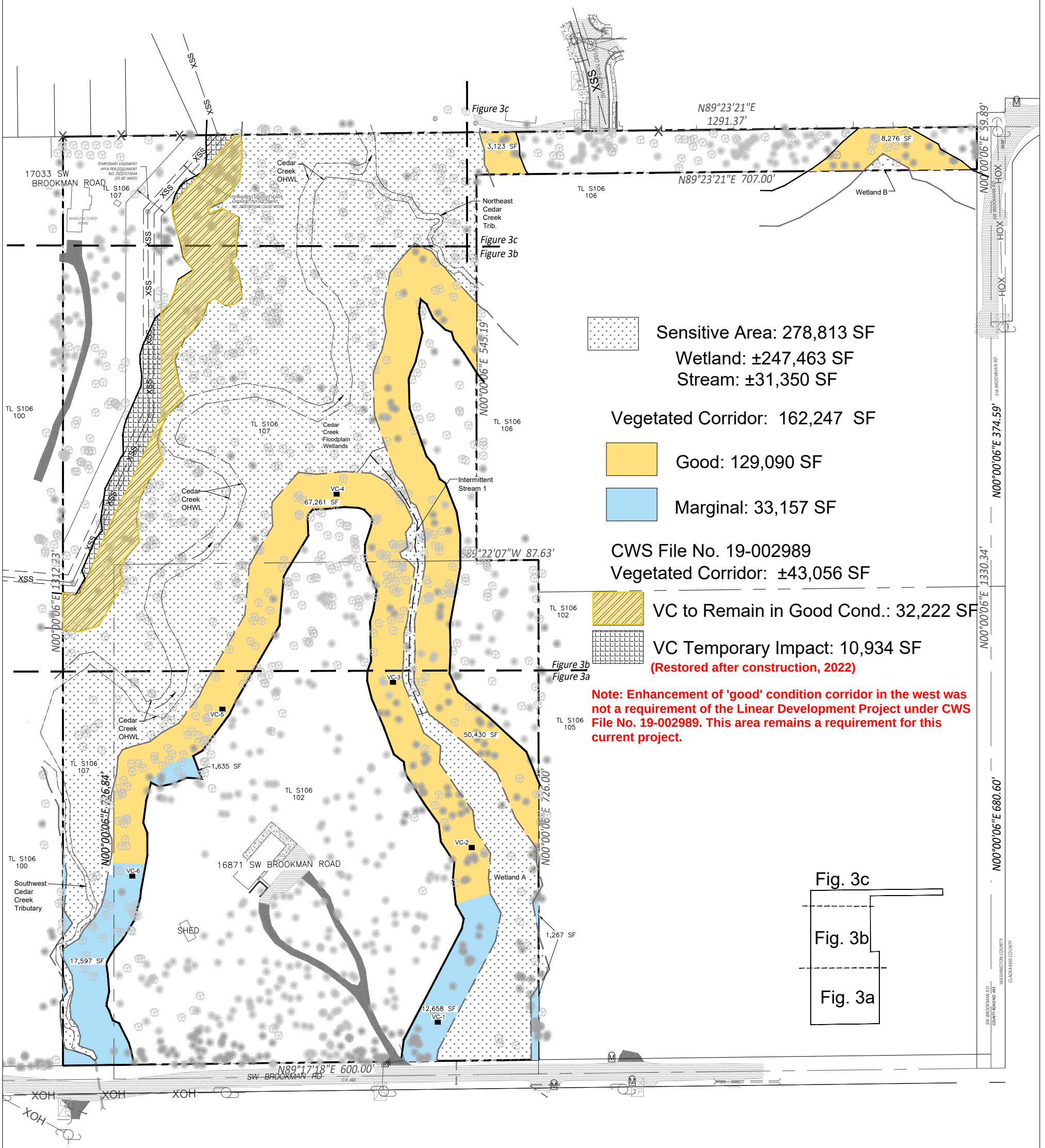
TL 3S1060000102

PO Box 1474

Sherwood, Washington County OR 97140 USA

Exhibit A12
COLOR COPY

CWS FILE NO. 21-002919
Approved
Clean Water Services
FOR ENVIRONMENTAL REVIEW
By LO Date 04/20/2022
SPL ATTACHMENT 2 OF 6



CWS COMMENTS added in RED

Fig. 3

Rev: 12/21
Job: 21004
Date: 10/21
Mod. By: KR
Base Map Source: Pioneer Design Group, Inc.

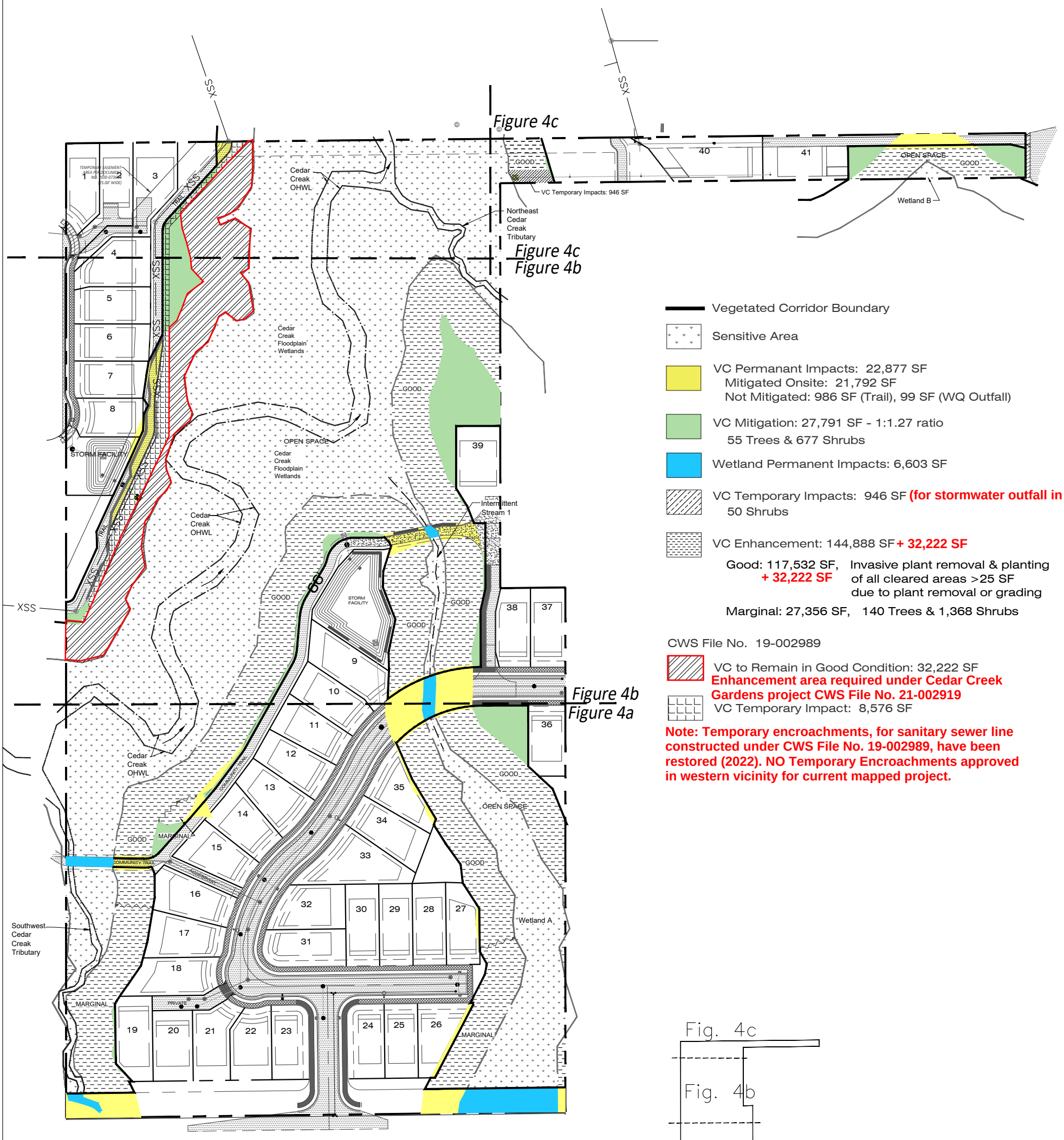
N
1"=140'
0 75 140

Existing Conditions Map
Cedar Creek Gardens
Sherwood, Oregon

Environmental Science & Assessment, LLC
4831 NE Fremont St., Suite 2B
Portland, OR 97213
Phone: 503.478.0424
www.esapdx.com

Exhibit A12
COLOR COPY

CWS FILE NO. 21-002919
Approved
Clean Water Services
FOR ENVIRONMENTAL REVIEW
By LO Date 04/20/2022
SPL ATTACHMENT 3 OF 6



Vegetated Corridor Boundary

Sensitive Area

VC Permanant Impacts: 22,877 SF
Mitigated Onsite: 21,792 SF
Not Mitigated: 986 SF (Trail), 99 SF (WQ Outfall)

VC Mitigation: 27,791 SF - 1:1.27 ratio
55 Trees & 677 Shrubs

Wetland Permanent Impacts: 6,603 SF

VC Temporary Impacts: 946 SF **(for stormwater outfall in north)**
50 Shrubs

VC Enhancement: 144,888 SF **+ 32,222 SF**

Good: 117,532 SF, **+ 32,222 SF** Invasive plant removal & planting of all cleared areas >25 SF due to plant removal or grading

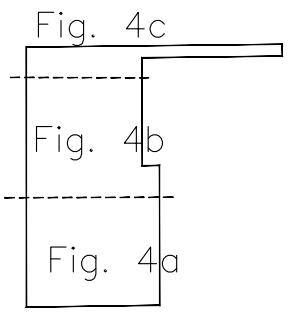
Marginal: 27,356 SF, 140 Trees & 1,368 Shrubs

CWS File No. 19-002989

VC to Remain in Good Condition: 32,222 SF
Enhancement area required under Cedar Creek Gardens project CWS File No. 21-002919

VC Temporary Impact: 8,576 SF

Note: Temporary encroachments, for sanitary sewer line constructed under CWS File No. 19-002989, have been restored (2022). NO Temporary Encroachments approved in western vicinity for current mapped project.



CWS COMMENTS added in RED

Final planting quantities, placement, and type to be reviewed for approval during engineering plan review.

Fig. 4

Rev: 4/22
Job: 21004
Date: 10/21
Mod. By: KR
Base Map Source: Pioneer Design Group, Inc.

N
1"=140'
0 75 140

Site Plan
Cedar Creek Gardens
Sherwood, Oregon

Environmental Science & Assessment, LLC
4831 NE Fremont St., Suite 2B
Portland, OR 97213
Phone: 503.478.0424
www.esapdx.com

Exhibit A12

Figure 4b
Figure 4a

COLOR COPY

CWS FILE NO. 21-002919
Approved
Clean Water Services
FOR ENVIRONMENTAL REVIEW
By LD Date 04/20/2022
SPL ATTACHMENT 4 OF 6

Environmental Science & Assessment, LLC
4831 NE Fremont St., Suite 2B
Portland, OR 97213
Phone: 503.478.0424
www.esapdx.com

Cedar Creek OHWL

Southwest Cedar Creak Tributary

COMMUNITY TRAIL

ACCESSWAY

PRIVATE

GOOD

MARGINAL

OPEN SPACE

Wetland A

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36

Vegetated Corridor Boundary
VC Permanent Impacts
VC Mitigation
VC Enhancement
Sensitive Area
Wetland Perm. Impacts

Fig. 4c
Fig. 4b
Fig. 4a

Site Plan
Cedar Creek Gardens
Sherwood, Oregon

N
1' = 60'
0 30 60

Base Map Source: Pioneer Design Group, Inc.

Modified By:	KR
Date:	10/21
Job:	21004
Rev:	3/22

Figure 4a

Exhibit A12

COLOR COPY

CWS FILE NO. 21-002919
Approved
Clean Water Services
FOR ENVIRONMENTAL REVIEW
By LD Date 04/20/2022
SPL ATTACHMENT 5 OF 6

Environmental Science & Assessment, LLC
4831 NE Fremont St., Suite 2B
Portland, OR 97213
Phone: 503.478.0424
www.esapdx.com

Figure 4b
Figure 4a

4
5
6
7
8
9
10
39
38
37

Cedar Creak Floodplain Wetlands

OPEN SPACE

Cedar Creak Floodplain Wetlands

Cedar Creak OHWL

Intermittent Stream 1

STORM FACILITY

STORM FACILITY

TRAIL

XSS

66'

GOOD

Fig. 4c
Fig. 4b
Fig. 4a

Vegetated Corridor Boundary
VC Permanent Impacts
VC Mitigation
VC Enhancement
Sensitive Area
Wetland Perm. Impacts

CWS File No. 19-002989
VC to Remain in Good Condition
VC Temporary Impact

Existing Conditions Map
Cedar Creek Gardens
Sherwood, Oregon

N
1' = 60'
0 30 60

Base Map Source: Pioneer Design Group, Inc.

Modified By:	KR
Date:	10/21
Job:	21004
Rev:	3/22

Figure 4b

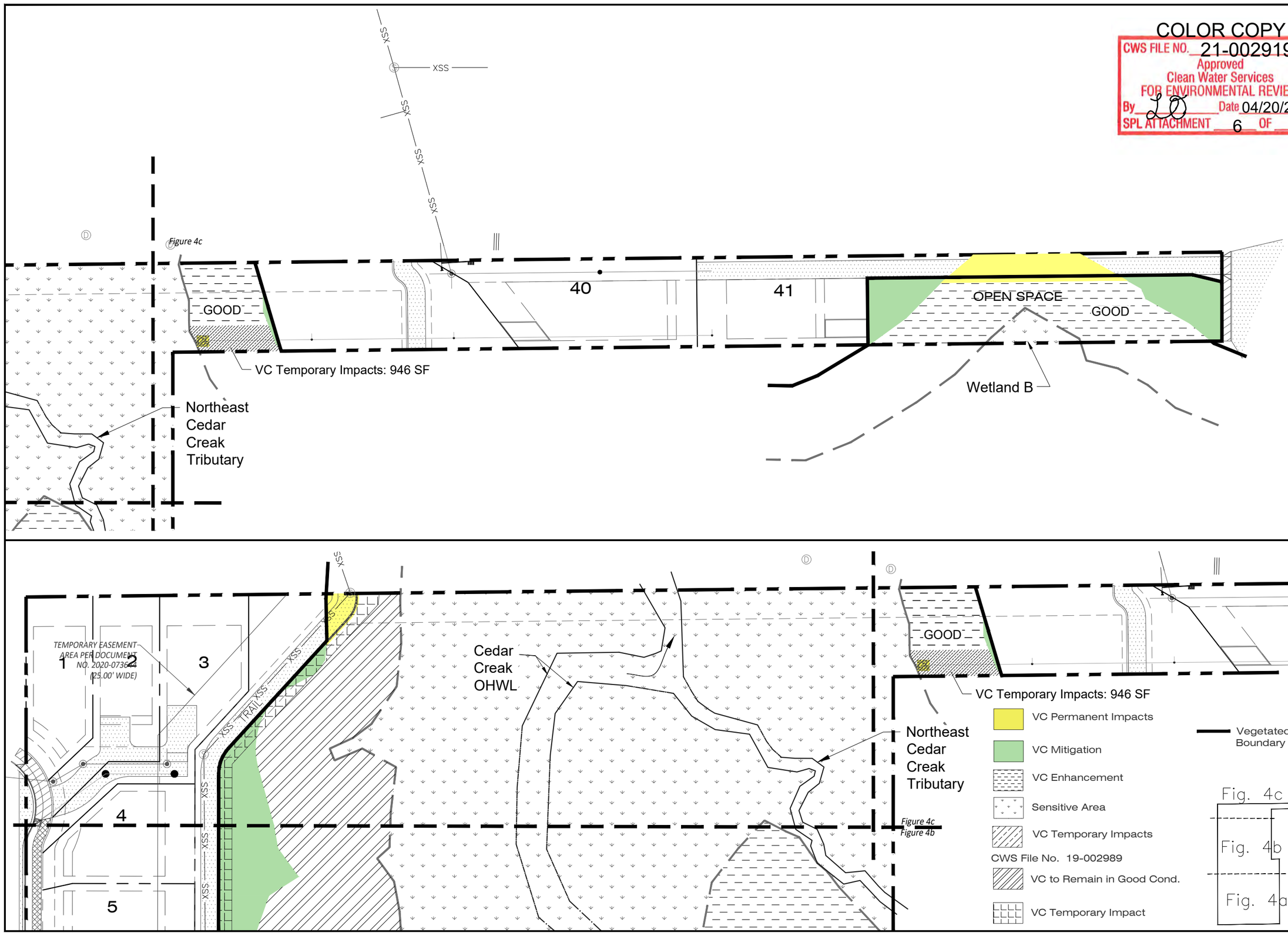
Exhibit A12

COLOR COPY

CWS FILE NO. 21-002919
Approved
Clean Water Services
FOR ENVIRONMENTAL REVIEW
By 20 Date 04/20/2022
SPL ATTACHMENT 6 OF 6

Environmental Science & Assessment, LLC
4831 NE Fremont St., Suite 2B
Portland, OR 97213
Phone: 503.478.0424
www.esapdx.com

Site Plan
Cedar Creek Gardens
Sherwood, Oregon



N

1' = 60'

0 30 60

Base Map Source: Pioneer Design Group, Inc.

Modified By:	KR
Date:	10/21
Job:	21004
Rev:	3/22

Figure 4c

Exhibit A13

Clean Water Services

SENSITIVE AREA CERTIFICATION FORM

Clean Water Services File Number

1. Property Information (example 1S234AB01400)

Tax lot ID(s): 3S1060000107
3S1060000102

Site Address: 17033 SW Brookman and 16871 SW Brookman

City, State, Zip: Sherwood, OR 97140

Nearest cross street: SW Brookman Rd

2. Owner Information

Name: See Attached - Owner Information

Company:

Address:

City, State, Zip:

Phone/Fax:

E-Mail:

3. Development Activity (check **all** that apply)

- ☐ Addition to single family residence (rooms, deck, garage)
- ☐ Lot line adjustment
- ☐ Minor land partition
- ☐ Residential condominium
- ☐ Commercial condominium
- ☒ Residential subdivision
- ☐ Commercial subdivision
- ☐ Single lot commercial
- ☐ Multi lot commercial

Other

4. Applicant Information

Name: Bill Wagnoer

Company: Westwood Homes

Address: 12700 NW Cornell Rd

City, State, Zip: Portland. OR 97229

Phone/Fax: (503)980-1708

E-Mail: bill@westwoodhomesllc.com

5. Check any of the following that apply to this project

- ☐ Adds less than 500 square feet of impervious surface.
- ☐ Does not encroach closer to the Sensitive Area than existing development on the property.
- ☐ Is not located on a slope greater than 25%

6. Applicant Information

Name: Jack Dalton

Company: Environmental Science & Assessment LLC

Address: 4831 NE Fremont St., Ste 2B

City, State, Zip: Portland OR 97213

Phone/Fax: (503)478-0424

E-Mail: jack@esapdx.com

7. Will the project involve any off-site work? ☐ Yes ☒ No ☐ Unknown (check appropriate box)

If yes, location and description of off-site work:

8. Additional comments or information that may be needed to understand your project:

CWS trunk line project extends through the NW corner of this project area. Impacts from the trunk line installation occurred this fall and restoration will be under the conditions of the CWS SPL (19-002989)

9. An on-site, water quality sensitive area reconnaissance was completed on:

Date 9/22/21 By K. Reavis & K. Sanderford

Title Wetland Scientist Company ES&A LLC

Exhibit A13

Clean Water Services

SENSITIVE AREA CERTIFICATION FORM

Clean Water Services File Number _____

10. Existence of Water Quality Sensitive Areas (check all appropriate boxes)

As defined in the District's Design and Construction Standards:

A. Water Quality Sensitive Areas ☒ do ☐ do not exist on the tax lot.

B. Water Quality Sensitive Areas ☒ do ☐ do not exist within 200' on adjacent properties, or ☐ unable to evaluate adjacent property.

C. Vegetated corridors ☒ do (205,186 SF) ☐ do not exist on the tax lot.

D. Vegetated corridors ☒ do ☐ do not exist within 200' on adjacent properties, or ☐ unable to evaluate adjacent property.

E. Impacts to sensitive areas and/or vegetated corridors will occur ☒ On-site ☐ Off-site ☐ None proposed at this time.

F. If impacts, mitigation is ☒ On-site ☐ Off-site ☐ Other _____

11. Simplified Site Assessment containing the following information: (check only items submitted)

Please refer to Design and Construction Standards 19-5 section 3.02.2, as amended by Resolution and Order 19-22, for application requirements.

☐ Complete Certification Form (2 pages)

☐ Written description of the site and proposed activity.

☐ Site plan of the entire property.

☐ Photographs of the site labeled and keyed to the site plan.

12. Standard Site Assessment containing the following information: (check only items submitted)

Please refer to Design and Construction Standards 19-5 section 3.02.2, as amended by Resolution and Order 19-22, for application requirements.

☒ Complete Certification Form (2 pages)

☒ Written description per Design and Construction Standards 19-5 section 3.13.3 b. 1, as amended by Resolution and Order 19-22

☒ Wetland Data sheets

☒ Vegetated Corridor Data sheets

☒ Existing Site Condition Figures

☒ Proposed Development Figures

By signing this form the Owner, or Owner's authorized agent or representative, acknowledges and agrees that employees of Clean Water Services have authority to enter the project site at all reasonable times for the purpose of inspecting project site conditions and gathering information related to the project site.

I certify that I am familiar with the information contained in this document, and to the best of my knowledge and belief, this information is true, complete, and accurate.

Applicant:

Print/Type Name Jack Dalton Print/Type Title Environmental PM

Signature _____ Date 11/12/21

Sensitive Area Certification Form - Owner Information

Charles and Louise Bisset

TL 3S1060000107

17033 SW Brookman Rd

Sherwood, Washington County OR 97140 USA

Wayne and Linda Chronister

TL 3S1060000102

PO Box 1474

Sherwood, Washington County OR 97140 USA

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INTRODUCTION

Environmental Science & Assessment, LLC (ES&A) was contracted by Pioneer Design Group to conduct a Site Assessment and Tier II Analysis for the proposed Cedar Creek Gardens project on a 20 acres site located at 17033 (TL 107) and 16871 (TL 102) SW Brookman Road in Sherwood, Washington County, Oregon (Figure 2). The study area includes the entirety of both tax lots, including the "flagpole" extensions from lot 107 to the east and south. Both lots are in Section 06, Township 3 South, Range 1 West: on Washington County's assessor's map 3S106.

METHODOLOGY

The primary guidance document for this report is the *Design and Construction Standards for Sanitary Sewer and Surface Water Management* (Resolution and Order 19-5 as amended by R&O 19-22; Clean Water Services, 2019), which provides the methodology for assessing the presence and extent of Sensitive Areas within the development site and within 200 feet of the site, and the required Vegetated Corridors (VCs) adjacent to them.

Two levels of investigation were used to evaluate the presence or absence of Sensitive Areas. The first level included a review of existing and available background data. The second level consisted of a data collection effort conducted during an on-site evaluation.
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ES&A staff conducted the site investigations on February 8, April 14, and September 22, 2021. Potential wetland areas on the parcel were evaluated using the methodology provided in the Army Corps of Engineers *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*, (U.S. Army Corps of Engineers, 2010).

ES&A collected wetland determination data at fifteen locations to define the wetland boundaries (Figure 3). ES&A collected eight Vegetated Corridor (VC) data plots to document the existing conditions on-site. The data sheets are included in Appendix C and D of this report. The Sensitive Area boundaries were surveyed by Pioneer Design Group, a professional surveyor, and the data plot locations were recorded with a handheld Trimble Geo7x GPS and GNSS antenna with sub-meter accuracy in the field.

SITE DESCRIPTION

The project site is within the Brookman Community Addition in the south end of Sherwood, and is bordered on the south by SW Brookman Road, the west by a single family residential (SFR) subdivision currently under construction, and the north by an existing SFR subdivision. The site is bordered to the east by two forested large acre parcels not yet annexed into the City of Sherwood. Surrounding area on the north, east, and west is existing or reserved urban residential area; the area to the south is outside Uban Growth Boundary (UGB) and zoned exclusive farm or forest use currently planted as a hazelnut orchard. Each parcel in study area has a single residence, and both have packed dirt/gravel driveways extending north from SW Brookman Road to provide access (Figure 3). Area south of the home and north of Cedar Creek on the northern parcel (tax lot 107) are within a CWS sanitary trunk line easement and the sanitary pipeline was just recently installed. The sewer line alignment is discussed under SPL19-002989 and its amendment but is also addressed in this report.

The main topographic feature onsite is the Cedar Creek channel and the broad floodplain flowing through the site from the west central site boundary to the northeast site boundary. The surrounding higher topographic areas onsite generally slope towards the floodplain at about 10% (Photo 17). Two unnamed intermittent tributaries to Cedar Creek have shallower topographic relief and enter the site near the southwest and southeast site corners (Photos 3 & 18), sloping down within relatively broad, flat topography to the north at about 2% before reaching the Cedar Creek floodplain elevation. Between the tributaries is a higher ridge of forested area that also slopes down from the southern site boundary to the north at about 5% (Figure 3).

Plant communities onsite fall generally into three categories: wetland and floodplain forest community, upland forest community, and cleared and altered forest community near the southern homesite. The wetland and floodplain forest community is within the Cedar Creek floodplain and the broad, flat areas surrounding the two unnamed tributaries, making up at least half of the total site area; the forest community makes up the topographically higher areas onsite, mostly in the south-central and northwestern parts of the site; and the altered and cleared forest community exists surrounding the home and maintained yard within the southern parcel.

The wetland and floodplain forest has a dense, mature Oregon ash (*Fraxinus latifolia*) canopy cover with red alder (*Alnus rubra*) throughout. The shrub stratum in this community is diverse and mostly native, especially furthest from Brookman Road, and is dominated by ninebark (*Physocarpus capitatus*), red-osier dogwood (*Cornus sericea*), and osoberry (*Oemleria cerasiformis*). The herbaceous community is similarly native and diverse and is represented best by slough sedge (*Carex obnupta*), stinging nettle (*Urtica dioica*), hedge nettle (*Stachys cooleyae*), and lady fern (*Athyrium filix-femina*), with skunk cabbage (*Lysichiton americanus*) and water parsley (*Oenanthe sarmentosa*) dominating the wettest areas (Photos 4, 15).

The upland forest community is a dense Douglas fir (*Pseudotsuga menziesii*) canopy of mostly trees with a diameter at breast height (DBH) of less than 24-inches, with red alder and western red cedar (*Thuja plicata*) throughout, and several bird cherry (*Prunus avium*) and grand fir (*Abies grandis*) also noted. The shrub stratum is dominated by large, mature, many-branched vine maple (*Acer circinatum*), western beaked hazelnut (*Corylus cornuta*), several species of Oregon grape (*Mahonia nervosa, M. aquifolium*), red elderberry (*Sambucus racemosa*), and English holly (*Ilex aquifolium*) (Photos 9, 12, 17). A remarkably small amount (generally less than 5% cover throughout) of Himalayan blackberry (*Rubus armeniacus*) is present through most of the areas of upland forest, except for where the forested areas are adjacent to either SW Brookman Road or the altered forest community surrounding the home.

The cleared and altered plant community makes up about one-third of the southern parcel and is the home and surrounding area in use as a residential yard. This area consists of 50-100% canopy cover of Douglas fir with an understory cleared of any shrubs. Herbaceous community covers about half of this area and is maintained lawn, the other half is comprised of duff and organic materials under the denser canopy cover area (Photos 7, 10).

Wapato silty clay loam (rating 92) is mapped along the southern extent of the Cedar Creek corridor, transitioning into McBee silty clay loam (rating 9) near the northern site boundary. A corridor of Verboort silty clay loam, 0 to 3 percent slopes (rating 99), is mapped along the western unnamed tributary. The remainder of the site is mapped as Woodburn silt loam (rating 1), with either 3 to 7 or 7 to 12 percent slopes, with smaller

inclusions of Willamette silt loam (rating 3) 7 to 12 percent slopes just east of the western unnamed tributary and an area in the northeast site corner mapped as Quatama loam (rating 4), 3 to 7 percent slopes (NRCS Soil Survey, 2020). Hydric soils onsite generally correspond to mapped resources.

Sensitive Areas

Sensitive Area (SA) onsite include the large wetland complex of the Cedar Creek floodplain, connected via an intermittent drainage to a second wetland area in the southeast site corner and to two unnamed tributaries: one flowing through the southwest site corner before the confluence with Cedar Creek near on the western boundary, and one flowing through the northeast site corner to a confluence with Cedar Creek at the northern site boundary. Onsite SA totals 278,813 square feet (6.4 AC) and continues offsite to both the east and north (Figure 3).

Cedar Creek Floodplain Wetlands

The Cedar Creek floodplain wetlands and stream (242,722 SF/5.6 AC) extends south to north through the site. The Cedar Creek channel ranges from 15 to 20 feet wide at the Ordinary High-Water Line (OHWL) and flows perennially in a meandering path through a broad floodplain (Photo 11). The wetlands bordering both creek banks are Palustrine Emergent (PEM), Palustrine Scrub Shrub (PSS), and Palustrine Forested (PFO). Cedar Creek is mapped as coastal cutthroat (*Oncorhynchus clarki clarki*) and potential pacific lamprey (*Entosphenus tridentatus*) habitat (DSL).

Headwaters of Cedar Creek originate within the southern ridge of the Chehalem Mountains, mostly from the steep slopes and ravines of Parrett Mountain to the south. The Cedar Creek drainage basin moves through the upper two-thirds of the basin through steeper topography and generally slow down as they enter the lower one-third of this basin in the segment flowing through site, north of SW Brookman Road. While further east, the floodplain includes upland and riparian areas, onsite portions of the Cedar Creek floodplain are almost entirely wetlands.

Vegetative community within the Cedar Creek floodplain is characterized by dense thickets of red-osier dogwood, ninebark, and osoberry under a canopy of Oregon ash. Slough sedge is present throughout in

The wetland mapping and site assessment prepared for the CWS sanitary trunk line (SPL 19-001036) details the Cedar Creek channel due west of the site, showing how the floodplain transitions from a mixed upland wetland community into mostly wetland area.

Wetland A

Wetland A (35,283 SF/0.81 AC) is a PFO seasonally flooded wetland located in a relatively flat area within the southeast site corner (Photo 4). Source hydrology is primarily from surface runoff entering the wetland from a culvert under SW Brookman Road (Photos 1-3), and secondarily from direct precipitation and high seasonal groundwater.

Plant community is a canopy of Oregon ash and red alder, with a dense understory of ninebark, red elderberry, and swamp rose (*Rosa pisocarpa*). The herbaceous stratum is slough sedge, stinging nettle, hedge nettle, lady fern, water parsley, and piggyback plant (*Tolmiea menziesii*).

This wetland extends offsite to the east, and surface flow from the wetland flows intermittently to the north reaching the Cedar Creek floodplain.

Wetland B

The portion of this PFO wetland (808 SF) is just a small portion of a larger wetland to the south and is associated with a drainage flowing from a culvert under SW Brookman Road to the east. Flow from the culvert creates an intermittent drainage about one to two feet wide with wetland areas flanking it to the north and south in broad, flat areas (Photo 14). The intermittent drainage is wholly offsite and flows into the Northeast Cedar Creek Tributary approximately 150-feet to the south.

Intermittent Strea 1

The intermittent drainage extending north from wetland A is generally within a 12-foot-wide swale with a dense layer of duff. Water flows seasonally through this swale in various shallow channels in the duff (Photo 5 right) but does not appear to flow with enough velocity or volume at any point to form a well-defined channel into the soil substrate (Photo 5 left), except in a few areas where the wider swale flows into a steeper gradient nearest to the Cedar Creek floodplain.

Near the north-central portion of the intermittent drainage, much of the flow enters a sub-surface channel, emerging approximately 60-feet to the north into a seasonal spring (Photo 8). From the spring, flow continues in the broad swale as an intermittent drainage until reaching the Cedar Creek floodplain.

Southwest Cedar Creek Tributary

This unnamed intermittent tributary originates onsite at a culvert under SW Brookman Road at the southwest site corner (Photo 18) and flows north through an incised channel, about two to three feet wide, along the western site boundary (Photo 9). Though flow is intermittent, wetland conditions within the channel are perennial.

Northeast Cedar Creek Tributary

This unnamed intermittent tributary originates at an offsite culvert under SW Brookman Road approximately 200-feet east of the southeast site corner and flows north to its onsite confluence with Cedar Creek near the northeast site corner. The tributary flows onsite for only approximately 150-feet before it flows into Cedar Creek. Surrounding vegetative community is similar to that of the Cedar Creek channel and floodplain, discussed above.

VEGETATED CORRIDORS

The total area of Vegetated Corridor is 205,186 square feet on site, with a portion of this area (43,056 SF) within the CWS trunk line project area in the northwest corner of the site (Figure 3). The VC plot data indicates most of the VC is in good condition (129,090 SF) (VC-2 to VC-5, VC-7), with some marginal area in the parts of the VC nearest to the home and maintained yard (33,040, VC-1 & VC-6), primarily due to a cleared understory (Photo 6) (Figure 3, 3b).

The VC in the northwest site corner is described in CWS SPL19-002989, and per the terms of that SPL a portion was temporarily disturbed for installation of a sanitary sewer line (10,834 SF) with the remainder remaining in good condition (32,222 SF) (Figure 3, 3b). Because the replanting of the VC in this area had not yet taken place at the time of submittal, the temporary impact area is considered to be in degraded condition.

Other than the marginal condition VC near the home and degraded area surrounding the sewer line, the VC is an intact remnant of riparian and upland forest, with a closed canopy of Douglas fir, Oregon ash, grand fir, and red alder. The understory is overwhelmingly native, with 50-100% cover of diverse native shrubs including red elderberry, snowberry, western beaked hazelnut, osoberry, ninebark, and many large (DBH >12") open-structure vine maple. Individual English holly and Himalayan blackberry plants were noted throughout, but none had become dense monocultures other than in areas near the site boundaries (along SW Brookman Road and near the north site boundary nearest the existing homes). Swordfern is represented throughout the good condition VC as both dense patches and diffuse individual plants, with populations of fringe cup (*Tellima grandiflora*), piggyback plant, trillium (*Trillium ovatum*), trailing blackberry (*Rubus ursinus*), vanilla leaf (*Achylls triphylla*), and pacific waterleaf (*Hydrophyllum tenuipes*) throughout in the herbaceous community.

The marginal community is characterized by less than 100% canopy cover of Douglas fir and red alder, with an understory cleared of vegetation or with a dense community of Himalayan blackberry. Herbaceous community in the marginal VC is either absent with a dense duff layer dominating (Photo 5 & 6), or a mowed lawn community consisting mostly of bluegrass (*Poa sp.*), with a low, weedy community towards the edges sloping towards the Sensitive Area consisting of shining geranium (*Geranium lucidum),* yellow-archangel (*Lamiastrum galeobdolon*), oxeye daisy (*Leucanthemum vulgare*), selfheal (*Prunella vulgaris*), and creeping buttercup (*Ranunculus repens*).

There are two short sections of wetland boundary where the slope measurements exceed 25 percent within the first 50 feet of the VC (Figures 3a, 3b). In these locations, VC width was determined with a combination of a 15-foot offset and a 35-foot offset beyond the 25 percent break in slope line. A 25 percent break in slope line was determined based on CWS methodology (R&O 19-5 as amended by R&O 19-22) using a professional topographic survey provided by Pioneer Design Group.

PROPOSED SITE PLAN

The proposed site plan is an 42-lot residential subdivision with access from three points: SW Brookman Road to the south, SW Brookman Road to the east along the northeast "flagpole", and from the road stub in the northwest corner of site currently under construction in the adjacent subdivision The residential lots will be clustered in four areas of site surrounding the SA and VC: 27 lots within the south-central, 4 lots within the east-central, 8 lots within the northwest, and 3 lots within the northeast "flagpole" (Figure 4a-c). Within the 20-acre site, 6.25 acres (272,246 SF) are SA and 4.01 acres (174,782 SF) are VC, which are both preserved as natural area in the center of site connecting to natural areas to the north, east, and west.

VC Permanent Impacts

A total of 26,360 square feet of permanent VC impacts are proposed. Proposed impacts fall into three categories: impacts associated with frontage improvements along SW

Brookman Road, impacts from road or path crossings through or over SA or VC, and impacts from lot encroachments. Table 1 summarizes proposed impact areas.

Table 1: Proposed Permanent Impacts

Impact type	Impact Area	Impact area condition
Frontage Improvements		
Southwest site corner	2,071 SF	Marginal
Southeast site corner	2,728 SF	Marginal
Road/Trail		
Road crossing	6,269 SF	Good
Trail	12,558 SF	Degraded & Good
Lot/storm encroachments		
Lots 7 & 8	642 SF	Degraded
Lot 26	567 SF	Marginal
Lots 14, 27, 35	697 SF	Good
WQ Facility	716 SF	Degraded
WQ Outfalls	112 SF	Degraded & Good

Of the permanent impacts 6,902 square feet is within the footprint of the disturbed VC surrounding the sewer line.

VC Temporary impacts of 920 square feet are proposed for a stormwater outfall pipe west of Lot 40 and will be mitigated in place (Figure 4c).

ALTERNATIVE SITE ANALYSIS

The preferred site plan will result in sensitive area and CWS VC encroachment including 6,567 square feet of wetland impacts and the associated 26,360 square feet of 50-foot VC. These impacts require a Tier 2 Alternatives Analysis under district standards (CWS 3.07.4).

Site Plan Elements/Constraints

The primary constraint on the site plan is the large area of SA and VC within the Cedar Creek floodplain and the various tributaries, making up roughly 70% of the total project area. This constraint serves to limit both the number of lots allowable to between 31 and 44 single family residences and complicates access to those lots due to the nature, size, and location of the SAs (i.e. objectively high functioning wetlands and/or waters running the entire length of *both* sides of the site). For this reason, the site plan required building lots in clusters surrounding the SA and VC areas and creating access to these clusters through a combination of leveraging existing or planned roads and new stream/wetland crossings.

The mostly natural, varying topography of the site is a further constraint because the final grades of the homes must be compatible with planned or recently constructed storm and sanitary utilities being established in the Brookman Sherwood neighborhood. Topography also limits storm facility placement, with each block of lots requiring a separate storm facility and suitable access for maintenance.

The proposed Cedar Gardens subdivision must also follow the planning requirements established in the Brookman Addition Community Plan and Sherwood municipal code,

generally involving connectivity within the larger transportation and utility plans, including the following:

- Provide access to the eastern lot cluster and provide future connectivity to the east (road stub).
- Provide access to the western lots by connecting to the adjacent *The Reserve at Cedar Creek* subdivision currently under construction west of the site.
- Provide connectivity from existing trail stubs on west side from *The Reserve at Cedar Creek* subdivision through the site to the north and south of Cedar Creek.
- Provide frontage improvements along SW Brookman Road as required by City of Sherwood and Washington County.
- Build all roads in accordance with the community plan, with no variance allowed by City of Sherwood for limiting impacts (i.e., curb-tight road crossings).

Alternatives Analysis Criteria

Criteria used for the Cedar Creek Gardens subdivision alternative analysis include:

1. Provide residential lots that meet the Sherwood municipal zoning requirements, with a minimum density of 31 lots and maximum of 44 lots and minimum lot size of 5000-SF
2. Cluster development and reduce lot sizes as much as possible to maximize the open space tract in middle of site.
3. Minimize roadway access impacts to sensitive areas as much as feasible, while still meeting Sherwood transportation and storm facility access requirements.
4. Avoid wetland and Cedar Creek floodplain impacts and minimize associated CWS VC impacts as much as feasible.

Alternatives

Two alternatives were considered in the alternatives analysis. Alternative site plans are provided in Attachment E.

Alternative A

This site plan provides 42 residential units, with access from SW Brookman Road for the southern and eastern clusters, access from the subdivision to the west for the western lots, and access from SW Brookman Road via the “flagpole” for the northeastern lots. This site plan clusters lot development surrounding the Cedar Creek open space tract and proposes unavoidable impacts to SA and VC within the SW Brookman Road ROW frontage.

The plan provides three trail connections, as follows:

- Northern trail section to connect to *The Reserve at Cedar Creek* and provide pedestrian connectivity north of Cedar Creek behind lots 3-8 within the established CWS sanitary trunk line easement;
- East-west trail section connecting to *The Reserve at Cedar Creek* from the west and providing pedestrian and bicycle passage to the eastern site boundary behind lots 9-16;
- Trail stub behind lot 40 connects to existing trail system and can be extended further to the south within future development.

This plan proposes two pedestrian crossings through SA for the east-west trail. The western crossing is aligned with the existing trail stub within *the Reserve at Cedar Creek* subdivision and takes the most direct path across the wetland area. The eastern crossing is located across an intermittent drainage and is placed to also serve as access for the storm facility. This plan also proposes the required road crossing to provide connectivity to the east over the intermittent drainage.

Criteria Analysis:

1. Provide residential lots that meet the Sherwood municipal zoning requirements, with a minimum density of 31 lots and maximum of 44 lots and minimum lot size of 5000-SF. ***Criteria MET***
2. Cluster development and reduce lot sizes as much as possible to maximize the open space tract in middle of site. ***Criteria MET***
3. Minimize roadway access impacts to sensitive areas as much as feasible, while still meeting Sherwood transportation and storm facility access requirements. ***Criteria MET***
4. Avoid wetland and Cedar Creek floodplain impacts and minimize associated CWS VC impacts as much as feasible. ***Criteria MET***

Alternative B

This site plan provides 41 residential units and road and trail access as with Alternative A. As with Alternative A, this site plan clusters lot development surrounding the Cedar Creek open space tract and provides trail access on the northwest, northeast and southwest end of site. There is not an alternative for the SW Brookman frontage improvements since this is a Sherwood condition of approval for the overall project.

This plan looks at changing the alignment for the road crossing to the eastern SA further south, then turning to the north after crossing to provide access and connectivity to the eastern block of lots and future connection to the east. This plan results in greater impacts to both the Wetland A resource and the associated 50-foot VC.

This plan looks at alternative alignments to the two pedestrian crossings for the east-west trail. If the west trail alignment does not cross directly west to the adjacent trail stub on *the Reserve at Cedar Creek* subdivision, pedestrian access would have to route south towards SW Brookman and then still cross SA and VC in south end. This alternative route results in greater resource impacts to connect to the adjacent trail stub. Changing the eastern crossing as a combined access for pedestrian and storm facility access would require shifting the trail route south on the eastern edge of site, but this would involve greater resource impacts and not provide an efficient east-west trail route and would not allow a connection to east side as required. Additionally, the storm facility access would have to shift and create either more resource impact or complicate the lot layout and trail connections to west side. These alternatives are not as efficient use of available development space on site compared to Alternative A (Alternative B – Attachment E).

Criteria Analysis:

1. Provide residential lots that meet the Sherwood municipal zoning requirements, with a minimum density of 31 lots and maximum of 44 lots and minimum lot size of 5000-SF. ***Criteria MET***
2. Cluster development and reduce lot sizes as much as possible to maximize the open space tract in middle of site. ***Criteria MET***

3. Minimize roadway access impacts to sensitive areas as much as feasible, while still meeting Sherwood transportation and storm facility access requirements. ***Criteria NOT MET***
4. Avoid wetland and Cedar Creek floodplain impacts and minimize associated CWS VC impacts as much as feasible. ***Criteria NOT MET***

Preferred Alternative

Alternative A is the preferred alternative since it meets all the criteria. Any other road or trail alignment change as in Alternative B results in greater resource impacts and does not meet local transportation or storm plan requirements and do not provide large open space tracts in both the southwest and southeast ends. The unavoidable impacts to SA and VC in the preferred alternative minimize impacts as much as feasible by aligning the trail and road crossings at a right angle to resource corridors and routing alignments to create the shortest connections through resources between access points to meet transportation and storm plan requirements (Attachment E).

Section 3.07.4.C Criteria

1. *Mitigation is provided in accordance with Section 3.08*. VC impacts (26,360 SF) will be mitigated at a 1:1.6 ratio onsite. For the proposed wetland impacts, wetland mitigation credits will be purchased, and buffer associated with purchased credits can be considered additional offsite mitigation area. Impacts to VC due to SW Brookman Road frontage improvements are included in this report, but wetland impacts within the frontage improvements will be accounted for later as part of a joint Capital Improvement Project by the City of Sherwood and Washington County.

2. *Replacement mitigation protects Vegetated Corridor function and values*. Replacement mitigation is located throughout the site directly adjacent to existing VC area to preserve functions and values to the highest quality habitat on site. The VC mitigation will also maximize the size of natural riparian habitat in open space within the site. The crossings proposed ultimately cut through the contiguous corridor of habitat along the eastern site boundary, but these VC impact areas (26,360 SF/0.60 AC) are a small portion of the overall site (20 AC). The negative function impacts from the impacts are mitigated by increasing the overall ecosystem support values through invasive removal, plantings, and a 1:1.6 mitigation ratio to increase both total habitat area and value.

3. *Enhancement of replacement area to Good Condition.* A total of 144,370 square feet of existing VC will be enhanced through invasive removal and plantings throughout the site VC. Of this total, the marginal portion (33,040 SF) will be planted with 100% shrub density and 20% of tree density after invasive removal. VC in in good condition will be enhanced by invasive removal only.

4. *District Stormwater Connection Permit is likely to be issued based on proposed plans.* The project engineer has submitted a preliminary storm drainage report with the land use application to city of Sherwood. Upon acceptance of the Tier 2, construction plans with the proposed storm water treatment plan will be submitted with the goal to achieve a Stormwater Connection Permit.

5. *Location of development and site planning minimizes incursion into the Vegetated Corridor*. The preferred site plan minimizes VC encroachment by clustering the lot development around the Cedar Creek floodplain open space and reducing the lot sizes where feasible. The preferred site plan maximizes the open space area in the middle of the site and maintains a direct connection to off-site habitat east, west, and north of the site. With approximately two-thirds of the total site consisting of SA and VC, and only 3.75% of this area with proposed impacts, the preferred plan minimizes incursion into the VC to only where required to meet transportation, trail, and storm facility requirements.

6. *No practicable alternative to location of the development exists that will not disturb the Sensitive Area or Vegetated Corridor*. The preferred alternative results in unavoidable impacts to onsite wetland and intermittent drainage to provide required connectivity to the east and west, for which there is no practicable alternative. Alternative road or trail alignments will only result in greater sensitive area impacts. The unavoidable impacts to SA and VC in the preferred alternative minimize impacts as much as feasible by aligning the trail and road crossings at a right angle to resource corridors and routing alignments to create the shortest connections through resources between access points to meet transportation and storm plan requirements.

7. Proposed encroachment provides public benefits. The proposed encroachment is mitigated by providing greater high functioning riparian habitat along the central Cedar Creek floodplain corridor, providing a 1.16 to 1 ratio of mitigation area to impacts. Mitigation areas will be contiguous with the VC enhancement areas. Additionally, the proposed encroachments for the road and path crossings provide direct public benefit by connecting this development to a system of trails along the Cedar Creek natural area which allows the larger Sherwood community to experience nature, and not isolate this natural area to just the residents of the planned subdivision. Connecting the trail system through these crossings also provides potential bicycle commuter routes, to help lessen commuter traffic volume on the already busy SW Brookman Road.

Functional Assessment

An ORWAP functional assessment was conducted to quantify the level of group and selected functions in the wetland complex as well as the value of this wetland complex for providing these particular functions in the local watershed.

The wetland scored low for the aquatic habitat group, with low value for amphibian and reptile habitat (AM) and waterbird feeding habitat (WBF) functions, and moderate value for waterbird nesting habitat (WBN) function. The wetland scored moderate for the water quality support group, with moderate value scores for sediment retention and stabilization (SR) and phosphorous retention (PR) functions, and higher value score for nitrate removal and retention (NR) function. The wetland scored high for hydrologic function, with a maximum score for water storage and delay (WS) function.The wetland also scored high for the fish habitat group, with moderate values score for resident fish habitat (FR) function and high values score for anadramous fish habitat (FA) function. Finally, the wetland scored high for the ecosystem support group, with low value scores for the aquatic invertabrate habitat (INV) and songbird raptor and mammal habitat (SBM) functions, moderate value score for the pollinator habitat (POL) function, and high value scores for water cooling (WC) and native plant diversity (PD) functions.

Table 2. Cedar Creek Gardens Wetlands ORWAP Summary

		IMPACT SITE – PEM			
GROUPS	**SELECTED FUNCTION**	Function Rating	Rating Break Proximity	Values Rating	Rating Break Proximity
Hydrologic Function (WS)	Water Storage & Delay (WS)	Lower		Higher	
Water Quality Support (SR, PR, or NR)	Phosphorus Retention (PR)	Moderate		Moderate	LM
Fish Habitat (FA or FR)	Anadromous Fish Habitat (FA)	Higher		Higher	
Aquatic Habitat (AM, WBF, or WBN)	Waterbird Feeding Habitat (WBF)	Higher		Lower	LM
Ecosystem Support (WC, INV, PD, POL, SBM, or OE)	Water Cooling (WC)	Higher		Higher	

The detailed functional assessment is provided in Appendix F.

VEGETATED CORRIDOR ENHANCEMENT

Total VC enhancement is 144,884 square feet. Of this total area, 117,528 square feet is good condition VC. The remaining marginal VC (27,356 SF) will be enhanced with invasive removal and plantings as outlined below. A small area of the enhancement includes some grading that will occur within the VC that is accounted for permanent impacts that can be replanted after construction.

The portion of the VC in the southeast and southwest end of site is in marginal condition, with good pockets of tree canopy cover and dense non-native understory in most of this area. Based on existing tree cover, it is recommended that this this area is enhanced at a 100 percent base planting density for shrubs and 50 percent for trees.

VC Enhancement- Marginal-(27,356 SF) – 140 Trees & 1,368 Shrubs

VC Enhancement -Good-(117,528 SF) – Invasive plant removal and plant of all cleared areas greater than 25 square feet due plant removal and grading

VC temporary impacts of 920 square feet for the water quality facility outfall will be mitigated in place with 46 shrubs (Figure 4c).

VEGETATED CORRIDOR MITIGATION

Of the 26,360 square feet of VC permanent impacts a total of 988 square feet will not be mitigated for allowed uses. For 889 square feet of trail impacts that occur in areas where the trail impacts meet the criteria for allowed use and 99 square feet of impacts for water quality outfalls.

The total mitigation area is 29,455 square feet is proposed which is a minimum replacement ratio of 1:1.16. This includes 3 larger areas that range from 3,431 square feet to 10,8111 square feet. The remainder of the mitigation area is a combination of smaller areas adjacent to the development and existing VC (Figure 4, 4a-4c).

- The mitigation areas near the main development areas should be planted at 100 percent for shrubs and 40 percent for trees of the CWS base planting density.

  VC Mitigation (13,368 SF) 55 Trees and 670 Shrubs

- The larger area to the northeast (10,811 SF) is in good condition, only invasive plant removal and planting of all cleared areas greater than 25 square feet due to plant removal or grading.
- A portion of the mitigation area (5,276 SF) falls within the study area for SPL 19-002989 at the northwest site corner. Of that area, 3,431 square feet will remain in good condition, only invasive plant removal and planting of all cleared areas greater than 25 square feet due plant removal or grading. The remainder of 1,845 square feet has been temporarily impacted for the sewer line and will be replanted to good condition under the SPL 19-002989 conditions (Figure 4b & 4c).

Planting Areas

Final locations of enhancement and mitigation plantings will be determined in the field based on site conditions following the removal of the invasive non-native species. All areas of bare ground within the planting areas that exceed 25 square feet upon removal

of the invasive species shall be planted to CWS density standards (shrubs 5 foot on center spacing and trees 10-foot on-center spacing).

Landscape plan to include a seed mix for the enhancement area for use as erosion and sediment control. Additionally, it is recommended that the installed plantings each be mulched with 0.5 cubic feet of approved mulch material following planting installation. This will retard weed growth around the plantings and promote soil moisture retention for the plantings during the growing season.

A condition of the Service Provider Letter will be to coordinate with CWS on the final quantity, placement and type of the enhancement plantings.

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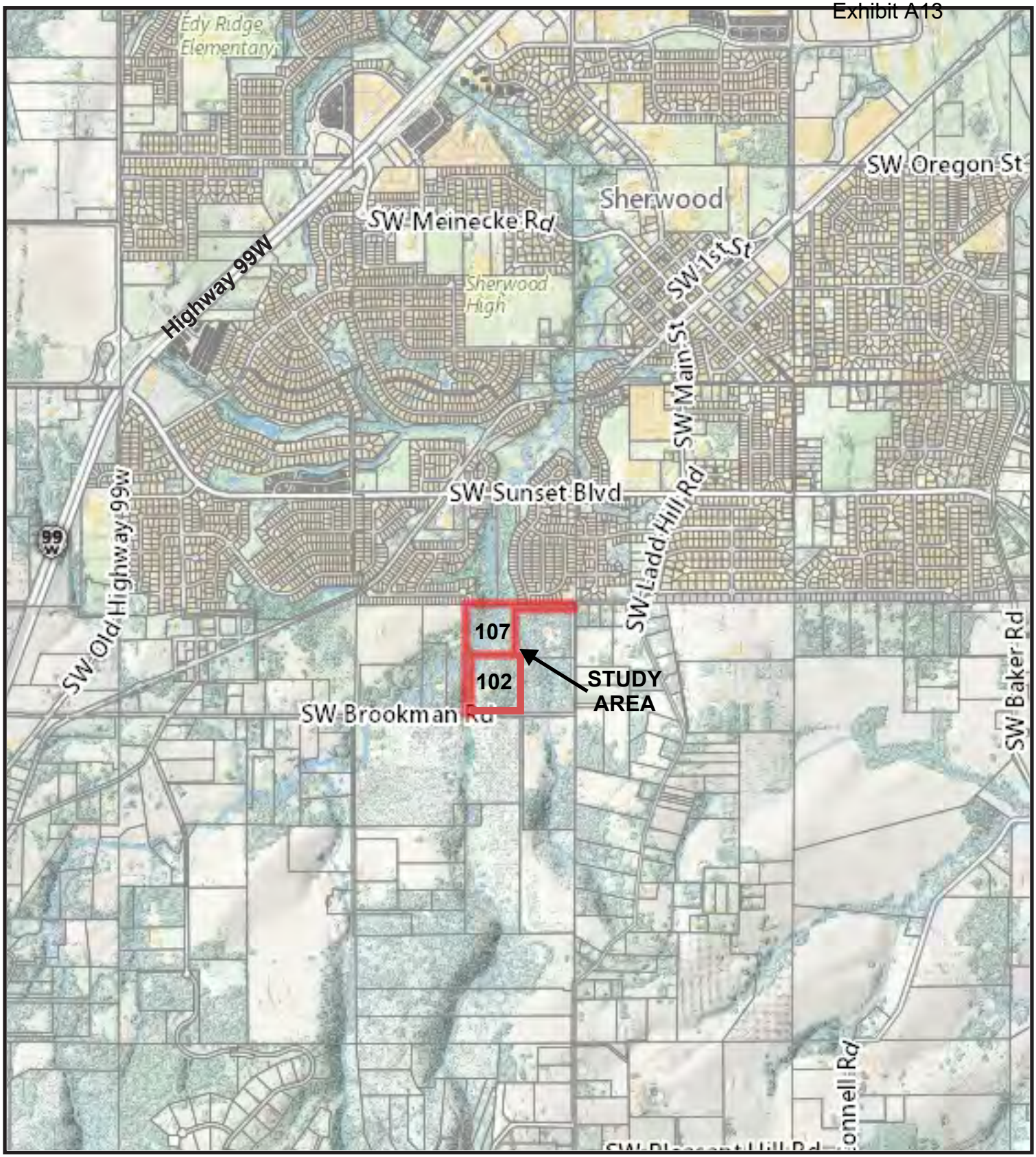
APPENDIX A: FIGURES

Exhibit A13



Source: Metro Data Resource Center. http://gis.oregonmetro.gov/metromap/

Environmental Science & Assessment, LLC e s a	Vicinity Map Cedar Creek Gardens Sherwood, Oregon	Figure 1 Approx. Scale: 1in. = 0.3 mi

Source: Metro Data Resource Center. http://gis.oregonmetro.gov/metromap/

Imagery date: 08/13/2020

Environmental Science & Assessment, LLC	Aerial Image Cedar Creek Garden Sherwood, Oregon	Figure 2 Approx. Scale: 1in. = 200 ft.

Exhibit A13

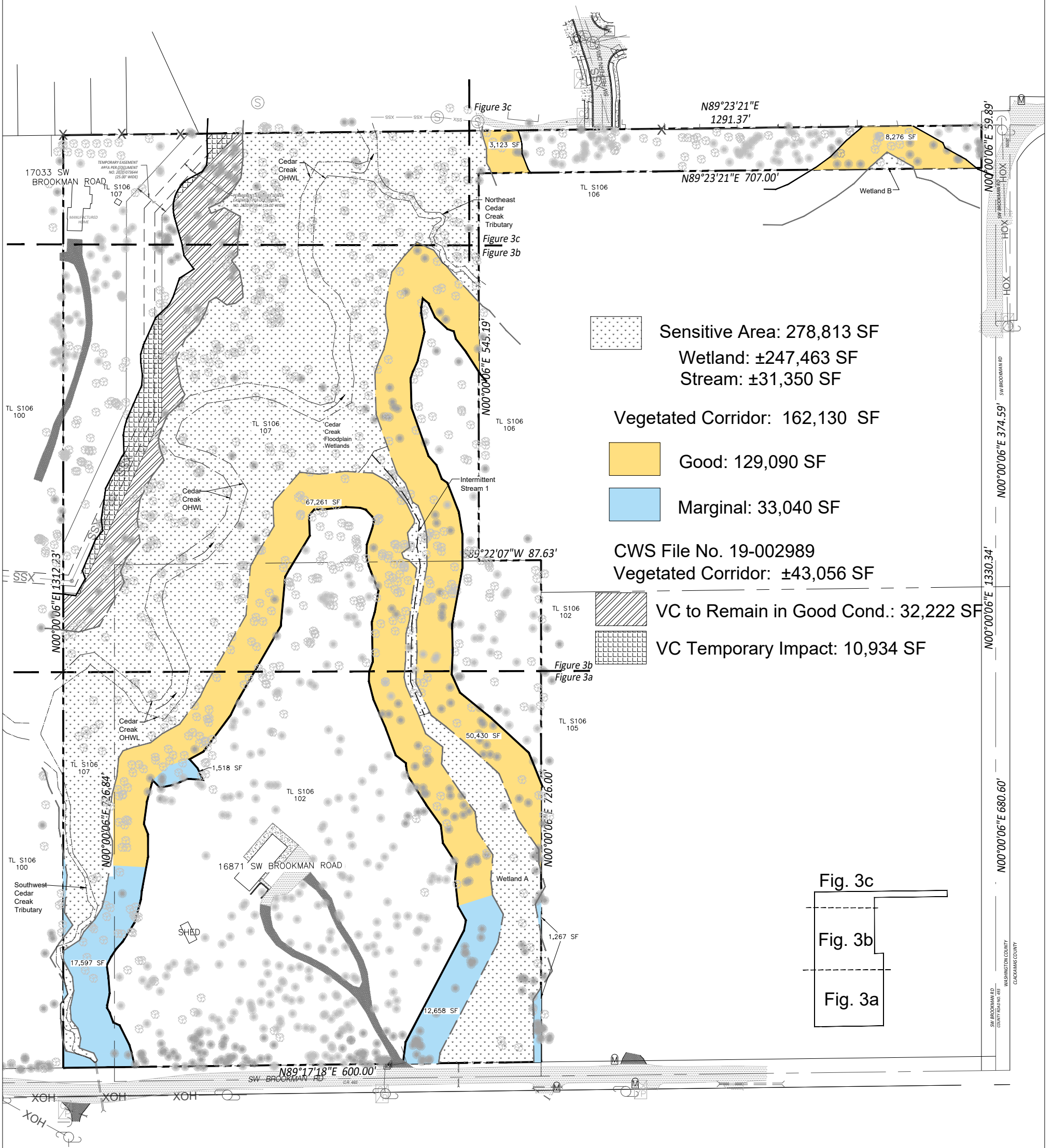


Fig. 3

Base Map Source: Pioneer Design Group, Inc.

Mod. By: KR

Date: 10/21

Job: 21004

Rev: 00/00

N

1"=140'

0 75 140

Existing Conditions Map
Cedar Creek Gardens
Sherwood, Oregon

Environmental Science & Assessment, LLC

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Portland, OR 97213
Phone: 503.478.0424
www.esapdx.com

Exhibit A13

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Portland, OR 97213
Phone: 503.478.0424
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Existing Conditions Map
Cedar Creek Gardens
Sherwood, Oregon

Figure 3b
Figure 3a

TL S106 105
TL S106 107
TL S106 102
TL S106 100

TL 102 MAP 3S 1 6
DOCUMENT NO. 87-027469

16871 SW BROOKMAN ROAD

SHED

Cedar Creak OHWL
Southwest Cedar Creak Tributary

100 YR FP

VC-1
VC-2
VC-3
VC-5
VC-6
DP-1
DP-2

GOOD
MARGINAL

50,430 SF
17,597 SF
12,658 SF
1,518 SF
1,267 SF

Wetland A

50'
15'
17%
22%
32%
26%
23%
24%
24%
25% Break
6%
5%
7%
8%
10%

N00°00'06"E 726.04'
N89°17'18"E 600.00'

SW BROOKMAN RD
C/R 493

XOH

Vegetated Corridor Boundary
Vegetated Corridor
Sensitive Area
Wetland Data Plot
VC Data Plot
Photo Point

Fig. 3c
Fig. 3b
Fig. 3a
1' Contours

N
1' = 60'
0 30 60

Base Map Source: Pioneer Design Group, Inc.

Modified By:	KR
Date:	10/21
Job:	21004
Rev:	00/00

Figure 3a

Exhibit A13

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Existing Conditions Map
Cedar Creek Gardens
Sherwood, Oregon

Figure 3c
Figure 3b

DP-15
DP-14
DP-10
DP-11
DP-6
DP-5
DP-7
DP-9
DP-8
DP-4
DP-3
VC-3
VC-4
67,261 SF

17033 SW BROOKMAN RD
TL 107 MAP 3S 1 6
DEED DOC. NO. 2017-049486

TL S106 100
TL S106 107
TL S106 106
TL S106 102

Cedar Creak Floodplain Wetlands
Cedar Creak OHWL
Intermittent Stream 1

100 YR FP
50'
24%
25%
28%
35'
22%
25% Break
Mit.-1
GOOD
21%
16%
17%
13%
S89°22'07"W 87.63'
N00°00'06"E 535.19'
N00°00'06"E 1312.23'
SSX

Vegetated Corridor Boundary
Vegetated Corridor
Sensitive Area
Wetland Data Plot
VC Data Plot
Photo Point

CWS File No. 19-002989
VC to Remain Good
VC Temporary Impact

Fig. 3c
Fig. 3b
Fig. 3a
1' Contours

N
1' = 60'
0 30 60

Base Map Source: Pioneer Design Group, Inc.

Modified By:	KR
Date:	10/21
Job:	21004
Rev:	00/00

Figure 3b

Exhibit A13

Environmental Science & Assessment, LLC
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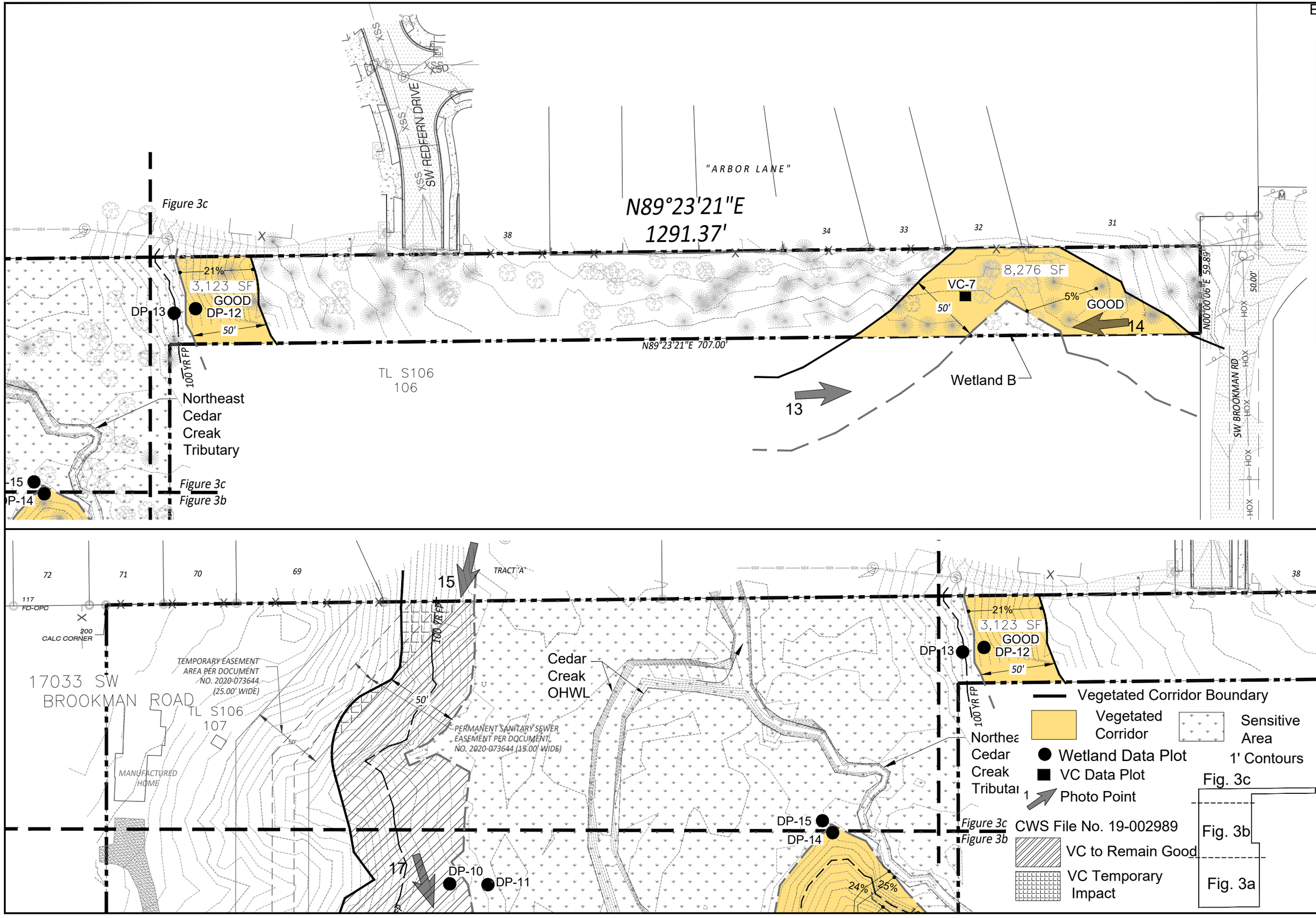
Portland, OR 97213
Phone: 503.478.0424
www.esapdx.com

Existing Conditions Map
Cedar Creek Gardens
Sherwood, Oregon



N

1' = 60'

0 30 60

Base Map Source:	Pioneer Design Group, Inc.
Modified By:	KR
Date:	10/21
Job:	21004
Rev:	00/00

Figure 3c

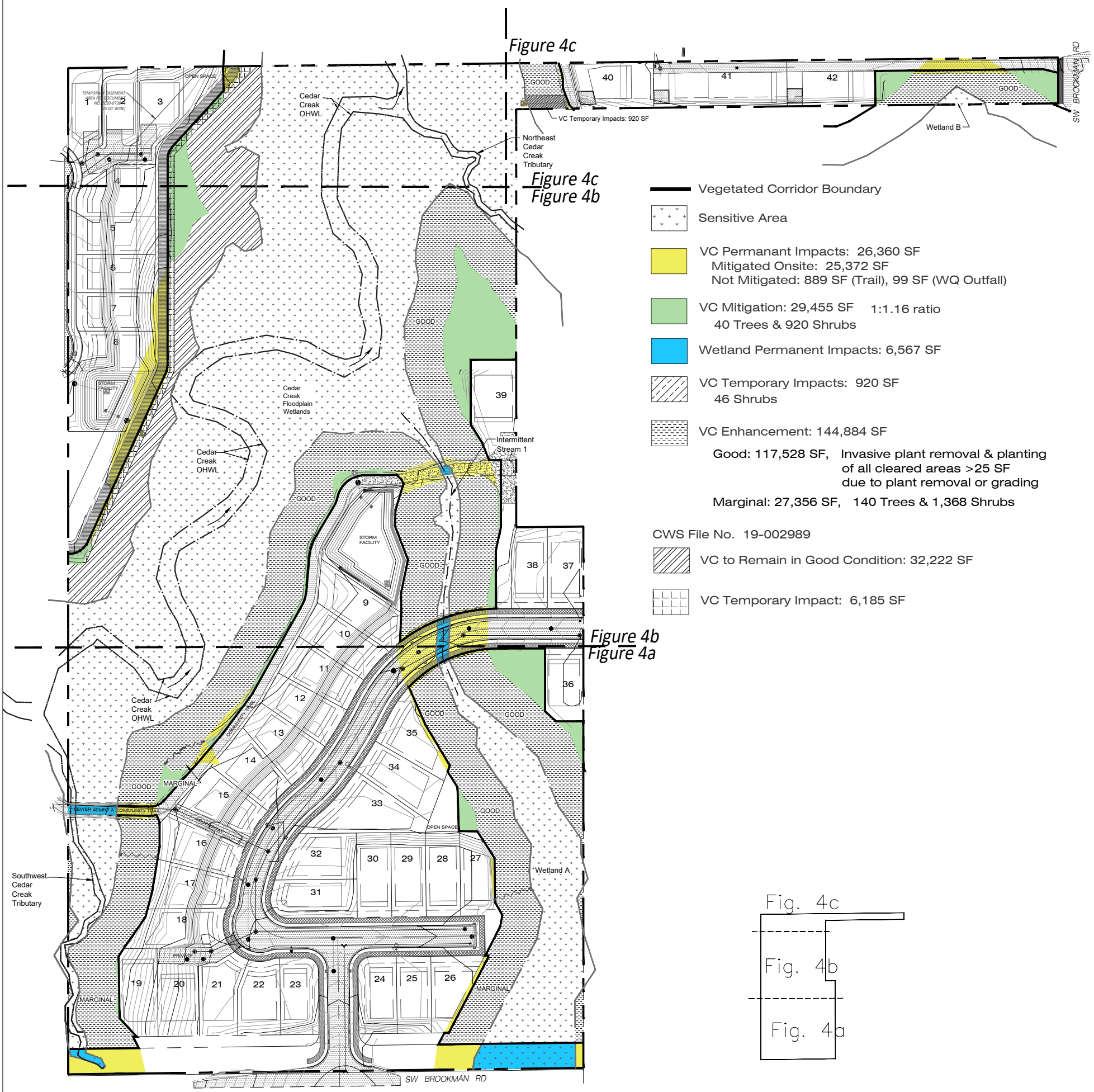


Fig. 4c

Fig. 4b

Fig. 4a

Fig. 4

Base Map Source: Pioneer Design Group, Inc.

Mod. By: KR

Date: 10/21

Job: 21004

Rev: 00/00

N

1"=140'

0 75 140

Site Plan
Cedar Creek Gardens
Sherwood, Oregon

Environmental Science & Assessment, LLC

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Exhibit A13

Figure 4b
Figure 4a

Cedar Creek OHWL

Southwest Cedar Creek Tributary

COMMUNITY TRAIL

SEWER ESMNT & COMMUNITY TRAIL

ACCESSWAY

PRIVATE

OPEN SPACE

GOOD

MARGINAL

Wetland A

3,618 SF

11 5309 SF 102'
12 5084 SF 102'
13 5098 SF 101'
14 5374 SF 98'
15 5222 SF 93'
16 5137 SF 104'
17 5656 SF 103'
18 5436 SF 104'
19 5725 SF 113'
20 5447 SF 95'
21 5130 SF 95'
22 5319 SF 100'
23 5176 SF 100'
24 4945 SF 100'
25 4945 SF 100'
26 4500 SF 100'
27 4917 SF 111'
28 4577 SF 75'
29 4969 SF 111'
30 4950 SF 110'
31 5454 SF 107'
32 5584 SF 107'
33 7261 SF 164'
34 5506 SF 115'
35 5146 SF 104'
36 4656 SF 82' x 95'

Vegetated Corridor Boundary
VC Permanent Impacts
VC Mitigation
VC Enhancement
Sensitive Area
Wetland Perm. Impacts

Fig. 4c
Fig. 4b
Fig. 4a

SW BROOKMAN RD

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Site Plan
Cedar Creek Gardens
Sherwood, Oregon

N
1' = 60'
0 30 60

Base Map Source: Pioneer Design Group, Inc.

Modified By:	KR
Date:	10/21
Job:	21004
Rev:	00/00

Figure 4a

Exhibit A13

Environmental Science & Assessment, LLC
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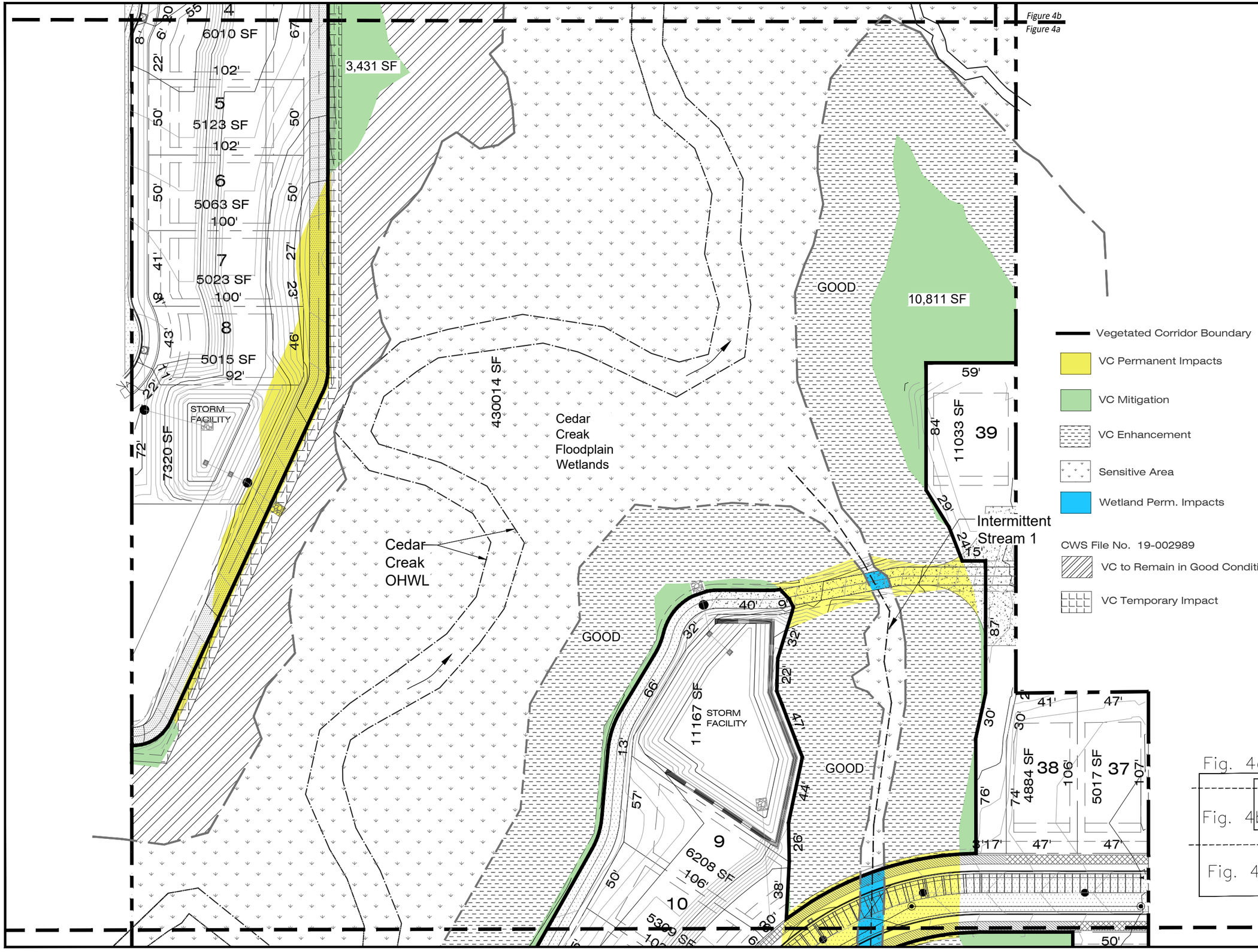
Existing Conditions Map
Cedar Creek Gardens
Sherwood, Oregon



N

1' = 60'

0 30 60

Base Map Source: Pioneer Design Group, Inc.

Modified By:	KR
Date:	10/21
Job:	21004
Rev:	00/00

Figure 4b

Exhibit A13

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Figure 4c

GOOD

108'
40
6062 SF
61'
60'
174'
41
10421 SF
60'
42
10522 SF
354'
20'
20'
10666 SF
GOOD
SW BROOKMAN RD
94'
174'
115'

VC Temporary Impacts: 920 SF

Wetland B

Northeast Cedar Creak Tributary

45'
45'
OPEN SPACE
TEMPORARY EASEMENT AREA PER DOCUMENT NO. 2020-073644 (25.00' WIDE)
104'
4944 SF
1
100'
5650 SF
2
112'
7276 SF
3
64'
54'
20'
37'
34'
23'
46'
55'
4
6010 SF
67'
8'
6'
30'
22'
102'
3,431 SF
5
5123 SF
50'
50'

Cedar Creak OHWL

Northeast Cedar Creak Tributary

Figure 4c
Figure 4b

GOOD
108'
40
6062 SF
61'
60'
174'
41
10421 SF
94'
174'

VC Temporary Impacts: 920 SF

VC Permanent Impacts
VC Mitigation
VC Enhancement
Sensitive Area
VC Temporary Impacts
CWS File No. 19-002989
VC to Remain in Good Cond.
VC Temporary Impact
Vegetated Corridor Boundary

Fig. 4c
Fig. 4b
Fig. 4a

N
1' = 60'
0 30 60

Site Plan
Cedar Creek Gardens
Sherwood, Oregon

Base Map Source: Pioneer Design Group, Inc.

Modified By:	KR
Date:	10/21
Job:	21004
Rev:	00/00

Figure 4c

APPENDIX B: SITE PHOTOGRAPHS

Exhibit A13

Photo 1: View east along south side of SW Brookman Road showing roadside ditch source of hydrology for wetland in southeast site corner.

Photo 2: View north showing where waters in Photo 1 ditch pass under SW Brookman Road.

Photo 3: View west at downstream end of culvert shown in Photo 2. This is the southern boundary of the wetland within the southeast site corner.

Photo 4: View east into wetland in south-east site corner showing typical vegetation. Home on parcel to the east is seen in background at yellow arrow for reference.

Photo 5: View southeast into northern end of wetland in southeast site corner showing intermittent drainage flowing out of wetland. Left photo date: 9/22/2021, right photo date: 2/8/2021

Photo 6: View northwest showing same intermittent drainage from Photo 5 flowing through dense duff layer and entering steeper topography to the north. Intermittent drainage becomes sub-surface within more densely wooded area in background.

Photo 7: View southwest showing typical conditions in area surrounding the home on the southern parcel (shown at yellow arrow)- Douglas fir canopy with cleared understory. Northern boundary flags of wetland in southeast site corner shown with red arrow.

Imagery date: 9/22/2021

Photo 8: View of spring on 9/22/2021 on left, and 2/8/2021 on right. Pink flag marking where waters from the intermittent drainage shown in Photos 5-6 emerge from the ground shown with yellow arrow.

Photo 9: View northwest showing typical conditions of wetland swale/intermittent tributary at the southwest site corner.

Photo 10: View southeast showing cleared understory in area surrounding the home.

Imagery date: 9/22/2021

Photo 11: View northeast showing typical Cedar Creek channel onsite with abundant woody debris and generally 100% canopy cover.

Photo 12: View showing typical conditions within planned mitigation area in the north-east part of site. Community is diverse and mostly native, some Himalayan blackberry.

Imagery date: 9/22/2021

Photo 13: View east from offsite showing intermittent drainage channel associated with onsite wetland area in the northeast “flagpole” part of site. Home just east of SW Brookman Road seen at yellow arrow for reference.

Photo 14: View west showing where wetland area extends onto site. Pink wetland boundary flag shown at yellow arrow.

Photo 15: View southwest along sewer line installation covered under SPL19-00 2989. Pink flags are wetland boundary flags, orange flags may be previous consultant wetland boundary flags.

Imagery date: 9/22/2021

Photo 16: View northeast along sewer line installation showing typical conditions within the temporary VC impact area.

Imagery date: 9/22/2021

Photo 17: View southeast showing conditions with floodplain wetlands: mild slope down from upland community can be seen and wetland boundary flag shown at yellow arrow.

Photo 18: View northeast showing typical conditions within VC adjacent to SW Brookman Road. Culvert where intermittent tributary originates from under the road highlighted at yellow arrow. Blackberry is densest at this edge, but gives way to less dense understory with more diversity seen in Photo 9.

APPENDIX C: WETLAND DELINEATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Cedar Creek Gardens City/County: Sherwood / Washington Sampling Date: 9/22/2021

Applicant/Owner: Bill Wagoner / Westwood Homes, LLC State: OR Sampling Point: DP-1

Investigator(s): Kim Reavis & Kim Sanderford Section, Township, Range: S06 T3S R1W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): <5

Subregion (LRR): A-Northwest Forests and Coasts Lat: Long: Datum: NAD 83

Soil Map Unit Name: Woodburn silt loam, 7 to 12 percent slopes (45C) Rating=1 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. Alnus rubra	15	Y	FAC
2.			
3.			
4.			
	15 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30' diameter)			
1. Physocarpus capitatus	50	Y	FACW
2. Rosa pisocarpa	30	Y	FAC
3.			
4.			
5.			
	80 = Total Cover		
Herb Stratum (Plot size: 5' diameter)			
1. Urtica dioica	75	Y	FAC
2. Oenanthe sarmentosa	15		OBL
3. Tolmiea menziesii	10		FAC
4. Carex letpopoda	5		FAC
5. Athyrium filix-femina	5		FAC
6.			
7.			
8.			
9.			
10.			
11.			
	110 = Total Cover		
Woody Vine Stratum (Plot size: 30' diameter)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: DP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	99	10YR 3/6	1	C	M	silty clay loam	
4-11	10YR 3/1	95	10YR 3/6	5	C	M	silty clay loam	
11-17	10YR 4/1	90	10YR 4/6	10	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ✔ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✔ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✔ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✔ No _____ Depth (inches): upper 6"

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Exhibit A13

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Cedar Creek Gardens City/County: Sherwood / Washington Sampling Date: 9/22/2021

Applicant/Owner: Bill Wagoner / Westwood Homes, LLC State: OR Sampling Point: DP-2

Investigator(s): Kim Reavis & Kim Sanderford Section, Township, Range: S06 T3S R1W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): convex Slope (%): <5

Subregion (LRR): A-Northwest Forests and Coasts Lat: Long: Datum: NAD 83

Soil Map Unit Name: Woodburn silt loam, 7 to 12 percent slopes (45C) Rating=1 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30' diameter)			
1. Corylus cornuta	60	Y	FACU
2. Sambucus sp.	20	Y	FACU
3.			
4.			
5.			
	80 = Total Cover		
Herb Stratum (Plot size: 5' diameter)			
1. Carex leptopoda	40	Y	FAC
2. Urtica dioica	25	Y	FAC
3. Athyrium filix-femina	20	Y	FAC
4. Tolmiea menziesii	5		FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: DP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	100					silty clay loam	
12-16	10YR 4/1	97	10YR 4/3	3	C	M	silty clay loam	
16-18	10YR 5/1	90	10YR 4/3	10	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Cedar Creek Gardens City/County: Sherwood / Washington Sampling Date: 9/22/2021

Applicant/Owner: Bill Wagoner / Westwood Homes, LLC State: OR Sampling Point: DP-3

Investigator(s): Kim Reavis & Kim Sanderford Section, Township, Range: S06 T3S R1W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): <5

Subregion (LRR): A-Northwest Forests and Coasts Lat: Long: Datum: NAD 83

Soil Map Unit Name: Woodburn silt loam, 7 to 12 percent slopes (45C) Rating=1 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks: In intermittent drainage near south planned path crossing

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pseudotsuga menziesii	80	Y	FACU
2.			
3.			
4.			
	80 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30' diameter)			
1. Corylus cornuta	20	Y	FACU
2. Acer circinatum	20	Y	FAC
3. Mahonia nervosa	15	Y	FACU
4.			
5.			
	55 = Total Cover		
Herb Stratum (Plot size: 5' diameter)			
1. Geranium robertianum	20	Y	FACU
2. Lathyrus latifolius	10	Y	FACU
3. Polystichum munitum	10	Y	FACU
4. Iris pseudoacorus	10	Y	OBL
5. Cirsium vulgare	5		FAC
6. Mycelis muralis	5		UPL
7.			
8.			
9.			
10.			
11.			
	60 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 40%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: DP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	duff/leaf litter							duff/organics
6-13	10 YR 3/3	100					silt clay loam	
13-17	10 YR 3/2	95	10 YR 3/6	5	C	M	silt clay loam	
17-20	10 YR 4/2	90	10 YR 4/6	10	C	M	silt clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Data plot is located within intermittent channel. Shallow flowing hydrology was observed in April, 2021

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Cedar Creek Gardens City/County: Sherwood / Washington Sampling Date: 9/22/2021

Applicant/Owner: Bill Wagoner / Westwood Homes, LLC State: OR Sampling Point: DP-4

Investigator(s): Kim Reavis & Kim Sanderford Section, Township, Range: S06 T3S R1W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): <5

Subregion (LRR): A-Northwest Forests and Coasts Lat: Long: Datum: NAD 83

Soil Map Unit Name: Woodburn silt loam, 3 to 7 percent slopes (44B) Rating=1 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30' diameter)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' diameter)			
1. Rubus ursinus	25	Y	FACU
2. Tellima grandiflora	trace		
3. Carex leptopoda	trace		
4. Urtica dioica	trace		
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	25 = Total Cover		
Woody Vine Stratum (Plot size: 30' diameter)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 75

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: DP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5 YR 3/2	100					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: This area located in a low lying concave area where water was observed pooling in April, 2021. This area is part of the intermittent drainage.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Cedar Creek Gardens City/County: Sherwood / Washington Sampling Date: 9/22/2021

Applicant/Owner: Bill Wagoner / Westwood Homes, LLC State: OR Sampling Point: DP-5

Investigator(s): Kim Reavis & Kim Sanderford Section, Township, Range: S06 T3S R1W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): <10

Subregion (LRR): A-Northwest Forests and Coasts Lat: Long: Datum: NAD 83

Soil Map Unit Name: Woodburn silt loam, 7 to 12 percent slopes (45C) Rating=1 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinua latifolia	60	Y	FACW
2.			
3.			
4.			
	60 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30' diameter)			
1. Acer circinatum	75	Y	FAC
2. Rubus ursinus	30	Y	FACU
3. Oemleria cerasiformis	5		FACU
4. Rubus armeniacus	5		FAC
5.			
	115 = Total Cover		
Herb Stratum (Plot size: 5' diameter)			
1. Urtica dioica	5	Y	FAC
2. Carex leptopoda	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: DP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10 YR 3/2	100					silt clay loam	
6-12	10 YR 3/2	99	10 YR 3/4	1	C	M	silt clay loam	
12-18	10 YR 3/2	95	10 YR 3/4	5	C	M	silt clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✔ No _____ Depth (inches): top 4"

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Saturation in the top 4" due to active precipitation on the day of field observations. Soils are dry below 4" with soil profile not indicating wetland conditions. Surface water was observed in April of 2021. This area is part of the intermittent drainage.

Exhibit A13

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Cedar Creek Gardens City/County: Sherwood / Washington Sampling Date: 9/22/2021

Applicant/Owner: Bill Wagoner / Westwood Homes, LLC State: OR Sampling Point: DP-6

Investigator(s): Kim Reavis & Kim Sanderford Section, Township, Range: S06 T3S R1W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): <5

Subregion (LRR): A-Northwest Forests and Coasts Lat: Long: Datum: NAD 83

Soil Map Unit Name: Woodburn silt loam, 3 to 7 percent slopes (44B) Rating=1 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus latifolia	40	Y	FACW
2.			
3.			
4.			
	40 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30' diameter)			
1. Rubus armeniacus	25	Y	FAC
2. Fraxinus latifolia (saplings)	20	Y	FACW
3. Oemleria cerasiformis	10		FACU
4.			
5.			
	55 = Total Cover		
Herb Stratum (Plot size: 5' diameter)			
1. Rubus ursinus	20	Y	FACU
2. Carex leptopoda	10	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: 30' diameter)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 60

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: DP-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10 YR 2/2	100					silt loam	
8-14	10 YR 3/2	85	10 YR 3/4	10	C	M	silt clay loam	
14-16	10 YR 4/2	85	10 YR 3/6	15	C	M	silt clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✔ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Standing water observed in this area in April 2021.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Cedar Creek Gardens City/County: Sherwood / Washington Sampling Date: 9/22/2021

Applicant/Owner: Bill Wagoner / Westwood Homes, LLC State: OR Sampling Point: DP-7

Investigator(s): Kim Reavis & Kim Sanderford Section, Township, Range: S06 T3S R1W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): convex Slope (%): 3-7

Subregion (LRR): A-Northwest Forests and Coasts Lat: Long: Datum: NAD 83

Soil Map Unit Name: Woodburn silt loam, 3 to 7 percent slopes (44B) Rating=1 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. Alnus rubra	40	Y	FAC
2. Acer circinatum	40	Y	FAC
3.			
4.			
	80 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30' diameter)			
1. Fraxinus latifolia (saplings)	10	Y	FACW
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 5' diameter)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 90

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: Less than 5% total cover of Urtica dioica and Carex leptopoda in herbaceous layer

SOIL

Sampling Point: DP-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10 YR 3/2	100					silt loam	
12-16	10 YR 4/2	95	10 YR 3/4	5	C	M	silt clay loam	
16-18	10 YR 4/2	85	10 YR 3/4	15	C	M	silt clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Cedar Creek Gardens City/County: Sherwood / Washington Sampling Date: 9/22/2021

Applicant/Owner: Bill Wagoner / Westwood Homes, LLC State: OR Sampling Point: DP-8

Investigator(s): Kim Reavis & Kim Sanderford Section, Township, Range: S06 T3S R1W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): convex Slope (%): 3-7

Subregion (LRR): A-Northwest Forests and Coasts Lat: Long: Datum: NAD 83

Soil Map Unit Name: Woodburn silt loam, 3 to 7 percent slopes (44B) Rating=1 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus latifolia	80	Y	FACW
2.			
3.			
4.			
	80 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30' diameter)			
1. Rubus ursinus	80	Y	FACU
2. Corylus cornuta	15		FACU
3. Oemleria cerasiformis	10		FACU
4.			
5.			
	105 = Total Cover		
Herb Stratum (Plot size: 5' diameter)			
1. Polystichum munitum	20	Y	FACU
2. Urtica dioica	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	25 = Total Cover		
Woody Vine Stratum (Plot size: 30' diameter)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: DP-8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	7.5 YR 2.5/2	100					silt loam	root refusal below this layer

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: roots

Depth (inches): 12

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Cedar Creek Gardens City/County: Sherwood / Washington Sampling Date: 9/22/2021

Applicant/Owner: Bill Wagoner / Westwood Homes, LLC State: OR Sampling Point: DP-9

Investigator(s): Kim Reavis & Kim Sanderford Section, Township, Range: S06 T3S R1W

Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): concave Slope (%): 3-7

Subregion (LRR): A-Northwest Forests and Coasts Lat: Long: Datum: NAD 83

Soil Map Unit Name: Woodburn silt loam, 3 to 7 percent slopes (44B) Rating=1 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks: Near central-west boundary of wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus latifolia	100	Y	FACW
2.			
3.			
4.			
	100 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30' diameter)			
1. Rosa gymnocarpa	30	Y	FACU
2. Cornus sericea	20	Y	FACW
3. Physocarpus capitatus	20	Y	FACW
4. Rubus ursinus	10		FACU
5.			
	80 = Total Cover		
Herb Stratum (Plot size: 5' diameter)			
1. Urtica dioica	30	Y	FAC
2. Carex leptopoda	15	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	45 = Total Cover		
Woody Vine Stratum (Plot size: 30' diameter)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: DP-9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-5	10 YR 3/2	100					silt clay loam	
5-12	10 YR 3/2	95	10 YR 3/4	5	C	M	silt clay loam	
12-19	10 YR 4/2	95	10 YR 4/4	5	C	M	silt clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✔ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Cedar Creek Gardens City/County: Sherwood / Washington Sampling Date: 9/22/2021

Applicant/Owner: Bill Wagoner / Westwood Homes, LLC State: OR Sampling Point: DP-10

Investigator(s): Kim Reavis & Kim Sanderford Section, Township, Range: S06 T3S R1W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 3-7

Subregion (LRR): A-Northwest Forests and Coasts Lat: Long: Datum: NAD 83

Soil Map Unit Name: Woodburn silt loam, 3 to 7 percent slopes (44B) Rating =1 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pseudotsuga menziesii	40	Y	FACU
2. Alnus rubra	25	Y	FAC
3.			
4.			
	65	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' diameter)			
1. Acer circinatum	20	Y	FAC
2. Corylus cornuta	20	Y	FACU
3. Rubus ursinus	10	Y	FACU
4.			
5.			
	40	= Total Cover	
Herb Stratum (Plot size: 5' diameter)			
1. Polystichum munitum	30	Y	FACU
2. Carex leptopoda	trace		FAC
3.			FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 30' diameter)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 60

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: DP-10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	10 YR 3/2	100					silt loam	
16-18	10 YR 4/2	95	10 YR 4/4	5	C	M	silt clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Cedar Creek Gardens City/County: Sherwood / Washington Sampling Date: 9/22/2021

Applicant/Owner: Bill Wagoner / Westwood Homes, LLC State: OR Sampling Point: DP-11

Investigator(s): Kim Reavis & Kim Sanderford Section, Township, Range: S06 T3S R1W

Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): concave Slope (%): 3-7

Subregion (LRR): A-Northwest Forests and Coasts Lat: Long: Datum: NAD 83

Soil Map Unit Name: Woodburn silt loam, 3 to 7 percent slopes (44B) Rating=1 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks: At west-central wetland boundary within northwest corner of the site

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus latifolia	75	Y	FACW
2.			
3.			
4.			
	75 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30' diameter)			
1. Acer circinatum	40	Y	FAC
2. Prunus avium	15	Y	FACU
3. Rubus ursinus	10		FACU
4.			
5.			
	65 = Total Cover		
Herb Stratum (Plot size: 5' diameter)			
1. Carex obnupta	80	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: 30' diameter)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: DP-11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10 YR 3/2	99	10 YR 4/6	1	C	M/PL	silt clay loam	OR's in this layer
3-9	10 YR 3/2	95	10 YR 4/6	5	C	M	silt clay loam	
9-14	10 YR 4/1	85	10 YR 4/6	15	C	M	silt clay loam	
14-18	10 YR 4/1	90	10 YR 4/6	10	C	M	silt clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ✔ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✔ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Cedar Creek Gardens City/County: Sherwood / Washington Sampling Date: 9/22/2021

Applicant/Owner: Bill Wagoner / Westwood Homes, LLC State: OR Sampling Point: DP-12

Investigator(s): Kim Reavis & Kim Sanderford Section, Township, Range: S06 T3S R1W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3-7

Subregion (LRR): A-Northwest Forests and Coasts Lat: Long: Datum: NAD 83

Soil Map Unit Name: Quatama loam, 3 to 7 percent slopes (37B) Rating=4 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks: Near northeast property boundary near "pan handle" of site

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pseudotsuga menziesii	30	Y	FACU
2. Prunus avium	10	Y	FACU
3.			
4.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' diameter)			
1. Rubus ursinus	30	Y	FACU
2. Rubus armeniacus	15	Y	FAC
3. Gaultheria shallon	15	Y	FACU
4. Corylus cornuta	15	Y	FACU
5. Sambucus racemosa	10		FACU
	85	= Total Cover	
Herb Stratum (Plot size: 5' diameter)			
1. Stachys cooleyae	20	Y	FACW
2. Polystichum munitum	20	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 30' diameter)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: Ribes sanguineum (5%) - FACU

SOIL

Sampling Point: DP-12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	7.5 YR 3/2	100					silt loam	
7-11	7.5 YR 3/2	99	10 YR 4/6	1	C	M	silt clay loam	
11-16	7.5 YR 4/1	95	10 YR 4/4	5	C	M	silt clay loam	
16-19	7.5 YR 4/1	85	10 YR 4/6	15	C	M	silt clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ✔ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ×

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ×

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: This plot is within one of the topographically highest areas within the study area, above the Cedar Creek floodplain elevation

Exhibit A13

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Cedar Creek Gardens City/County: Sherwood / Washington Sampling Date: 9/22/2021

Applicant/Owner: Bill Wagoner / Westwood Homes, LLC State: OR Sampling Point: DP-13

Investigator(s): Kim Reavis & Kim Sanderford Section, Township, Range: S06 T3S R1W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3-7

Subregion (LRR): A-Northwest Forests and Coasts Lat: Long: Datum: NAD 83

Soil Map Unit Name: Quatama loam, 3 to 7 percent slopes (37C) Rating=4 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks: Within western portion of panhandle-flag pole part of site

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus latifolia	80	Y	FACW
2.			
3.			
4.			
	80 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30' diameter)			
1. Cornus sericea	20	Y	FACW
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 5' diameter)			
1. Carex obnupta	100	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30' diameter)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ 5 - Wetland Non-Vascular Plants[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: DP-13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	7.5 YR 2.5/2	100					silt clay loam	
5-9	7.5 YR 3/2	95	7.5 YR 3/4	5	C	M	silt clay loam	
9-15	10 YR 3/1	90	10 YR 3/3	10	C	M	silt clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ✔ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ✔ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: The FACW-OBL dominate plant community act as a secondary indicator for hydrology

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Cedar Creek Gardens City/County: Sherwood / Washington Sampling Date: 9/22/2021

Applicant/Owner: Bill Wagoner / Westwood Homes, LLC State: OR Sampling Point: DP-14

Investigator(s): Kim Reavis & Kim Sanderford Section, Township, Range: S06 T3S R1W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0-3

Subregion (LRR): A-Northwest Forests and Coasts Lat: Long: Datum: NAD 83

Soil Map Unit Name: Huberly silt loam, 0 to 3 percent slopes (2225A) Rating=93 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus latifolia	10	Y	FACW
2.			
3.			
4.			
	10 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30' diameter)			
1. Acer circinatum	70	Y	FAC
2. Corylus cornuta	60	Y	FACU
3.			
4.			
5.			
	130 = Total Cover		
Herb Stratum (Plot size: 5' diameter)			
1. Carex leptopoda	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10 = Total Cover		
Woody Vine Stratum (Plot size: 30' diameter)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: moss cover is 80%

SOIL

Sampling Point: DP-14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-5	10 YR 3/3	100					silt loam	
5-9	10 YR 3/3	99	10 YR 4/4	1	C	M	silt clay loam	
9-14	10 YR 3/2	25					silt clay loam	mixed matrix
	10 YR 3/3	75					silt clay loam	
14-18	10 YR 3/2	95	10 YR 3/4	5			silt clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Cedar Creek Gardens City/County: Sherwood / Washington Sampling Date: 9/22/2021

Applicant/Owner: Bill Wagoner / Westwood Homes, LLC State: OR Sampling Point: DP-15

Investigator(s): Kim Reavis & Kim Sanderford Section, Township, Range: S06 T3S R1W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 0-3

Subregion (LRR): A-Northwest Forests and Coasts Lat: Long: Datum: NAD 83

Soil Map Unit Name: Huberly silt loam, 0 to 3 percent slopes (2225A) Rating=93 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks: at tip of wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' diameter)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' diameter)			
1. Oemleria cerasiformis	45	Y	FACU
2. Acer circinatum	20	Y	FAC
3.			
4.			
5.			
	65	= Total Cover	
Herb Stratum (Plot size: 5' diameter)			
1. Carex obnupta	30	Y	OBL
2. Carex leptopoda	trace		FAC
3. Tolmiea menziesii	trace		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	= Total Cover	
Woody Vine Stratum (Plot size: 30' diameter)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 50

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Moss cover is 20%

SOIL

Sampling Point: DP-15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5 YR 2.5/2	100					silt loam	
10-16	10 YR 4/2	95	10 YR 4/4	5	C	M	silt clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ✔ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: wetland comes to a "tip" here where upland areas drain to

APPENDIX D: VEGETATED CORRIDOR DATA FORMS

VEGETATED CORRIDOR DATA SHEET

Client/Project Name: Westwood Homes / Cedar Creek Garden	**Site Address: 16871 & 17033 SW Brookman, Sherwood, OR 97140**	**Plot ID: Mit.-1**
Township/Range/Section: T3S/R1W/S06		
Tax Map: 3S106	**Lot(s): 107**	
Brief Description of Plot Location: northeast corner of site, southof the panhandle and stream		
Site Investigator Name: Kim Sanderford & Kim Reavis	**Date of Investigation: 9/22/21**	
Plant Community Type: Forested		

Herbaceous Stratum	Percent Aerial Cover	Percent Relative Cover	Native? (1) Yes	Native? (1) No	Noxious?(2) Yes	Noxious?(2) No	Invasive? (3) Yes	Invasive? (3) No
1 *Polystichum munitum*	40	15	x			x		x
2 *Rubus ursinus*	25	9	x			x		x
3 *Carex leptopoda*	10	4	x			x		x
4 *Pteridium aquilinum*	10	4	x			x		x
5 *Tellima gradiflora*	5	2	x			x		x
6		0						
7		0						
8		0						
9		0						
10		0						
Shrub Stratum		0						
1 *Acer circinatum*	25	9	x			x		x
2 *Corysus cornuta*	20	8	x			x		x
3 *Oemleria cerasiformis*	10	4	x			x		x
4 *Symphoricarpos albus*	10	4	x			x		x
5		0						
6		0						
7		0						
8		0						
9		0						
10		0						
Tree Stratum		0						
1 *Prunus avium*	60	23		x		x		x
2 *Pseudotsuga menziesii*	40	15	x			x		x
3 *Alnus rubra*	10	4	x			x		x
4		0						
5		0						
6		0						
7		0						
8		0						
9		0						
Total	265	100						

Total percent relative native species cover	**77%**
Total percent aerial cover of tree canopy	**110%**
Total percent relative cover of non-native, noxious, and invasive species	**23%**

X	Good Condition (native species >80% of the community and tree canopy >50% aerial cover)
	Marginal Condition (native species 50-80% of the community and tree canopy 26-50% aerial cover)
	Degraded Condition (native species <50% of the community and tree canopy <25% aerial coverage)

Comments:

(1) Portland Plant List, 2011.
(2) Noxious Weed List, ODA.
(3) R 07-20, Clean Water Services, June, 2007.

VEGETATED CORRIDOR DATA SHEET

Client/Project Name: Westwood Homes / Cedar Creek Garden	**Site Address: 16871 & 17033 SW Brookman, Sherwood, OR 97140**	**Plot ID: VC-1**
Township/Range/Section: T3S/R1W/S06		
Tax Map: 3S106	**Lot(s): 102**	
Brief Description of Plot Location: West side of wetland, southeast portion of TL 102		
Site Investigator Name: Kim Sanderford	**Date of Investigation: 4/14/2021**	
Plant Community Type: Forest		

Herbaceous Stratum	Percent Aerial Cover	Percent Relative Cover	Native? (1) Yes	Native? (1) No	Noxious?(2) Yes	Noxious?(2) No	Invasive? (3) Yes	Invasive? (3) No
1 *Hedera helix*	75	30		x	x		x	
2 *Rubus ursinus*	20	8	x			x		x
3 *Polystichum munitum*	15	6	x			x		x
4 *Cardamine nuttallii*	10	4	x			x		x
5 *Galium aparine*	5	2	x			x		x
6 *Trillium ovatum*	5	2	x			x		x
7 *Urtica dioica*	5	2	x			x		x
8 *Leersia oryzoides*	5	2	x			x		x
9		0						
10		0						
Shrub Stratum		0						
1 *Oemleria cerasiformis*	20	8	x			x		x
2 *Corylus cornuta*	15	6	x			x		x
3 *Mahonia aquifolium*	10	4	x			x		x
4 *Ilex aquifolium*	5	2		x		x		x
5		0						
6		0						
7		0						
8		0						
9		0						
10		0						
Tree Stratum		0						
1 *Pseudotsuga menziesii*	60	24	x			x		x
2		0						
3		0						
4		0						
5		0						
6		0						
7		0						
8		0						
9		0						
Total	250	100						

Total percent relative native species cover	**68%**
Total percent aerial cover of tree canopy	**60%**
Total percent relative cover of non-native, noxious, and invasive species	**32%**

	Good Condition (native species >80% of the community and tree canopy >50% aerial cover)
X	Marginal Condition (native species 50-80% of the community and tree canopy 26-50% aerial cover)
	Degraded Condition (native species <50% of the community and tree canopy <25% aerial coverage)

Comments:

(1) Portland Plant List, 2011.
(2) Noxious Weed List, ODA.
(3) R 07-20, Clean Water Services, June, 2007.

VEGETATED CORRIDOR DATA SHEET

Client/Project Name: Westwood Homes / Cedar Creek Garden	Site Address: 16871 & 17033 SW Brookman, Sherwood, OR 97140	Plot ID: VC-2
Township/Range/Section: T3S/R1W/S06		
Tax Map: 3S106	Lot: 102	
Brief Description of Plot Location: eastern side on west side of wetland- across from house		
Site Investigator Name: Kim Sanderford	Date of Investigation: 4/14/2021	
Plant Community Type: Forest		

Herbaceous Stratum	Percent Aerial Cover	Percent Relative Cover	Native? (1) Yes	Native? (1) No	Noxious?(2) Yes	Noxious?(2) No	Invasive? (3) Yes	Invasive? (3) No
1 *Poilystichum munitum*	40	17	x			x		x
2 *Geranium lucidum*	15	6		x		x	x	
3 *Maianthemum racemosum*	10	4	x					
4 *Trillium ovatum*	10	4	x					
5 *Galium aparine*	5	2	x					
6 *Nemophylla sp.*	5	2	x					
7 *Hydrophyllum tenuipes*	5	2	x					
8		0						
9		0						
10		0						
Shrub Stratum		0						
1 *Corylus cornuta*	30	13	x			x		x
2 *Vaccinium parvifolium*	10	4	x			x		x
3 *Ribes sanguineum*	10	4	x			x		x
4 *Prunus avium*	5	2		x		x		x
5 *Rubus leucodermis*	5	2	x			x		x
6 *Sambucus racemosa*	5	2	x			x		x
7		0						
8		0						
9		0						
10		0						
Tree Stratum		0						
1 *Pseudotsuga menziesii*	80	33	x			x		x
2 *Prunus avium*	5	2		x		x		x
3		0						
4		0						
5		0						
6		0						
7		0						
8		0						
9		0						
Total	240	100						

Total percent relative native species cover	90%
Total percent aerial cover of tree canopy	85%
Total percent relative cover of non-native, noxious, and invasive species	10%

X	Good Condition (native species >80% of the community and tree canopy >50% aerial cover)
	Marginal Condition (native species 50-80% of the community and tree canopy 26-50% aerial cover)
	Degraded Condition (native species <50% of the community and tree canopy <25% aerial coverage)

Comments: Trace amounts in herbacious layer: Cardamine hirsuta, Urtica dioica, CARNUT

(1) Portland Plant List, 2011.
(2) Noxious Weed List, ODA.
(3) R 07-20, Clean Water Services, June, 2007.

VEGETATED CORRIDOR DATA SHEET

Client/Project Name: Westwood Homes / Cedar Creek Garden	Site Address: 16871 & 17033 SW Brookman, Sherwood, OR 97140	Plot ID: VC-3
Township/Range/Section: T3S/R1W/S06		
Tax Map: 3S106	Lot(s): 102	
Brief Description of Plot Location: west side of intermittent drainage		
Site Investigator Name: Kim Sanderford	Date of Investigation: 4/14/2021	
Plant Community Type: Forest		

Herbaceous Stratum	Percent Aerial Cover	Percent Relative Cover	Native? (1) Yes	Native? (1) No	Noxious?(2) Yes	Noxious?(2) No	Invasive? (3) Yes	Invasive? (3) No
1 *Hydrophyllum tenuipes*	75	35	x			x		x
2 *Geranium robertianum*	10	5		x		x		x
3 *Polystichun munitum*	5	2	x			x		x
4 *Lapsana communis*	5	2		x		x		x
5 *Galium aparine*	5	2	x			x		x
6 *Tellima grandiflora*		0	x			x		x
7 *Lamium purpureum*		0	x			x		x
8		0						
9		0						
10		0						
Shrub Stratum		0						
1 *Mahonia nervosa*	5	2	x			x		x
2 *Corylus cornuta*	5	2	x			x		x
3 *Vaccinium parvifolium*	5	2	x			x		x
4		0						
5		0						
6		0						
7		0						
8		0						
9		0						
10		0						
Tree Stratum		0						
1 *Pseudotsuga menziesii*	100	47	x			x		x
2		0						
3		0						
4		0						
5		0						
6		0						
7		0						
8		0						
9		0						
Total	215	100						

Total percent relative native species cover	93%
Total percent aerial cover of tree canopy	100%
Total percent relative cover of non-native, noxious, and invasive species	7%

X	Good Condition (native species >80% of the community and tree canopy >50% aerial cover)
	Marginal Condition (native species 50-80% of the community and tree canopy 26-50% aerial cover)
	Degraded Condition (native species <50% of the community and tree canopy <25% aerial coverage)

Comments:

(1) Portland Plant List, 2011.
(2) Noxious Weed List, ODA.
(3) R 07-20, Clean Water Services, June, 2007.

VEGETATED CORRIDOR DATA SHEET

Client/Project Name: Westwood Homes / Cedar Creek Garden	**Site Address: 16871 & 17033 SW Brookman, Sherwood, OR 97140**	**Plot ID: VC-4**
Township/Range/Section: T3S/R1W/S06		
Tax Map: 3S106	**Lot(s): 107**	
Brief Description of Plot Location: north end bottom of horseshoe		
Site Investigator Name: Kim Sanderford	**Date of Investigation: 4/14/2021**	
Plant Community Type: Forest		

Herbaceous Stratum	Percent Aerial Cover	Percent Relative Cover	Native? (1) Yes	Native? (1) No	Noxious?(2) Yes	Noxious?(2) No	Invasive? (3) Yes	Invasive? (3) No
1 *Polystichum munitum*	40	15	x			x		x
2 *Hydrophyllum tenuipes*	40	15	x			x		x
3 *Trillium ovatum*	5	2	x			x		x
4 *Achlys triphylla*	5	2	x			x		x
5 *Galium aparine*	5	2	x			x		x
6 *Claytonia perfoliata*	5	2	x			x		x
7		0						
8		0						
9		0						
10		0						
Shrub Stratum		0						
1 *Acer circinatum*	30	11	x			x		x
2 *Corylus cornuta*	30	11	x			x		x
3 *Vaccinium parvifolium*	25	9	x			x		x
4 *Mahonia aquifolium*	5	2	x			x		x
5		0						
6		0						
7		0						
8		0						
9		0						
10		0						
Tree Stratum		0						
1 *Pseudotsuga menziesii*	40	15	x			x		x
2 *Thuja plicata*	20	8	x			x		x
3 *Alnus rubra*	15	6	x			x		x
4		0						
5		0						
6		0						
7		0						
8		0						
9		0						
Total	265	100						

Total percent relative native species cover	**100%**
Total percent aerial cover of tree canopy	**75%**
Total percent relative cover of non-native, noxious, and invasive species	**0%**

X	Good Condition (native species >80% of the community and tree canopy >50% aerial cover)
	Marginal Condition (native species 50-80% of the community and tree canopy 26-50% aerial cover)
	Degraded Condition (native species <50% of the community and tree canopy <25% aerial coverage)

Comments:

(1) Portland Plant List, 2011.
(2) Noxious Weed List, ODA.
(3) R 07-20, Clean Water Services, June, 2007.

VEGETATED CORRIDOR DATA SHEET

Client/Project Name: Westwood Homes / Cedar Creek Garden	Site Address: 16871 & 17033 SW Brookman, Sherwood, OR 97140	Plot ID: VC-5
Township/Range/Section: T3S/R1W/S06		
Tax Map: 3S106	Lot(s): 102	
Brief Description of Plot Location: west side, east of wetland area		
Site Investigator Name: Kim Sanderford	Date of Investigation: 4/14/2021	
Plant Community Type: Forest		

Herbaceous Stratum	Percent Aerial Cover	Percent Relative Cover	Native? (1) Yes	Native? (1) No	Noxious?(2) Yes	Noxious?(2) No	Invasive? (3) Yes	Invasive? (3) No
1 *Polystichum munitum*	30	13	x			x		x
2 *Rubus ursinus*	30	13	x			x		x
3 *Pteridium aquilinum*	10	4	x			x		x
4 *Geranium lucidum*	10	4		x	x			x
5 *Galium aparine*	5	2	x			x		x
6		0						
7		0						
8		0						
9		0						
10		0						
Shrub Stratum		0						
1 *Rubus armeniacus*	25	11	x			x		x
2 *Oemleria cerasiformis*	25	11	x			x		x
3 *Corylus cornuta*	15	7	x			x		x
4 *Sambucus racemosa*	5	2	x			x		x
5 *Physocarpus capitatus*	5	2	x			x		x
6 *Mahonia aquifolium*	5	2	x			x		x
7		0						
8		0						
9		0						
10		0						
Tree Stratum		0						
1 *Pseudotsuga menziesi*	60	27	x			x		x
2		0						
3		0						
4		0						
5		0						
6		0						
7		0						
8		0						
9		0						
Total	225	100						

Total percent relative native species cover	96%
Total percent aerial cover of tree canopy	60%
Total percent relative cover of non-native, noxious, and invasive species	4%

X	Good Condition (native species >80% of the community and tree canopy >50% aerial cover)
	Marginal Condition (native species 50-80% of the community and tree canopy 26-50% aerial cover)
	Degraded Condition (native species <50% of the community and tree canopy <25% aerial coverage)

Comments:

(1) Portland Plant List, 2011.
(2) Noxious Weed List, ODA.
(3) R 07-20, Clean Water Services, June, 2007.

VEGETATED CORRIDOR DATA SHEET

Client/Project Name: Westwood Homes / Cedar Creek Garden	Site Address: 16871 & 17033 SW Brookman, Sherwood, OR 97140	Plot ID: VC-6
Township/Range/Section: T3S/R1W/S06		
Tax Map: 3S106	Lot(s): 102	
Brief Description of Plot Location: lower southwest portion of VC, east of wetland		
Site Investigator Name: Kim Sanderford	Date of Investigation: 4/14/2021	
Plant Community Type: Forest		

Herbaceous Stratum	Percent Aerial Cover	Percent Relative Cover	Native? (1) Yes	Native? (1) No	Noxious?(2) Yes	Noxious?(2) No	Invasive? (3) Yes	Invasive? (3) No
1 *Pteridium aquilinum*	20	11	x			x		x
2 *Urtica dioica*	10	6	x			x		x
3 *Leucanthemum vulgare*	10	6		x		x		x
4 *Ranunculus repens*	5	3		x		x		x
5 *Cardamine hirsuta*	5	3		x		x		x
6		0						
7		0						
8		0						
9		0						
10		0						
Shrub Stratum		0						
1 *Rubus armeniacus*	50	28		x	x		x	
2 *Sambucus racemosa*	15	8	x			x		x
3 *Corylus corntua*	15	8	x			x		x
4		0						
5		0						
6		0						
7		0						
8		0						
9		0						
10		0						
Tree Stratum		0						
1 *Alnus rubra*	40	22	x			x		x
2 *Pseudotsuga menziesi*	5	3	x			x		x
3 *Abies gransis*	5	3	x			x		x
4		0						
5		0						
6		0						
7		0						
8		0						
9		0						
Total	180	100						

Total percent relative native species cover	61%
Total percent aerial cover of tree canopy	50%
Total percent relative cover of non-native, noxious, and invasive species	39%

	Good Condition (native species >80% of the community and tree canopy >50% aerial cover)
X	Marginal Condition (native species 50-80% of the community and tree canopy 26-50% aerial cover)
	Degraded Condition (native species <50% of the community and tree canopy <25% aerial coverage)

Comments:

(1) Portland Plant List, 2011.
(2) Noxious Weed List, ODA.
(3) R 07-20, Clean Water Services, June, 2007.

VEGETATED CORRIDOR DATA SHEET

Client/Project Name: Westwood Homes / Cedar Creek Garden	Site Address: 16871 & 17033 SW Brookman, Sherwood, OR 97140	Plot ID: VC-7
Township/Range/Section: T3S/R1W/S06		
Tax Map: 3S106	Lot(s): 107	
Brief Description of Plot Location: In flag portion of TL 107, west of the eastern most wetland		
Site Investigator Name: Kim Sanderford	Date of Investigation: 4/14/2021	
Plant Community Type: Forest		

Herbaceous Stratum	Percent Aerial Cover	Percent Relative Cover	Native? (1) Yes	Native? (1) No	Noxious?(2) Yes	Noxious?(2) No	Invasive? (3) Yes	Invasive? (3) No
1 *Geranium lucidum*	20	13		x	x			x
2 *Hydrophyllum tenuipes*	20	13	x			x		x
3		0						
4		0						
5		0						
6		0						
7		0						
8		0						
9		0						
10		0						
Shrub Stratum		0						
1 *Symphoricarpos albus*	15	9	x			x		x
2 *Ribes sanguineum*	10	6	x			x		x
3 *Oemleria cerasiformis*	15	9	x			x		x
4 *Rubus armeniacus*	10	6		x	x	x	x	x
5		0						
6		0						
7		0						
8		0						
9		0						
10		0						
Tree Stratum		0						
1 *Fraxinus latifolia*	30	19	x			x		x
2 *Pseudotsuga menziesii*	20	13	x			x		x
3 *Alnus rubra*	20	13	x			x		x
4		0						
5		0						
6		0						
7		0						
8		0						
9		0						
Total	160	100						

Total percent relative native species cover	81%
Total percent aerial cover of tree canopy	70%
Total percent relative cover of non-native, noxious, and invasive species	19%

X	Good Condition (native species >80% of the community and tree canopy >50% aerial cover)
	Marginal Condition (native species 50-80% of the community and tree canopy 26-50% aerial cover)
	Degraded Condition (native species <50% of the community and tree canopy <25% aerial coverage)

Comments:

(1) Portland Plant List, 2011.
(2) Noxious Weed List, ODA.
(3) R 07-20, Clean Water Services, June, 2007.

VEGETATED CORRIDOR DATA SHEET

Client/Project Name: Westwood Homes / Cedar Creek Garden	**Site Address: 16871 & 17033 SW Brookman, Sherwood, OR 97140**	**Plot ID:**
Township/Range/Section: T3S/R1W/S06		
Tax Map: 3S106	**Lot(s): 107 &102**	
Brief Description of Plot Location:		
Site Investigator Name: Kim Sanderford	**Date of Investigation: 4/14/2021**	
Plant Community Type:		

Herbaceous Stratum	Percent Aerial Cover	Percent Relative Cover	Native? (1) Yes	Native? (1) No	Noxious?(2) Yes	Noxious?(2) No	Invasive? (3) Yes	Invasive? (3) No
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
Shrub Stratum								
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
Tree Stratum								
1								
2								
3								
4								
5								
6								
7								
8								
9								
Total	0	0						

Total percent relative native species cover	**0%**
Total percent aerial cover of tree canopy	**0%**
Total percent relative cover of non-native, noxious, and invasive species	**0%**

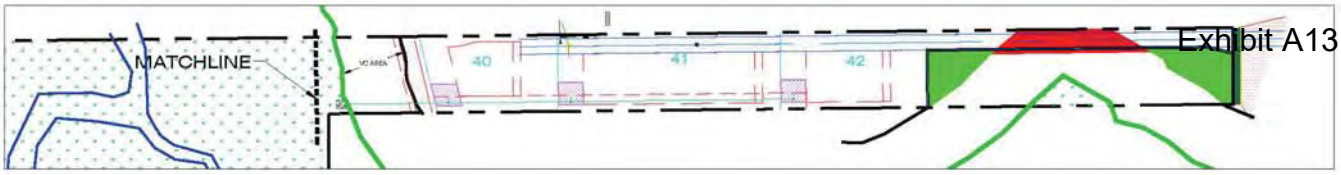
	Good Condition (native species >80% of the community and tree canopy >50% aerial cover)
	Marginal Condition (native species 50-80% of the community and tree canopy 26-50% aerial cover)
	Degraded Condition (native species <50% of the community and tree canopy <25% aerial coverage)

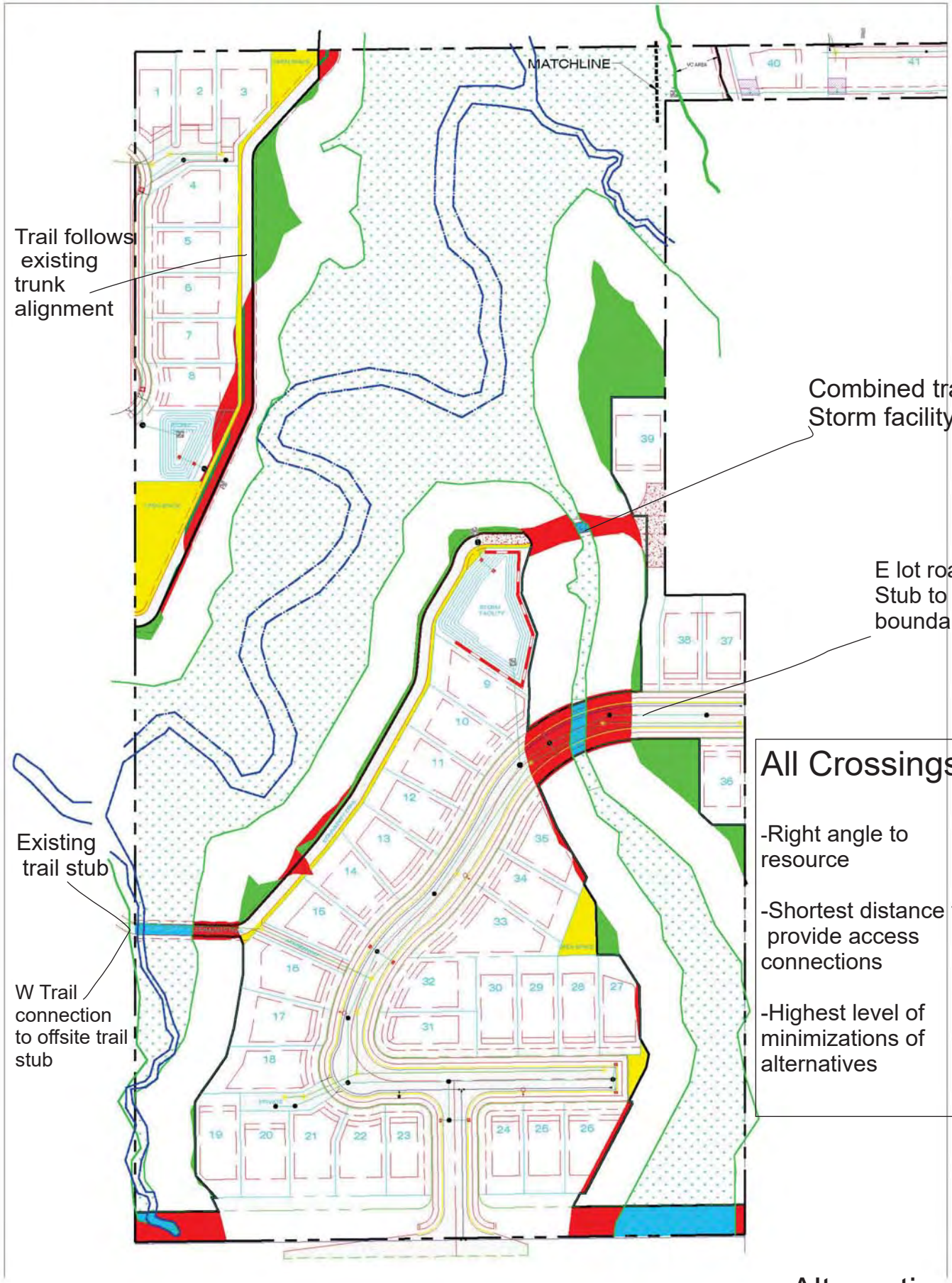
Comments:

(1) Portland Plant List, 2011.
(2) Noxious Weed List, ODA.
(3) R 07-20, Clean Water Services, June, 2007.

APPENDIX E: SITE PLAN ALTERNATIVES

Exhibit A13





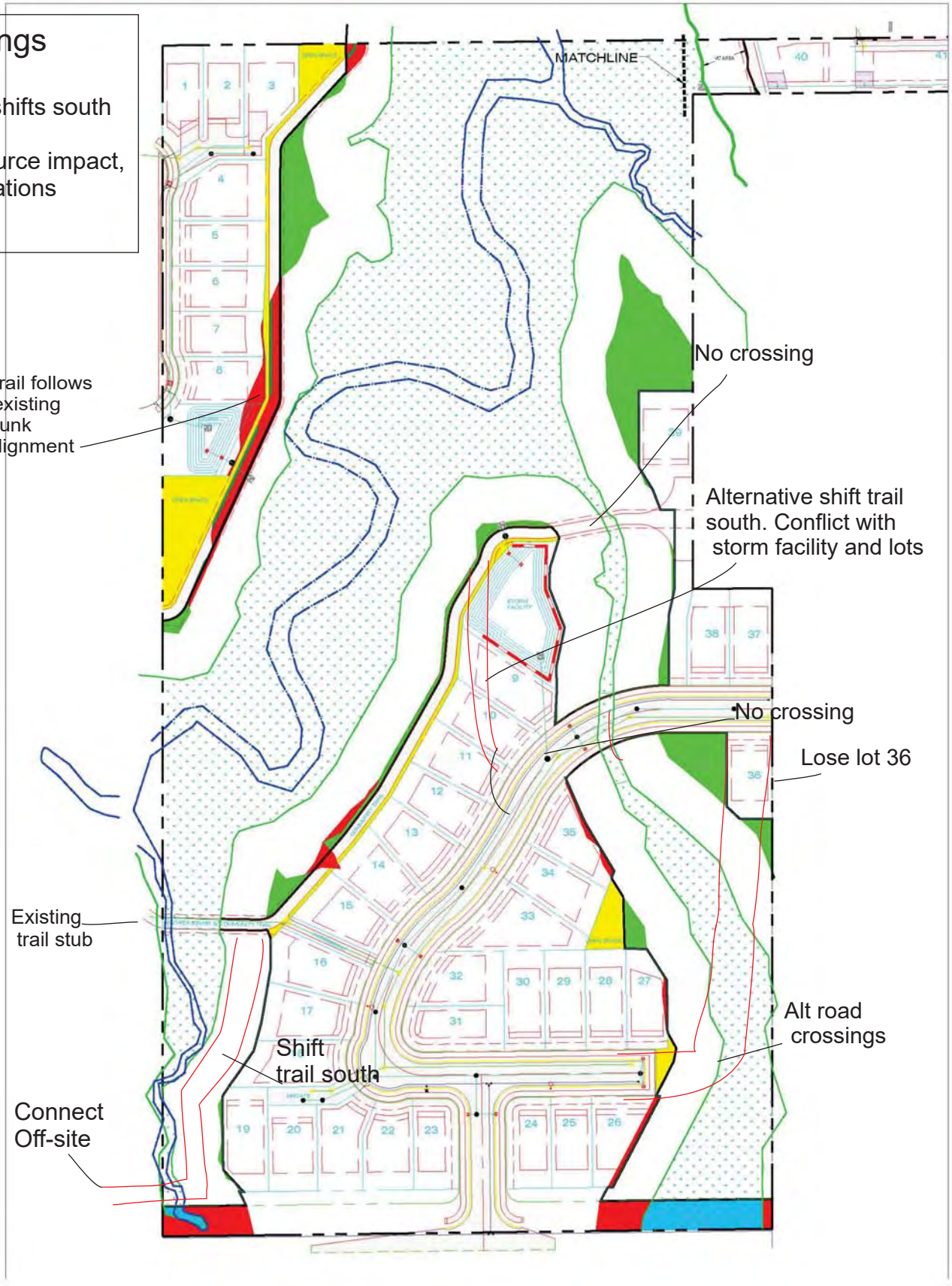
Alternative A

Exhibit A13

All crosssings

-Alt crossing shifts south

-Greater resource impact, less minimilizations



Alternative B

APPENDIX F: FUNCTIONAL ASSESSMENT

Oregon Rapid Wetland Assessment (ORWAP) V.3.2.*	Cover Page: Basic Description of Assessment
Site Name:	Cedar Creek Gardens
Investigator Name:	K. Sanderford
Date of Field Assessment:	2/8/21, 4/14/2021, 9/22/2021
County:	Washington
Nearest Town:	Sherwood
Latitude (decimal degrees):	45.344766
Longitude (decimal degrees):	-122.8505
TRS, quarter/quarter section and tax lot(s):	T3S R1W S6, QQ BB, lots 107 and 102
Approximate size of the Assessment Area (AA, in acres):	16
AA as percent of entire wetland (approx.). Attach sketch map if AA is smaller than the entire contiguous wetland.	43% (total is approx. 37-acres, see comment below)
If delineated, DSL file number (WD #) if known:	
Cowardin Systems & Classes (indicate all present, based on field visit and/or aerial imagery): Systems: Palustrine =P, Riverine =R, Lacustrine =L, Estuarine =E Classes: Emergent =EM, Scrub-Shrub =SS, Forested =FO, Aquatic Bed (incl. SAV) =AB, Open Water =OW, Unconsolidated Bottom =UB, Unconsolidated Shore =US	PFO, PSS
Predominant HGM Class: Estuarine=E, Lacustrine=L, Riverine=R, S= Slope, F= Flats, D= Depressional	Riverine (flats also represented)
Soil Unit Mapped in Most of the AA:	Willamette silt loam, 7 to 12 percent slopes
If tidal, the tidal phase during most of visit:	n/a
What percent (approximate) of the **wetland** were you able to visit?	60% (ES&A visited western extent of wetland previously for different project)
What percent (approximate) of the **AA** were you able to visit?	1
Have you attended an ORWAP training session? If so, indicate approximate month & year.	no
How many wetlands have you assessed previously using ORWAP (approximate)?	6

Comments about the site or this ORWAP assessment (attach extra page if desired):	Entire contiguous wetland area is the Cedar Creek floodplain and associated tributaries from Sunset Blvd at the north to Brookman Road at the south. These busy roads are assumed to sever the ecological corridor to some extent, though hydrology is contiguous all the way to TRNWR. Questions in ORWAP Users Manual, Appendix F, Table 1 are answered for this entire contiguous area.

ORWAP V.3.2 Site Name:	**Cedar Creek Gardens**
Investigator Name:	**K. Sanderford**
Date of Field Assessment:	**2/8/21, 4/14/2021, 9/22/2021**

Scores will appear below after data are entered in worksheets OF, F, T, and S. See Manual for definitions and descriptions of how scores were computed and ratings assigned.

Normalized Scores & Ratings for this Assessment Area (AA):

Specific Functions or Values:	Function Score	Function Rating	Rating Break Proximity	Values Score	Values Rating	Rating Break Proximity	Function Score (raw)	Values Score (raw)
Water Storage & Delay (WS)	2.34	Lower		10.00	Higher		2.34	10.00
Sediment Retention & Stabilization (SR)	3.54	Lower	LM	3.87	Moderate	LM	3.84	2.95
Phosphorus Retention (PR)	4.67	Moderate		4.19	Moderate		4.88	3.48
Nitrate Removal & Retention (NR)	3.49	Lower	LM	10.00	Higher		4.74	10.00
Anadromous Fish Habitat (FA)	8.46	Higher		10.00	Higher		7.42	10.00
Resident Fish Habitat (FR)	7.27	Higher	MH	3.44	Moderate		6.01	3.44
Amphibian & Reptile Habitat (AM)	4.51	Moderate	LM	2.85	Lower		4.09	2.85
Waterbird Nesting Habitat (WBN)	6.39	Moderate		1.72	Moderate	LM	5.30	1.72
Waterbird Feeding Habitat (WBF)	7.88	Higher		2.08	Lower	LM	7.11	2.08
Aquatic Invertebrate Habitat (INV)	9.43	Higher		1.94	Lower		8.73	2.47
Songbird, Raptor, Mammal Habitat (SBM)	4.06	Moderate	LM	2.67	Lower		5.62	2.67
Water Cooling (WC)	9.54	Higher		6.74	Higher		8.34	6.43
Native Plant Diversity (PD)	7.34	Higher	MH	10.00	Higher		6.58	10.00
Pollinator Habitat (POL)	7.93	Higher	MH	3.09	Moderate		6.92	2.50
Organic Nutrient Export (OE)	6.89	Higher	MH				6.10	
Carbon Sequestration (CS)	6.02	Moderate	MH				5.30	
Public Use & Recognition (PU)				2.72	Lower			3.43

Other Attributes:	Score	Rating	Rating Break Proximity		
Wetland Sensitivity (SEN)	5.37	Higher			6.46
Wetland Ecological Condition (EC)	2.28	Lower			3.88
Wetland Stressors (STR)	3.19	Moderate	LM		2.93

GROUPS	Selected Function	Function Rating	Rating Break Proximity	Values Rating	Rating Break Proximity
Hydrologic Function (WS)	Water Storage & Delay (WS)	Lower		Higher	
Water Quality Support (SR, PR, or NR)	Phosphorus Retention (PR)	Moderate		Moderate	
Fish Habitat (FA or FR)	Anadromous Fish Habitat (FA)	Higher		Higher	
Aquatic Habitat (AM, WBF, or WBN)	Waterbird Feeding Habitat (WBF)	Higher		Lower	LM
Ecosystem Support (WC, INV, PD, POL, SBM, or OE)	Water Cooling (WC)	Higher		Higher	

NOTE: A score of 0 does not always mean the function or value is absent from the wetland. It usually means that this wetland has equal or less capacity than the lowest-scoring one, for that function or value, from among the 200 calibration wetlands that were assessed previously by Oregon Department of State Lands.

Exhibit A14

Oregon
Kate Brown, Governor

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
(503) 986-5200
FAX (503) 378-4844
www.oregon.gov/dsl

March 17, 2022

Westwood Homes
Attn: Bill Wagoner
12700 Cornell Road
Portland, OR 97229

Re: WD # 2022-0005 **Approved**
Wetland Delineation Report for Cedar Creek Gardens
Clackamas County; T3S R1W S6 TLs 102 and 107

Dear Bill Wagoner:

The Department of State Lands has reviewed the wetland delineation report prepared by Environmental Science & Assessment for the site referenced above. Based upon the information presented in the report, and additional information submitted upon request, we concur with the wetland and waterway boundaries as mapped in revised Figure 6, 6a, 6b, and 6c of the report. Please replace all copies of the preliminary wetland maps with these final Department-approved maps.

Within the study area, 3 wetland areas (Wetland A, Wetland B, and the Cedar Creek Floodplain Wetlands, totaling approximately 5.45 acres) and 4 waterways (Cedar Creek, Northeast Cedar Creek Tributary, Southwest Cedar Creek Tributary, and an Unnamed Intermittent Stream) were identified. The wetlands and waterways are subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in wetlands or below the ordinary high-water line (OHWL) of the waterway (or the 2-year recurrence interval flood elevation if OHWL cannot be determined).

This concurrence is for purposes of the state Removal-Fill Law only. We recommend that you attach a copy of this concurrence letter to any subsequent state permit application to speed application review. Federal, other state agencies or local permit requirements may apply as well. The U.S. Army Corps of Engineers will determine jurisdiction under the Clean Water Act, which may require submittal of a complete Wetland Delineation Report.

Please be advised that state law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you work with Department staff on appropriate site design before completing the city or county land use approval process.

This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you for having the site evaluated. If you have any questions, please contact Chris Stevenson PWS, the Jurisdiction Coordinator for Washington County at (503) 986-5246.

Sincerely,

Peter Ryan, SPWS
Aquatic Resource Specialist

Enclosures

ec: Kim Sanderford, ESA
Jack Dalton, ESA
City of Sherwood Planning Department
Trey Fraley, Corps of Engineers
Michael De Blasi, DSL
Lindsey Obermiller, Clean Water Services
Joy Vaughan, ODFW

Exhibit A14

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

A complete report and signed report cover form, along with applicable review fee are required before a report review timeline can be initiated by the Department of State Lands. All applicants will receive an emailed confirmation that includes the report's unique file number and other information.

Ways to submit report:

- **Under 50MB** - A single unlocked PDF can be emailed to: wetland.delineation@dsl.oregon.gov.
- **50MB or larger** - A single unlocked PDF can be uploaded to DSL's Box.com website. After upload notify DSL by email at: wetland.delineation@dsl.oregon.gov.
- OR a hard copy of the unbound report and signed cover form can be mailed to: Oregon Department of State Lands. 775 Summer Street NE, Suite 100, Salem, OR 97301-1279.

Ways to pay review fee:

- By credit card on DSL's epayment portal after receiving the unique file number from DSL's emailed confirmation.
- By check payable to the Oregon Department of State Lands attached to the unbound mailed hardcopy OR attached to the complete signed cover form if report submitted electronically.

Contact and Authorization Information

☒ Applicant ☐ Owner Name, Firm and Address:
Bill Wagoner, Westwood Homes
12700 NW Cornell Road
Portland, OR 97229

Business phone # (503) 980-1708
Mobile phone # (optional)
E-mail: bill@westwoodhomesllc.com

☒ Authorized Legal Agent, Name and Address (if different):
Jack Dalton, Environmental Science and Assessment
4831 NE Fremont Street, #2B
Portland, OR 97213

Business phone # (503) 478-0424
Mobile phone # (optional)
E-mail: jack@esapdx.com

I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.

Typed/Printed Name: Jack Dalton **Signature:**

Date: 12/22/2021 Special instructions regarding site access: Contact applicant before site access

Project and Site Information

Project Name: Cedar Creek Gardens

Latitude: 45.344646 Longitude: -122.849969
decimal degree - centroid of site or start & end points of linear project

Proposed Use:
Residential subdivision

Tax Map # 3S106
Tax Lot(s) 102 & 107

Tax Map #
Tax Lot(s)

Project Street Address (or other descriptive location):
17033 SW Brookman Road & 16871 SW Brookman Road

Township 3S Range 1W Section 6 QQ AB

Use separate sheet for additional tax and location information

City: Sherwood County: Washington

Waterway: Cedar Creek River Mile: n/a

Wetland Delineation Information

Wetland Consultant Name, Firm and Address:
Kim Sanderford, Environmental Science and Assessment
4831 NE Fremont Street, #2B
Portland, OR 97213

Phone # (503) 478-0424
Mobile phone # (if applicable)
E-mail: kims@esapdx.com

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.

Consultant Signature: Date: 12/22/2021

Primary Contact for report review and site access is ☒ Consultant ☐ Applicant/Owner ☐ Authorized Agent

Wetland/Waters Present? ☒ Yes ☐ No Study Area size: 23.97 Total Wetland Acreage: 5.45 acres

Check Applicable Boxes Below

☐ R-F permit application submitted
☐ Mitigation bank site
☐ EFSC/ODOE Proj. Mgr:
☐ Wetland restoration/enhancement project (not mitigation)
☐ Previous delineation/application on parcel
If known, previous DSL # ____

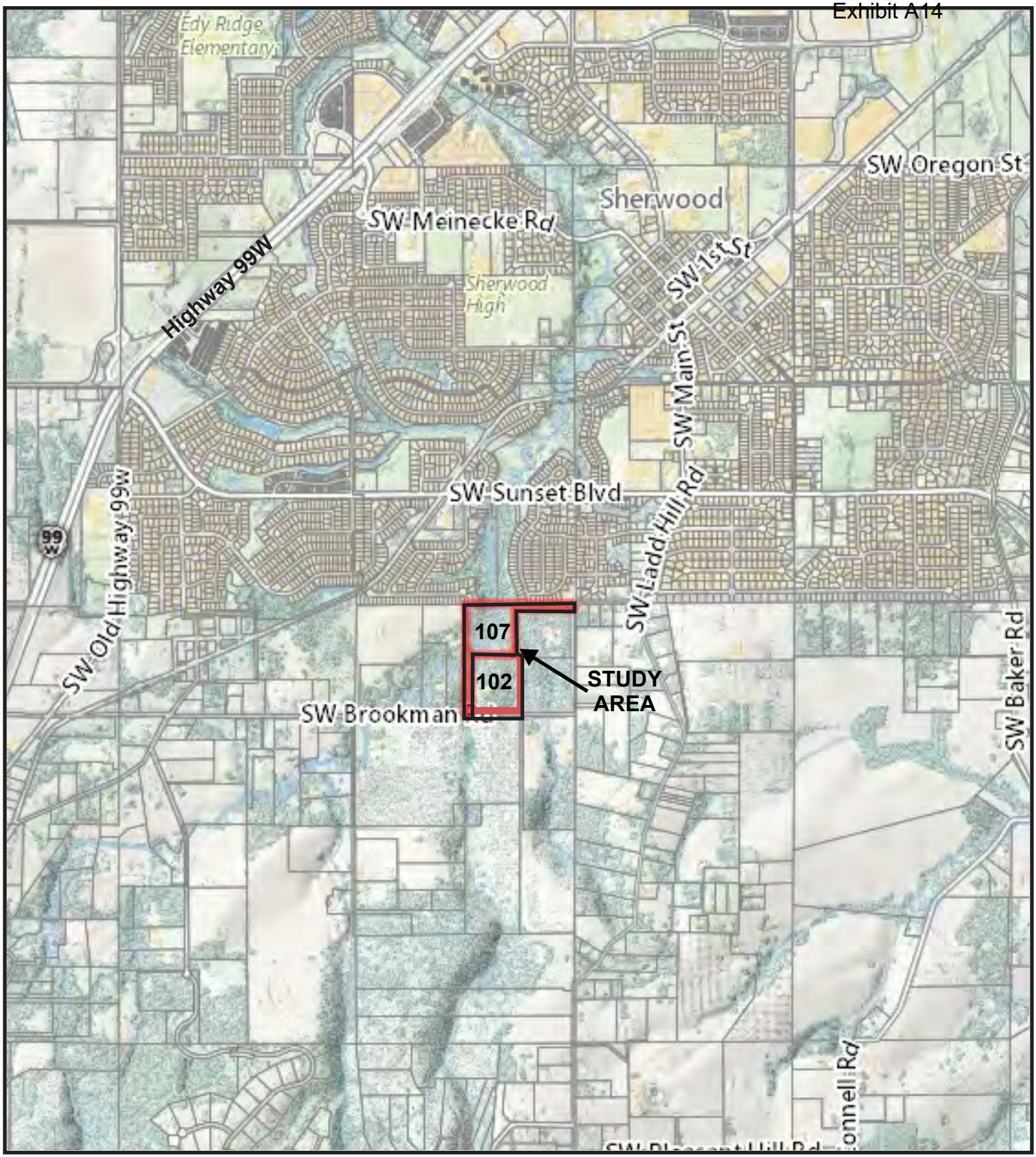
☐ Fee payment submitted $ ____
☐ Resubmittal of rejected report ($100)
☐ Request for Reissuance. See eligibility criteria. (no fee)
DSL # ____ Expiration date ____
☐ LWI shows wetlands or waters on parcel
Wetland ID code ____

For Office Use Only

DSL Reviewer: CS Fee Paid Date: ____/____/____ DSL WD # 2022-0005

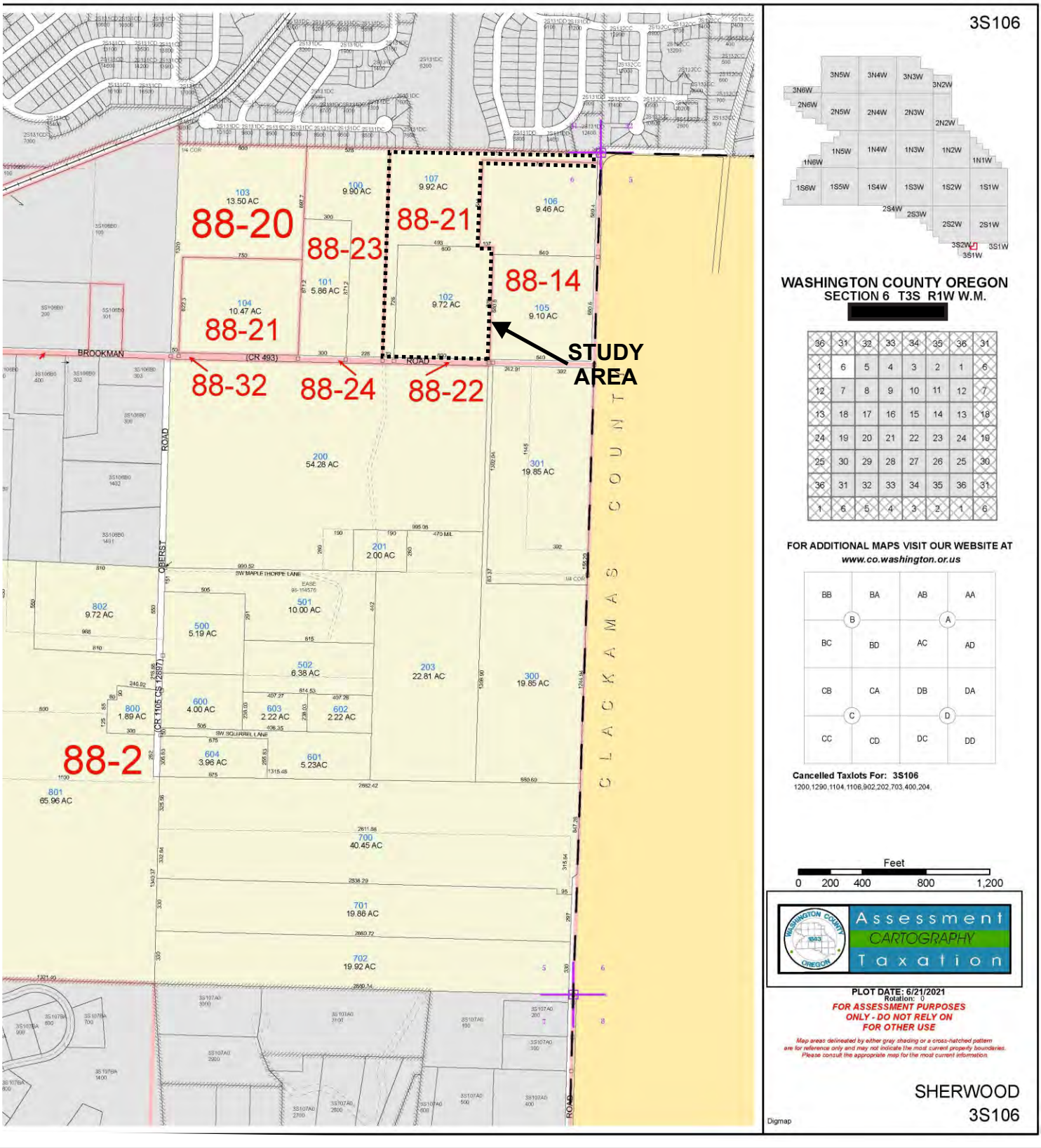
Date Delineation Received: 12/29/2021 DSL App.# ____

Exhibit A14



Source: Metro Data Resource Center. http://gis.oregonmetro.gov/metromap/

Environmental Science & Assessment, LLC	Vicinity Map Cedar Creek Gardens Sherwood, Oregon	Figure 1 0mi .15mi .3mi

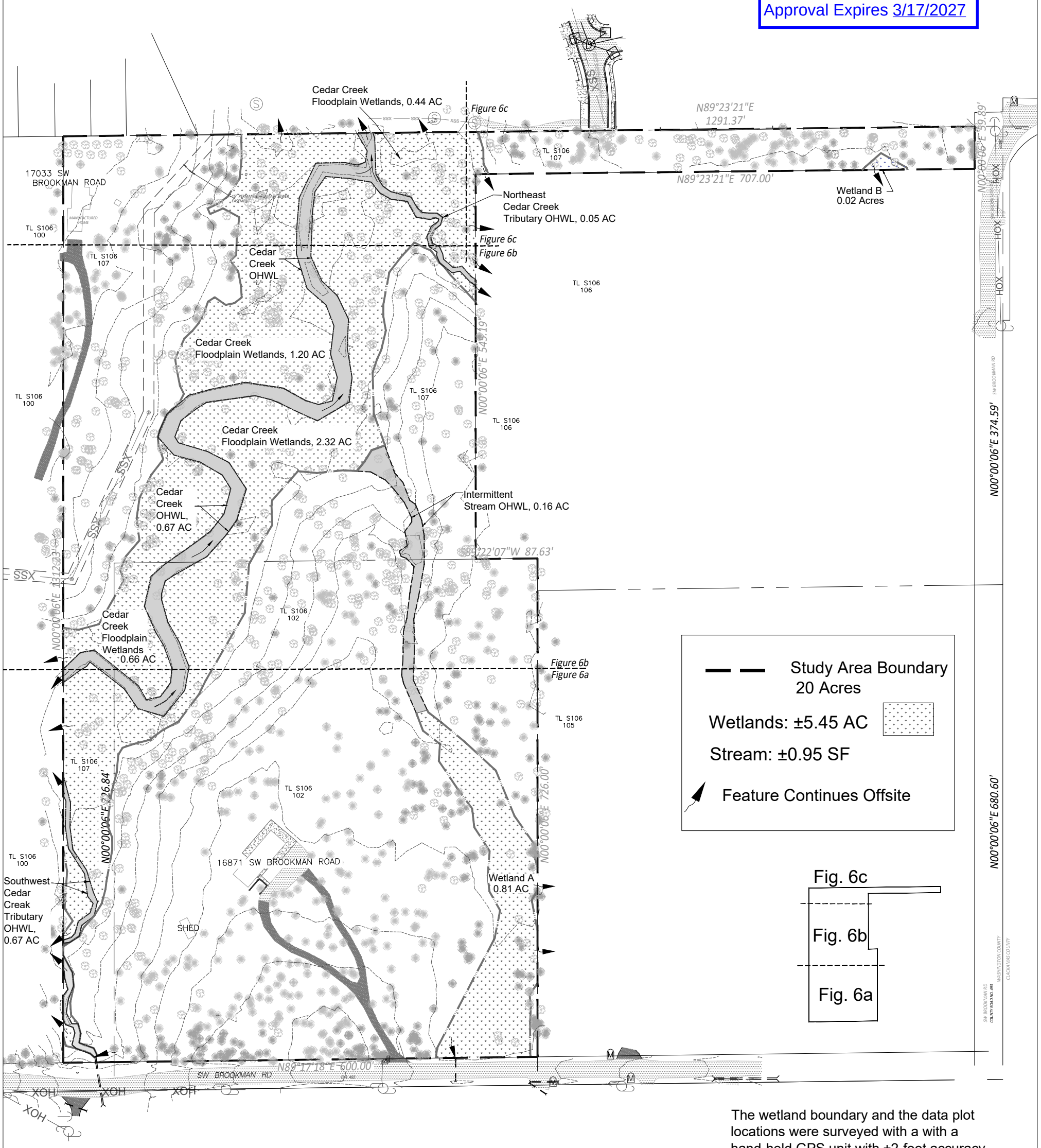


Source: ORMAP

Environmental Science & Assessment, LLC e s & a	Tax Lot Map Cedar Creek Gardens Sherwood, Oregon	Figure 2 0ft 400ft 800ft

Exhibit A14

DSL WD # 2022-0005
Approval Issued 3/17/2022
Approval Expires 3/17/2027



Study Area Boundary
20 Acres

Wetlands: ±5.45 AC

Stream: ±0.95 SF

Feature Continues Offsite

Fig. 6c
Fig. 6b
Fig. 6a

The wetland boundary and the data plot locations were surveyed with a with a hand-held GPS unit with ±2-foot accuracy. The base survey was professionally surveyed.

N

0 75 140

Fig. 6

Date: 10/21
Job: 21004
Rev: 00/00
Mod. By: KR
Base Map Source: Pioneer Design Group, Inc.

Wetland Map
Cedar Creek Gardens
Sherwood, Oregon

Environmental Science & Assessment, LLC
4831 NE Fremont St., Suite 2B
Portland, OR 97213
Phone: 503.478.0424
www.esapdx.com

Exhibit A14

Environmental Science & Assessment, LLC
4831 NE Fremont St., Suite 2B
Portland, OR 97213
Phone: 503.478.0424
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DSL WD # 2022-0005
Approval Issued 3/17/2022
Approval Expires 3/17/2027

Figure 6b
Figure 6a

Cedar Creek Floodplain Wetlands
Cedar Creek OHWL
100 YR FP
Intermittent Stream OHWL
TL S106 105
TL S106 107
TL 102 MAP 3S 1 6
DOCUMENT NO. 87-027469
TL S106 102
7
N00°00'06"E 726.00
Wetland A
TL S106 100
16871 SW BROOKMAN ROAD
Southwest Cedar Creek Tributary OHWL
SHED
10
DP-2
DP-1
Fig. 6c
Fig. 6b
Fig. 6a
4
9
3
CULVERT
1
N89°17'55"E 600.00
SW BROOKMAN RD
C/R. 493
18
CULVERT
2
CULVERT
XOH

- Study Area Boundary
- Wetland Data Plot
- Feature Continues Offsite
- Photo Point
- Wetlands
- 1' Contours

The wetland boundary and the data plot locations were surveyed with a with a hand-held GPS unit with ±2-foot accuracy. The base survey was professionally surveyed.

Wetland Map
Cedar Creek Gardens
Sherwood, Oregon

N

0 30 60

Base Map Source:	Pioneer Design Group, Inc.
Modified By:	KR
Date:	10/21
Job:	21004
Rev:	00/00

Figure 6a

Exhibit A14

DSL WD # 2022-0005
Approval Issued 3/17/2022
Approval Expires 3/17/2027

Environmental Science & Assessment, LLC
4831 NE Fremont St., Suite 2B
Portland, OR 97213
Phone: 503.478.0424
www.esapdx.com

Wetland Map
Cedar Creek Gardens
Sherwood, Oregon

Floodplain Wetlands

Figure 6c
Figure 6b

DP-15
DP-14
DP-10
DP-11
DP-6
DP-5
DP-7
DP-9
DP-8
DP-4
DP-3

TL S106 107
TL S106 106
TL S106 100
TL S106 102
TL S106 105

Cedar Creek OHWL

Northeast Cedar Creek Tributary OHWL

Intermittent Stream OHWL

100 YR FP

SSX

GOOD

S89°22'07"W 87.63'

N00°00'00"W 1312.22'

Study Area Boundary
Wetland Data Plot
Feature Continues Offsite
Photo Point
Cedar Creek Floodplain Wetlands
1' Contours

Fig. 6c
Fig. 6b
Fig. 6a

N
0 30 60

Base Map Source: Pioneer Design Group, Inc.

Modified By:	KR
Date:	10/21
Job:	21004
Rev:	00/00

The wetland boundary and the data plot locations were surveyed with a with a hand-held GPS unit with ±2-foot accuracy. The base survey was professionally surveyed.

Figure 6b
Figure 6a

Figure 6b

Exhibit A14

The wetland boundary and the data plot locations were surveyed with a with a hand-held GPS unit with ±2-foot accuracy. The base survey was professionally surveyed.

DSL WD # 2022-0005
Approval Issued 3/17/2022
Approval Expires 3/17/2027

Environmental Science & Assessment, LLC
4831 NE Fremont St., Suite 2B
Portland, OR 97213
Phone: 503.478.0424
www.esapdx.com

Wetland Map
Cedar Creek Gardens
Sherwood, Oregon

"ARBOR LANE"

N89°23'21"E
1291.37'

N89°23'21"E 707.00'

N00°00'06"E 55.89'

50.00'

SW REDFERN DRIVE

SW BROOKMAN RD

Figure 6c

TL S106
107

TL S106
106

DP-13
DP-12

Cedar Creek Floodplain Wetlands

100 YR FP

Northeast Cedar Creek Tributary OHWL

Wetland B

13
14
15
17

DP-14
DP-15
DP-10
DP-11

Figure 6c
Figure 6b
Figure 6a

17033 SW BROOKMAN ROAD

MANUFACTURED HOME

TL S106
100

TRACT 'A'

15' PERMANENT SANITARY SEWER EASEMENT

Cedar Creek OHWL

Study Area Boundary
Wetland Data Plot
Feature Continues Offsite
Photo Point
Wetlands
1' Contours

N

0 30 60

Base Map Source: Pioneer Design Group, Inc.

Modified By:	KR
Date:	10/21
Job:	21004
Rev:	00/00

Figure 6c

TERAGAN & ASSOCIATES, INC.
ARBORICULTURAL CONSULTANTS

MEMORANDUM

DATE: May 17, 2022

TO: Todd Boyce (Westwood Homes)

FROM: Todd Prager, RCA #597, ISA Board Certified Master Arborist, AICP

RE: Updated Tree Plan for Cedar Creek Gardens

Summary

This report includes updated tree removal and protection recommendations to meet the requirements in section 16.142.070 (Trees on Property Subject to Certain Land Use Applications) of the City of Sherwood Code for The Cedar Creek Gardens Subdivision.

The total canopy provided through the preservation of trees outside of environmentally constrained lands at the site will be 41.75 percent. The minimum canopy requirement for residential development is 40 percent. Therefore, no additional trees are required to be planted to meet the minimum tree canopy requirements.

Background

Westwood Homes is proposing to subdivide the subject property at 16871 and 17033 SW Brookman Road in Sherwood and develop 41 new lots with single family homes. Existing trees are present on the property in the area of the proposed development. The updated proposed site plan with grading, streets, pathways, and lots in relation to the existing trees is provided in Attachment 1.

The assignment requested of our firm for this project was to:

- Assess the existing trees at the project site;
- Identify the trees to be removed and retained based on construction impacts;
- Provide tree protection recommendations for the trees to be retained; and
- Provide recommendations for meeting the tree canopy requirements in section 16.142.070 of the City of Sherwood Code.

This report has been updated from my January 21, 2022 report based on the revised site plans.

Teragan & Associates, Inc.
3145 Westview Circle • Lake Oswego, OR 97034
Phone: 971.295.4835 • Fax: 503.697.1976
Email: todd@teragan.com • Website: teragan.com

Tree Assessment

In August and September 2021 our firm completed the inventory of existing trees at the project site.

The complete inventory data for each tree is provided in Attachment 2 and includes the tree number, common name, scientific name, trunk diameter (DBH), crown radius, crown area (canopy), health condition, structural condition, pertinent comments, whether the tree is offsite, treatment recommendations (remove or retain), and whether the tree is a retained tree that is outside environmentally constrained lands.

The tree numbers in the inventory in Attachment 2 correspond to the tree numbers on the proposed site plan in Attachment 1.

Tree Removal and Retention

The standard tree protection requirement in the City of Sherwood Code is to limit construction activities within the driplines of the trees to be retained unless otherwise approved by the project arborist. A typical alternative minimum recommended root protection zone is to limit construction disturbances to no closer than a radius from a tree of .5 feet per inch of trunk diameter (DBH) if no more than 25 percent of the root protection zone area (estimated at one foot radius per inch of DBH) is impacted. Figure 1 illustrates this concept. This tree protection zone is widely accepted in the Willamette Valley to provide adequate tree protection. This standard may need to be adjusted on a case-by-case basis due to tree health, species, root distribution, whether the tree will be impacted on multiple sides, and other factors.

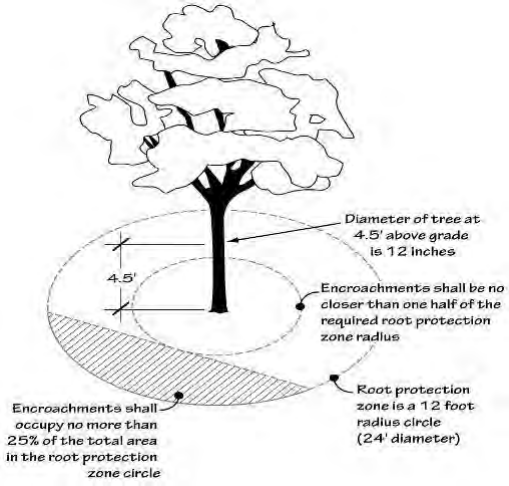


Figure 1: Typical minimum protection zone

In several cases, there were large high value trees closer to construction impacts than the typical minimum construction setback illustrated in Figure 1. These trees are noted in Attachment 1 and recommended for retention, if possible, in coordination with the project arborist. Published research indicates a minimum setback of three times (3x) the DBH[1] will be adequate when impacts are limited to one side of a tree. However, a minimum setback of .5 feet per inch of DBH is more typical[2] and is utilized by our firm to factor in a margin of safety for adequate protection. In no cases are proposed impacts closer than 3x DBH for the subject trees that may be

[1] Smiley, E.T., B.R. Fraedrich, and N. Hendrickson. 2002. *Tree Risk Management*. Charlotte, N.C: Bartlett Tree Research Laboratories.
[2] Costello, L.R., and K.S. Jones. 2003. Reducing Infrastructure Damage by Tree Roots: A Compendium of Strategies. Cohasset, CA: Western Chapter of the International Society of Arboriculture.

retained. These trees should be evaluated in the field during construction with a final recommendation for preservation or removal by the project arborist.

Using the criteria described above and the locations of the trees relative to grading, paving, construction, and other site improvements, 702 trees are recommended for removal and 877 trees are recommended for retention.[3]

Tree protection recommendations for the trees to be retained are provided in the next section of this report.

Tree Protection Recommendations

The standard tree protection requirement in section 16.142.070.G of the City of Sherwood Code is to limit construction activities within the driplines of the trees to be retained unless otherwise approved by the project arborist. A typical alternative minimum recommended root protection zone is to limit construction disturbances to no closer than a radius from a tree of .5 feet per inch of trunk diameter (DBH) if no more than 25 percent of the critical root protection zone area (estimated at one foot radius per inch of DBH) is impacted. Figure 1 illustrates this concept. This standard may need to be adjusted on a case-by-case basis due to tree health, species, root distribution, whether the tree will be impacted on multiple sides, and other factors.

The root protection zone radii of 1 foot per inch of DBH and typical minimum construction setback radii of .5 feet per inch of DBH are shown on the site plan in Attachment 1 for the trees adjacent to proposed construction. The trees to be retained can be protected by placing tree protection fencing at or beyond their typical minimum protection zones wherever possible as shown in Attachment 1. No grading, stockpiling, storage, disposal, or any other construction related activity shall occur in the tree protection zones unless specifically reviewed and approved by the project arborist.

In several cases, there were large high value trees closer to construction impacts than the typical minimum construction setback illustrated in Figure 1. These trees are noted in Attachment 1 and recommended for retention, if possible, in coordination with the project arborist. Their extreme minimum construction setback radii of 3x of their DBHs are shown in red in Attachment 1. These trees should be evaluated in the field during construction with a final recommendation for preservation or removal by the project arborist. City of Sherwood approval will be required prior to any tree removal. Replacement of tree canopy for removed trees will be required.

[3] Twenty-six of the trees (trees 6510, 6511, 6512, 6616, 7772, 8252, 8589, 8590, 8868, 11285, 11287, 11605, 11606, 11607, 11609, 11610, 11611, 11612, 11627, 11628, 11629, 11630, 12042, 16995, 18864, and 18897) recommended for removal appear to be offsite. Permission of the adjacent property owner is typically required for the removal of property line or offsite trees.

The following additional tree protection measures shall apply to the trees to be retained:

- *Tree Protection Fencing*: Tree protection fencing shall be placed in the locations shown in Attachment 1. Any work within the tree protection zones shall be under the onsite supervision of the project arborist.
- *Directional Felling*: Fell the trees to be removed away from the trees to be retained so they do not contact or otherwise damage the trunks or branches of the trees to be retained. No vehicles or heavy equipment shall be permitted within the tree protection zones during tree removal operations.
- *Periodic Risk Assessments***:** New forest edges will be created at the site with the removal of existing trees for development. This will increase the windthrow risk of exposed trees along the new edges. I recommend that the project arborist conduct a tree risk assessment immediately following site clearing to identify trees that pose significant risks. For trees that pose significant risks, mitigation strategies for retaining them such as pruning or snag creation should be explored as recommended by the project arborist. Any recommended tree removal or snag creation will require the review and approval of the City of Sherwood. Risk assessments should be conducted periodically throughout construction to document whether trees are adapting to the new edge conditions and risks are mitigated appropriately with City approval.
- *Snag Creation*: Some of the trees to be removed from the environmentally constrained areas may be converted into wildlife snags. Snag creation work should be completed by hand without the use of heavy equipment in the tree protection zone. Do not contact the branches or trunks of the adjacent trees during snag creation. Reduce heights to less than the distances to the proposed streets, buildings, or other high value targets to reduce risk of impact.
- *Stump Removal*: Flush cut and retain stumps or carefully grind stumps of trees to be removed from within the tree protection zones. Do not pull stumps with a machine.
- *Pavement Grades Within Typical Minimum Tree Protection Setback Radii*: New pavement grades need to be carefully considered and designed so that no cut is required within the typical minimum tree protection setback radii of .5 feet per inch of DBH and no more than 4-inches of fill is required. Trees requiring special consideration for adjacent paving are noted in Attachment 1.
- *Protect Tree Crowns*: Care will need to be taken to not contact or otherwise damage the crowns of the trees that may extend into the construction area. Any necessary pruning of trees for construction clearance shall be the minimum amount necessary to achieve the required clearance as directed by the project arborist. All pruning shall be consistent with ANSI A300 pruning standards.
- *Erosion Control*: Any required sediment fencing shall be routed outside the tree protection zones to protect the root systems of the trees to be retained. If erosion control is required within the tree protection zones, straw wattles shall be used if approved by the City of Sherwood.

Additional tree protection recommendations that are consistent with section 16.142.070.G for the trees to be retained are provided in Attachment 3.

Tree Canopy Requirements

Section 16.142.070.D of the City of Sherwood Code requires residential development to achieve a minimum total tree canopy of 40 percent. Trees that are retained receive credit for double their existing canopy area, and trees that are planted receive credit for the expected mature canopy area as determined by a certified arborist. Street trees are eligible for full canopy credit even though they are planted in the public right of way.

Note that the 40 percent canopy requirement applies to the net buildable area of the site which excludes public rights of way, parks, and environmentally constrained lands. Only those trees that are retained within the net buildable areas are eligible for canopy credit. The net buildable area of the site is 291,266 square feet or 6.69 acres.

Retained Trees

Eighty-three trees will be retained outside of environmentally constrained lands. Their combined canopy area is 60,812 square feet. Since retained trees receive double canopy credit, the credit from preservation is 121,624 square feet. This represents 41.75 percent of the net buildable area.

Planted Trees

No additional trees are required to be planted to meet the minimum tree canopy requirements for the site since over 40 percent canopy will be provided through preservation.

Conclusion

The total canopy provided through the preservation of trees outside of environmentally constrained lands at the site will be 41.75 percent. The minimum canopy requirement for residential development is 40 percent. Therefore, no additional trees are required to be planted to meet the minimum tree canopy requirements.

The trees to be retained will be protected by adhering to the recommendations in this report. Any change to the tree protection plan should be approved by the project arborist to ensure that the trees to be retained are adequately protected.

Please contact me if you have questions, concerns, or need any additional information.

Sincerely,

Todd Prager

Todd Prager
ASCA Registered Consulting Arborist #597
ISA Board Certified Master Arborist, WE-6723B
ISA Qualified Tree Risk Assessor
AICP, American Planning Association

Attachments: Attachment 1 - Site Plan with Trees
Attachment 2 - Tree Inventory
Attachment 3 - Tree Protection Recommendations
Attachment 4 - Assumptions and Limiting Conditions

MATCHLINE - SEE SHEET P2.3

arborist oversight required

Design pavement profile with minimal excavation beyond litter layer of soil to protect trees from root damage

VC BOUNDARY

arborist oversight required

Typical minimum construction setback radius of .5 feet per inch of DBH

dead and dying

tree protection fence

OPEN SPACE

arborist oversight required

Design pavement profile with minimal excavation beyond litter layer of soil to protect trees from root damage

Erosion Control: Any required sediment fencing shall be routed outside the tree protection zones to protect the root systems of the trees to be retained. If erosion control is required within the tree protection zones, straw wattles shall be used if approved by the City of Sherwood.

Retain stumps or carefully stump grind all trees to be removed from inside tree protection zones

Root protection zone radius of 1 foot per inch of DBH

STREET 'B'

PRIVATE

arborist oversight required

Extreme minimum setback radius of 3x DBH (arborist oversight required)

WETLAND BOUNDARY

OPEN SPACE

SW BROOKMAN ROAD

Typical minimum construction setback radius of .5 feet per inch of DBH

arborist oversight required (design pavement profile with minimal excavation beyond litter layer of soil to protect trees from root damage)

Retain stumps or carefully stump grind all trees to be removed from inside tree protection zones

tree protection fence

Root protection zone radius of 1 foot per inch of DBH

LEGEND

- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- PROPOSED VEGETATED CORRIDOR
- 100-YEAR FLOOD PLAIN
- EXISTING WETLANDS

Attachment 1

SCALE
60 0 30 60
1 INCH = 60 FEET

PIONEER DESIGN GROUP
CIVIL ENGINEERING • LAND USE PLANNING • LAND SURVEYING • LANDSCAPE ARCHITECTURE
PORTLAND, OREGON | HONOLULU, HAWAII
PH: 503.643.8286 PH: 808.753.2276
WWW.PD-GRP.COM

PRELIMINARY TREE PRESERVATION AND REMOVAL PLAN (SOUTH)

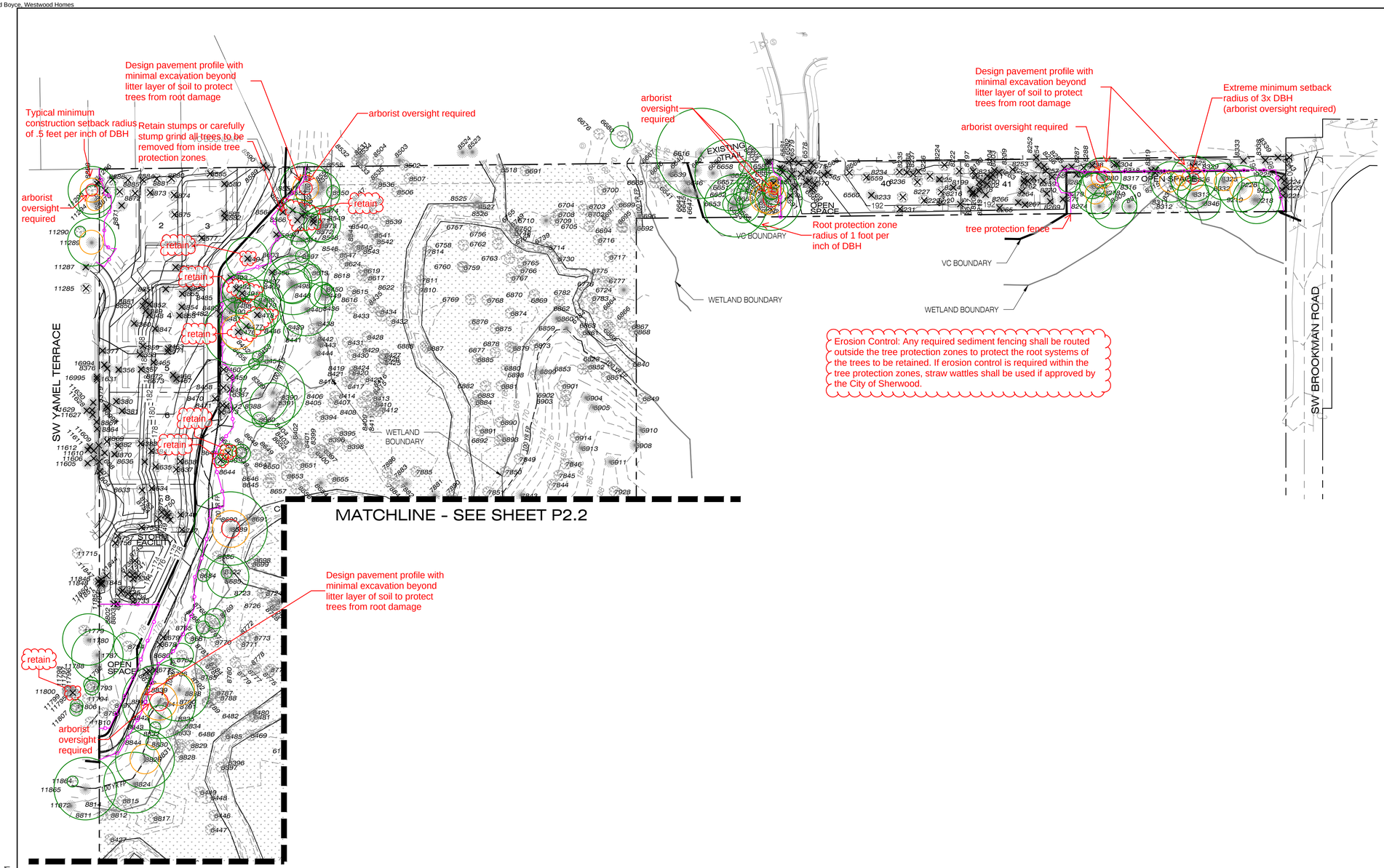
CEDAR CREEK GARDENS
CITY OF SHERWOOD, OREGON

Designed by	MLS	Date	08/2021
Drawn by	CFS	Date	08/2021
Reviewed by	MLS	Date	08/2021
Project No.	285-021	REF.	
Horiz. Scale:			
Vert. Scale:			

28521_P2.1tree.dwg

No.	Revision	Date	By

Project
CEDAR CREEK GARDENS
No.
285-021
Type
PLANNING
Sheet
P2.2



LEGEND

- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- PROPOSED VEGETATED CORRIDOR
- 100-YEAR FLOOD PLAIN
- EXISTING WETLANDS

Attachment 1

SCALE
60 0 30 60
1 INCH = 60 FEET

PIONEER DESIGN GROUP
CIVIL ENGINEERING • LAND USE PLANNING • LAND SURVEYING • LANDSCAPE ARCHITECTURE
PORTLAND, OREGON | HONOLULU, HAWAII
PH: 503.643.8286 PH: 808.753.2276
WWW.PD-GRP.COM

PRELIMINARY TREE PRESERVATION AND REMOVAL PLAN (NORTH)

CEDAR CREEK GARDENS
CITY OF SHERWOOD, OREGON

Designed by	MLS	Date	08/2021
Drawn by	CFS	Date	08/2021
Reviewed by	MLS	Date	REF.
Project No.	285.021		
Horiz. Scale:			
Vert. Scale:			

28521_P2.1tree.dwg

No.	Date	Revision	By

Project
CEDAR CREEK GARDENS
No.
285-021
Type
PLANNING
Sheet
P2.3

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
6000	EV-18	Douglas fir	*Pseudotsuga menziesii*	19	19	0	0	Dead	Dead			remove	
6003	DE-22	red alder	*Alnus rubra*	20	20	20	1256	Good	Good			remove	
6004	DE-12	red alder	*Alnus rubra*	13	13	6	113	Fair	Fair			remove	
6005	DE-14	red alder	*Alnus rubra*	14	14	15	707	Fair	Fair			remove	
6025	DE-12	red alder	*Alnus rubra*	14	14	10	314	Good	Fair	Sweeping trunk.		retain	
6028	DE-12	red alder	*Alnus rubra*	11	11	8	201	Good	Good			retain	
6029	DE-10	red alder	*Alnus rubra*	11	11	6	113	Good	Good			retain	
6030	DE-8	red alder	*Alnus rubra*	8	8	6	113	Fair	Good	Dieback.		retain	
6031	DE-12	red alder	*Alnus rubra*	10	10	8	201	Good	Good			retain	
6032	DE-12	red alder	*Alnus rubra*	11	11	10	314	Good	Good			retain	
6033	DE-14	red alder	*Alnus rubra*	13	13	12	452	Good	Good			retain	
6034	DE-12X4	red alder	*Alnus rubra*	11,12,11,13	24	18	1017	Good	Good			retain	
6035	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	8	201	Good	Fair	Suppressed.		retain	
6037	EV-20	Douglas fir	*Pseudotsuga menziesii*	22	22	20	1256	Good	Good			retain	
6039	EV-28	Douglas fir	*Pseudotsuga menziesii*	34	34	25	1963	Good	Fair	Sweeping trunk, unbalanced.		remove	
6040	DE-16	cottonwood	*Populus trichocarpa*	17	17	15	707	Good	Good			remove	
6043	DE-14	red alder	*Alnus rubra*	15	15	12	452	Good	Good			remove	
6044	DE-14	red alder	*Alnus rubra*	14	14	12	452	Good	Fair	High crown, trunk decay.		remove	
6045	DE-10	red alder	*Alnus rubra*	10	10	10	314	Good	Good			remove	
6046	DE-12	red alder	*Alnus rubra*	16	16	15	707	Poor	Poor	Dead top.		remove	
6047	DE-12-10	red alder	*Alnus rubra*	10,9	13	10	314	Good	Good	Fused codominant leaders.		remove	
6048	DE-8	red alder	*Alnus rubra*	8	8	10	314	Good	Good			remove	
6049	DE-6	red alder	*Alnus rubra*	6	6	5	79	Good	Poor	Severe lean.		remove	
6050	DE-12	red alder	*Alnus rubra*	12	12	10	314	Good	Good			remove	
6051	DE-10	red alder	*Alnus rubra*	9	9	10	314	Good	Good			retain	
6052	DE-10	red alder	*Alnus rubra*	10	10	5	79	Fair	Good	Thin, dieback.		retain	
6053	DE-12	red alder	*Alnus rubra*	10	10	0	0	Dead	Dead			retain	
6054	DE-10X2	red alder	*Alnus rubra*	10,9	13	8	201	Good	Good			retain	
6055	DE-18-12	red alder	*Alnus rubra*	11	11	10	314	Very poor	Very poor	19" dead codominant.		retain	
6060	DE-12	red alder	*Alnus rubra*	15	15	10	314	Good	Fair	Codominant leaders.		retain	
6061	DE-14	red alder	*Alnus rubra*	13	13	12	452	Good	Good			retain	
6062	DE-14	red alder	*Alnus rubra*	12	12	15	707	Good	Good			retain	
6063	DE-14	red alder	*Alnus rubra*	14	14	10	314	Good	Good			retain	
6064	DE-14	red alder	*Alnus rubra*	14	14	0	0	Dead	Dead			retain	
6065	DE-14	red alder	*Alnus rubra*	15	15	10	314	Good	Good			retain	
6066	DE-8	red alder	*Alnus rubra*	8	8	0	0	Dead	Dead			retain	
6067	DE-6	red alder	*Alnus rubra*	7	7	6	113	Fair	Fair			retain	
6068	DE-12	red alder	*Alnus rubra*	11	11	8	201	Fair	Fair	Thin, high crown.		retain	
6069	DE-12	red alder	*Alnus rubra*	12	12	8	201	Fair	Fair	Thin, high crown.		retain	
6070	DE-10	red alder	*Alnus rubra*	10	10	8	201	Fair	Fair	Thin, high crown.		retain	
6071	DE-8	red alder	*Alnus rubra*	9	9	10	314	Good	Good			retain	
6072	DE-6	red alder	*Alnus rubra*	7	7	5	79	Fair	Fair	Thin, high crown.		retain	
6075	DE-6	red alder	*Alnus rubra*	7	7	0	0	Dead	Dead			retain	
6076	DE-8	red alder	*Alnus rubra*	8	8	12	452	Good	Good			remove	
6077	DE-6	red alder	*Alnus rubra*	6	6	0	0	Dead	Dead			remove	
6078	DE-6	red alder	*Alnus rubra*	10	10	12	452	Fair	Fair	High crown, thin dieback.		remove	
6079	DE-10	red alder	*Alnus rubra*	11	11	10	314	Good	Fair	High crown.		retain	
6080	DE-6	red alder	*Alnus rubra*	6	6	0	0	Dead	Dead			retain	
6081	DE-8	red alder	*Alnus rubra*	8	8	6	113	Fair	Fair	High crown, thin dieback.		retain	
6082	DE-6	red alder	*Alnus rubra*	7	7	6	113	Fair	Fair	High crown, thin dieback.		retain	
6083	DE-8	red alder	*Alnus rubra*	7	7	6	113	Good	Fair	High crown.		retain	
6084	DE-8	red alder	*Alnus rubra*	7	7	6	113	Fair	Good	Thin, dieback.		retain	
6085	DE-6	red alder	*Alnus rubra*	6	6	5	79	Fair	Fair	Thin, suppressed.		retain	
6086	DE-8	red alder	*Alnus rubra*	8	8	5	79	Good	Good			retain	
6087	DE-8	red alder	*Alnus rubra*	8	8	0	0	Dead	Dead			remove	
6088	DE-10	red alder	*Alnus rubra*	8	8	0	0	Dead	Dead			remove	
6089	EV-30	Douglas fir	*Pseudotsuga menziesii*	33	33	25	1963	Good	Good			remove	
6090	EV-30	Douglas fir	*Pseudotsuga menziesii*	36	36	30	2826	Good	Good			remove	
6093	EV-30	Douglas fir	*Pseudotsuga menziesii*	33	33	20	1256	Good	Good			remove	
6094	EV-30	Douglas fir	*Pseudotsuga menziesii*	33	33	20	1256	Good	Good			remove	
6095	EV-10	red alder	*Alnus rubra*	8	8	6	113	Good	Good	Deciduous.		remove	
6096	DE-8	red alder	*Alnus rubra*	8	8	0	0	Dead	Dead			retain	
6098	EV-28	Douglas fir	*Pseudotsuga menziesii*	28	28	25	1963	Good	Fair	Crooked trunk.		retain	
6099	EV-20	Douglas fir	*Pseudotsuga menziesii*	23	23	15	707	Good	Good			retain	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
6100	DE-18	cherry	*Prunus avium*	19	19	30	2826	Good	Good			retain	
6101	DE-14	cherry	*Prunus avium*	14	14	8	201	Good	Good			retain	
6102	DE-16-14	cherry	*Prunus avium*	24	24	15	707	Good	Fair	Fused codominant leaders.		retain	
6105	DE-12	red alder	*Alnus rubra*	11	11	0	0	Dead	Dead			retain	
6106	DE-6	red alder	*Alnus rubra*	7	7	4	50	Good	Good			retain	
6107	DE-8	red alder	*Alnus rubra*	8	8	6	113	Good	Good			retain	
6108	DE-12	red alder	*Alnus rubra*	11	11	15	707	Good	Good			retain	
6109	EV-12	Douglas fir	*Pseudotsuga menziesii*	11	11	0	0	Dead	Dead			retain	
6110	DE-12X2	red alder	*Alnus rubra*	12,14	18	18	1017	Good	Fair	Codominant leaders.		retain	
6112	DE-10	red alder	*Alnus rubra*	11	11	10	314	Good	Good			retain	
6113	DE-10	red alder	*Alnus rubra*	10	10	10	314	Good	Good			retain	
6117	DE-10	red alder	*Alnus rubra*	9	9	12	452	Fair	Fair			remove	
6118	DE-12	red alder	*Alnus rubra*	10	10	8	201	Fair	Fair			remove	
6119	DE-6	red alder	*Alnus rubra*	7	7	0	0	Dead	Dead			remove	
6120	DE-12	red alder	*Alnus rubra*	10	10	15	707	Fair	Fair			remove	
6122	DE-8	red alder	*Alnus rubra*	9	9	5	79	Good	Fair	No top.		remove	
6123	DE-8	cherry	*Prunus avium*	8	8	15	707	Good	Good			remove	
6124	DE-14X2	red alder	*Alnus rubra*	13,14	19	12	452	Good	Fair			remove	
6125	DE-14	red alder	*Alnus rubra*	12	12	10	314	Good	Good			remove	
6127	DE-12	cherry	*Prunus avium*	10	10	12	452	Good	Good			remove	
6128	DE-18	cherry	*Prunus avium*	19	19	20	1256	Good	Good			remove	
6129	DE-10	red alder	*Alnus rubra*	11	11	0	0	Dead	Dead			remove	
6130	DE-32	cottonwood	*Populus trichocarpa*	33	33	30	2826	Good	Good			remove	
6131	DE-5X7	English holly	*Ilex aquifolium*	Avg.7	16	30	2826	Good	Fair			remove	
6132	DE-14	red alder	*Alnus rubra*	13	13	0	0	Dead	Dead			remove	
6133	DE-12X2	red alder	*Alnus rubra*	10,10	14	0	0	Dead	Dead			remove	
6134	DE-26	Oregon ash	*Fraxinus latifolia*	36	36	35	3847	Good	Fair	Fused codominant leaders.		retain	
6135	DE-10	red alder	*Alnus rubra*	7,12	14	0	0	Dead	Dead			retain	
6136	DE-18	Oregon ash	*Fraxinus latifolia*	21	21	25	1963	Good	Good			retain	
6137	DE-14	Oregon ash	*Fraxinus latifolia*	15	15	15	707	Fair	Fair			retain	
6138	DE-20X2	Oregon ash	*Fraxinus latifolia*	20,20	28	25	1963	Fair	Fair			retain	
6141	DE-8	red alder	*Alnus rubra*	8	8	8	201	Fair	Good	Dieback.		retain	
6142	DE-8	red alder	*Alnus rubra*	8	8	0	0	Dead	Dead			retain	
6143	DE-8	red alder	*Alnus rubra*	8	8	8	201	Fair	Fair	Dieback.		retain	
6145	DE-12X4	Oregon ash	*Fraxinus latifolia*	12,13,12,13	25	25	1963	Good	Poor	Stem cavity.		retain	
6146	DE-30	Oregon ash	*Fraxinus latifolia*	27	27	25	1963	Good	Good			retain	
6148	EV-20	Douglas fir	*Pseudotsuga menziesii*	27	27	0	0	Dead	Dead			retain	
6149	EV-34	Oregon ash	*Fraxinus latifolia*	45	45	30	2826	Good	Fair	Wrong icon, large dead.		retain	
6151	DE-18	Oregon ash	*Fraxinus latifolia*	21	21	20	1256	Fair	Fair			retain	
6152	DE-18	Oregon ash	*Fraxinus latifolia*	21	21	20	1256	Fair	Poor	Trunk cavity.		retain	
6153	DE-18	Oregon ash	*Fraxinus latifolia*	20	20	15	707	Very poor	Poor	Lean.		retain	
6154	DE-16	Oregon ash	*Fraxinus latifolia*	16	16	15	707	Fair	Very poor	trunk decay		retain	
6155	DE-18	Oregon ash	*Fraxinus latifolia*	25	25	20	1256	Good	Poor	Trunk cavity.		retain	
6156	DE-16	Oregon ash	*Fraxinus latifolia*	17	17	15	707	Good	Good			retain	
6157	DE-12	Oregon ash	*Fraxinus latifolia*	10	10	15	707	Good	Good			retain	
6158	DE-10	Oregon ash	*Fraxinus latifolia*	9	9	12	452	Good	Good			retain	
6160	DE-10X4	Oregon ash	*Fraxinus latifolia*	Avg. 11	22	15	707	Fair	Fair			retain	
6161	DE-12X3	Oregon ash	*Fraxinus latifolia*	Avg. 13	23	25	1963	Good	Poor	Basal decay.		retain	
6162	DE-6	red alder	*Alnus rubra*	7	7	8	201	Good	Fair	High crown.		retain	
6164	DE-6	red alder	*Alnus rubra*	6	6	6	113	Good	Good			retain	
6165	DE-6	red alder	*Alnus rubra*	7	7	6	113	Good	Good			retain	
6166	DE-8	red alder	*Alnus rubra*	7	7	6	113	Good	Good			retain	
6167	DE-16	red alder	*Alnus rubra*	15	15	12	452	Good	Good			retain	
6168	EV-14	yew	*Taxus brevifolia*	15	15	15	707	Fair	Fair	Suppressed , trunk cavity		retain	
6169	DE-16	red alder	*Alnus rubra*	17	17	15	707	Good	Good			retain	
6170	EV-40	western redcedar	*Thuja plicata*	46	46	25	1963	Good	Fair	Codominant leaders.		remove	
6171	DE-12	red alder	*Alnus rubra*	11	11	10	314	Good	Good			remove	
6172	DE-10	red alder	*Alnus rubra*	10	10	8	201	Good	Good			remove	
6173	DE-12	red alder	*Alnus rubra*	13	13	10	314	Good	Good			remove	
6174	DE-10	red alder	*Alnus rubra*	8	8	5	79	Fair	Fair	Declining.		remove	
6175	DE-14	red alder	*Alnus rubra*	14	14	0	0	Dead	Dead			remove	
6176	DE-10	red alder	*Alnus rubra*	15	15	15	707	Good	Fair			remove	
6178	DE-8	red alder	*Alnus rubra*	9	9	0	0	Dead	Dead			remove	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
6179	DE-10	red alder	*Alnus rubra*	7	7	0	0	Dead	Dead			remove	
6182	EV-38	Douglas fir	*Pseudotsuga menziesii*	38	38	30	2826	Good	Fair	Crooked, failed and regrew codominant.		remove	
6183	DE-10	red alder	*Alnus rubra*	10	10	6	113	Fair	Good	Dieback.		remove	
6184	DE-10	red alder	*Alnus rubra*	9	9	10	314	Fair	Good	Dieback.		remove	
6186	DE-12X2	red alder	*Alnus rubra*	12,12	17	0	0	Dead	Dead			remove	
6187	DE-10	red alder	*Alnus rubra*	10	10	15	707	Fair	Fair	Dieback.		remove	
6188	DE-12	red alder	*Alnus rubra*	10	10	6	113	Good	Good			remove	
6189	DE-8	red alder	*Alnus rubra*	8	8	6	113	Fair	Good	Dieback.		remove	
6190	DE-12	red alder	*Alnus rubra*	11	11	6	113	Fair	Good	Dieback.		remove	
6191	DE-6	red alder	*Alnus rubra*	7	7	5	79	Good	Fair	High crown, lean.		remove	
6192	DE-8	red alder	*Alnus rubra*	9	9	8	201	Good	Fair	High crown.		remove	
6193	DE-8	red alder	*Alnus rubra*	7	7	5	79	Good	Good			remove	
6194	DE-10	red alder	*Alnus rubra*	10	10	10	314	Fair	Fair	Declining.		remove	
6195	DE-12	red alder	*Alnus rubra*	13	13	10	314	Fair	Fair	Declining.		remove	
6196	DE-12-10	red alder	*Alnus rubra*	10,11	15	10	314	Fair	Fair	Declining.		remove	
6197	EV-12	yew	*Taxus brevifolia*	13	13	20	1256	Good	Good			remove	
6198	EV-12	red alder	*Alnus rubra*	12	12	0	0	Dead	Dead			remove	
6199	EV-12	red alder	*Alnus rubra*	15	15	5	79	Poor	Poor	Declining.		remove	
6200	EV-10	red alder	*Alnus rubra*	11	11	5	79	Poor	Fair	Declining.		remove	
6201	EV-14	red alder	*Alnus rubra*	14	14	0	0	Dead	Dead			remove	
6202	DE-10	red alder	*Alnus rubra*	10	10	0	0	Dead	Dead			remove	
6203	DE-6	red alder	*Alnus rubra*	16	16	0	0	Dead	Dead			remove	
6204	DE-8	red alder	*Alnus rubra*	8	8	0	0	Dead	Dead			remove	
6205	EV-16	Douglas fir	*Pseudotsuga menziesii*	21	21	15	707	Good	Fair	Sweeping trunk.		remove	
6206	EV-22	western redcedar	*Thuja plicata*	24	24	10	314	Good	Good	Roots above ground.		remove	
6207	EV-24	Douglas fir	*Pseudotsuga menziesii*	28	28	12	452	Good	Good			remove	
6208	DE-8	red alder	*Alnus rubra*	7	7	10	314	Good	Good			remove	
6209	DE-8	red alder	*Alnus rubra*	8	8	6	113	Good	Good			remove	
6210	DE-8	red alder	*Alnus rubra*	7	7	5	79	Good	Good			remove	
6211	DE-8	red alder	*Alnus rubra*	8	8	5	79	Good	Good			remove	
6212	DE-16	red alder	*Alnus rubra*	19	19	0	0	Dead	Dead			remove	
6213	DE-10	red alder	*Alnus rubra*	10	10	10	314	Fair	Fair			remove	
6214	DE-16	red alder	*Alnus rubra*	16	16	15	707	Fair	Fair			retain	
6215	DE-8	cascara	*Rhamnus purshiana*	8	8	10	314	Fair	Fair	Broken and dead branches.		remove	
6216	DE-20	red alder	*Alnus rubra*	21	21	35	3847	Good	Good			remove	
6217	EV-26	Douglas fir	*Pseudotsuga menziesii*	29	29	25	1963	Good	Good			remove	
6219	EV-32	Douglas fir	*Pseudotsuga menziesii*	38	38	36	4069	Good	Good			remove	
6220	EV-28	Douglas fir	*Pseudotsuga menziesii*	35	35	25	1963	Good	Good			remove	
6221	EV-18	Douglas fir	*Pseudotsuga menziesii*	22	22	25	1963	Good	Good			remove	
6222	EV-30	Douglas fir	*Pseudotsuga menziesii*	39	39	25	1963	Good	Good			remove	
6223	EV-26	Douglas fir	*Pseudotsuga menziesii*	30	30	25	1963	Good	Good			remove	
6224	DE-12	red alder	*Alnus rubra*	13	13	0	0	Dead	Dead			remove	
6225	EV-26	Douglas fir	*Pseudotsuga menziesii*	31	31	30	2826	Good	Good			remove	
6227	DE-18	red alder	*Alnus rubra*	18	18	12	452	Fair	Good	Thin.		remove	
6228	DE-8	cherry	*Prunus avium*	6	6	12	452	Good	Good			remove	
6230	DE-8	red alder	*Alnus rubra*	6	6	0	0	Dead	Dead			remove	
6231	DE-6	red alder	*Alnus rubra*	6	6	0	0	Very poor	Very poor	Lost top.		remove	
6232	DE-8	red alder	*Alnus rubra*	6	6	0	0	Very poor	Very poor	Lost top.		remove	
6233	DE-8	red alder	*Alnus rubra*	7	7	4	50	Poor	Very poor	Lost top.		remove	
6234	DE-8	red alder	*Alnus rubra*	7	7	4	50	Poor	Very poor	Lost top.		remove	
6235	DE-8	red alder	*Alnus rubra*	8	8	6	113	Fair	Good	In decline.		retain	
6236	DE-6	cherry	*Prunus avium*	6	6	10	314	Good	Good			retain	
6238	DE-18	Oregon ash	*Fraxinus latifolia*	23	23	25	1963	Good	Good			retain	
6239	DE-14-12-8-8	Oregon ash	*Fraxinus latifolia*	21, 9, 10, 15	29	20	1256	Good	Fair			retain	
6240	DE-24	Oregon ash	*Fraxinus latifolia*	24	24	25	1963	Good	Good			retain	
6241	DE-24-12	Oregon ash	*Fraxinus latifolia*	24,9	26	30	2826	Good	Good			retain	
6242	EV-24	Douglas fir	*Pseudotsuga menziesii*	30	30	25	1963	Good	Fair	Unbalanced.		remove	
6243	EV-32	Douglas fir	*Pseudotsuga menziesii*	36	36	25	1963	Good	Good			remove	
6244	EV-24	Douglas fir	*Pseudotsuga menziesii*	33	33	20	1256	Good	Fair	High crown.		remove	
6245	DE-6	red alder	*Alnus rubra*	6	6	0	0	Dead	Dead			remove	
6246	DE-10-12	red alder	*Alnus rubra*	14	14	0	0	Poor	Poor	Dead top.		remove	
6247	EV-26	Douglas fir	*Pseudotsuga menziesii*	30	30	0	0	Dead	Dead			remove	
6248	EV-10	Douglas fir	*Pseudotsuga menziesii*	8	8	8	201	Fair	Fair	Suppressed.		remove	

Teragan Associates, Inc.
3145 Westview Circle • Lake Oswego, OR 97034
Phone: 971.295.4835 • Fax: 503.697.1976
Email: todd@teragan.com • Website: teragan.com

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
6249	DE-6	red alder	*Alnus rubra*	6	6	8	201	Good	Good			remove	
6250	DE-8	red alder	*Alnus rubra*	8	8	0	0	Dead	Dead			remove	
6251	DE-8	red alder	*Alnus rubra*	8	8	10	314	Fair	Fair			remove	
6252	EV-18	Douglas fir	*Pseudotsuga menziesii*	19	19	15	707	Good	Fair	Unbalanced, suppressed.		remove	
6253	DE-8	dogwood	*Cornus nuttallii*	9	9	15	707	Good	Good			remove	
6254	EV-30	Douglas fir	*Pseudotsuga menziesii*	34	34	25	1963	Good	Good			remove	
6256	DE-12	red alder	*Alnus rubra*	13	13	6	113	Fair	Good	Thin.		remove	
6257	DE-12	red alder	*Alnus rubra*	11	11	6	113	Fair	Good	Thin.		remove	
6258	DE-8	red alder	*Alnus rubra*	7	7	6	113	Fair	Good	Thin.		remove	
6259	DE-8	red alder	*Alnus rubra*	9	9	0	0	Dead	Dead			remove	
6260	DE-8	red alder	*Alnus rubra*	10	10	0	0	Dead	Dead			remove	
6261	DE-10	red alder	*Alnus rubra*	11	11	0	0	Dead	Dead			remove	
6262	EV-26	Douglas fir	*Pseudotsuga menziesii*	30	30	25	1963	Good	Good			remove	
6263	EV-12	Douglas fir	*Pseudotsuga menziesii*	15	15	15	707	Good	Good			remove	
6266	EV-36	Douglas fir	*Pseudotsuga menziesii*	38	38	28	2462	Good	Good	Exaggerated buttress swell.		remove	
6267	EV-22	Douglas fir	*Pseudotsuga menziesii*	26	26	15	707	Good	Fair	Unbalanced.		remove	
6268	EV-36	Douglas fir	*Pseudotsuga menziesii*	37	37	25	1963	Good	Good			remove	
6270	DE-8	red alder	*Alnus rubra*	8	8	8	201	Fair	Fair			retain	
6271	DE-6	red alder	*Alnus rubra*	6	6	6	113	Fair	Fair			retain	
6272	DE-5	red alder	*Alnus rubra*	5	5	6	113	Fair	Fair			retain	
6273	DE-10	red alder	*Alnus rubra*	10	10	6	113	Fair	Fair			retain	
6274	DE-10	red alder	*Alnus rubra*	10	10	8	201	Fair	Fair			retain	
6275	DE-10	red alder	*Alnus rubra*	10	10	6	113	Fair	Fair			retain	
6276	DE-8	willow	*Salix sp.*	8	8	15	707	Good	Fair	Lean.		retain	
6277	DE-20-8	Oregon ash	*Fraxinus latifolia*	20,7	21	15	707	Fair	Fair	Broken leaders, codominant.		retain	
6278	DE-20	Oregon ash	*Fraxinus latifolia*	19	19	20	1256	Good	Fair			retain	
6279	DE-8	Oregon ash	*Fraxinus latifolia*	9	9	5	79	Fair	Fair	Bent.		retain	
6280	DE-12X2	Oregon ash	*Fraxinus latifolia*	13, 11	17	15	707	Good	Good			retain	
6281	DE-14-14-10-8	Oregon ash	*Fraxinus latifolia*	14,14,10,10,11	27	25	1963	Good	Fair	Multiple leaders.		retain	
6283	DE-8	red alder	*Alnus rubra*	8	8	6	113	Good	Fair			retain	
6284	DE-8	red alder	*Alnus rubra*	6	6	6	113	Good	Fair			retain	
6285	DE-10	red alder	*Alnus rubra*	10	10	8	201	Poor	Fair	Suppressed.		retain	
6286	DE-10	red alder	*Alnus rubra*	10	10	8	201	Poor	Fair	Suppressed.		retain	
6287	DE-6	red alder	*Alnus rubra*	6	6	6	113	Poor	Fair	Suppressed.		retain	
6288	DE-8	red alder	*Alnus rubra*	8	8	8	201	Poor	Fair	Suppressed.		retain	
6289	EV-34	Douglas fir	*Pseudotsuga menziesii*	32	32	30	2826	Good	Good			retain	
6290	EV-14	Douglas fir	*Pseudotsuga menziesii*	15	15	13	531	Good	Fair	Unbalanced, suppressed.		retain	
6291	EV-16	yew	*Taxus brevifolia*	16	16	15	707	Good	Fair	Codominant, inclusion.		retain	
6292	EV-24	grand fir	*Abies grandis*	30	30	20	1256	Good	Good			retain	
6293	DE-6	red alder	*Alnus rubra*	6	6	6	113	Fair	Fair			retain	
6294	DE-8	red alder	*Alnus rubra*	8	8	6	113	Fair	Fair			retain	
6295	DE-10	willow	*Salix sp.*	10	10	10	314	Good	Good	Multistem.		retain	
6296	DE-8	red alder	*Alnus rubra*	8	8	10	314	Fair	Fair			retain	
6297	EV-36	Douglas fir	*Pseudotsuga menziesii*	37	37	30	2826	Good	Good			retain	
6298	EV-38	Douglas fir	*Pseudotsuga menziesii*	38	38	36	4069	Good	Fair	Trunk sweep.		remove	
6299	EV-24	Douglas fir	*Pseudotsuga menziesii*	26	26	30	2826	Good	Fair	Crooked trunk.		remove	
6300	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	13	531	Good	Fair			remove	
6301	DE-12	dogwood	*Cornus nuttallii*	12	12	20	1256	Good	Good			remove	
6302	EV-16	Douglas fir	*Pseudotsuga menziesii*	20	20	18	1017	Good	Good			remove	
6303	EV-8	Douglas fir	*Pseudotsuga menziesii*	9	9	10	314	Poor	Good	Suppressed.		remove	
6304	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	12	452	Good	Fair	Suppressed.		remove	
6305	EV-10	Douglas fir	*Pseudotsuga menziesii*	9	9	12	452	Good	Fair	Suppressed, unbalanced.		remove	
6306	DE-12	red alder	*Alnus rubra*	12	12	10	314	Good	Good			remove	
6307	DE-20	willow	*Salix sp.*	20	20	0	0	Dead	Dead			remove	
6308	DE-20	bigleaf maple	*Acer macrophyllum*	21	21	25	1963	Good	Good			retain	
6309	EV-22	Douglas fir	*Pseudotsuga menziesii*	22	22	20	1256	Fair	Fair			remove	
6310	DE-8	red alder	*Alnus rubra*	8	8	5	79	Fair	Fair			remove	
6311	DE-10	red alder	*Alnus rubra*	10	10	5	79	Fair	Fair			remove	
6312	DE-8	red alder	*Alnus rubra*	8	8	0	0	Dead	Dead			remove	
6313	DE-10	red alder	*Alnus rubra*	10	10	5	79	Fair	Fair			remove	
6314	DE-8	red alder	*Alnus rubra*	8	8	5	79	Fair	Fair			remove	
6315	DE-8	red alder	*Alnus rubra*	8	8	5	79	Fair	Fair			remove	
6316	DE-8	red alder	*Alnus rubra*	8	8	5	79	Fair	Fair			remove	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
6317	DE-10	red alder	*Alnus rubra*	10	10	5	79	Fair	Fair			remove	
6318	DE-12	red alder	*Alnus rubra*	12	12	5	79	Good	Fair			remove	
6319	DE-12	red alder	*Alnus rubra*	11	11	5	79	Good	Fair			remove	
6320	DE-8	red alder	*Alnus rubra*	9	9	5	79	Good	Fair			remove	
6321	DE-12	red alder	*Alnus rubra*	11	11	15	707	Good	Good			remove	
6322	DE-12	red alder	*Alnus rubra*	12	12	15	707	Good	Good			remove	
6325	DE-8	red alder	*Alnus rubra*	8	8	6	113	Good	Good			remove	
6326	DE-14	red alder	*Alnus rubra*	14	14	15	707	Good	Fair	No top.		remove	
6327	EV-24	Douglas fir	*Pseudotsuga menziesii*	17	17	12	452	Good	Good			remove	
6328	DE-14	red alder	*Alnus rubra*	15	15	8	201	Good	Poor	Declining.		remove	
6329	EV-32	Douglas fir	*Pseudotsuga menziesii*	29	29	18	1017	Good	Good			remove	
6330	EV-28	western hemlock	*Tsuga heterophylla*	32	32	18	1017	Good	Fair	Sweeping trunk, oddities.		remove	
6333	EV-20	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Good	Fair	Unbalanced, suppressed.		remove	
6334	EV-14	Douglas fir	*Pseudotsuga menziesii*	16	16	8	201	Good	Good			remove	
6335	EV-20	Douglas fir	*Pseudotsuga menziesii*	20	20	18	1017	Good	Poor	Red ring rot.		remove	
6336	EV-22	Douglas fir	*Pseudotsuga menziesii*	22	22	15	707	Good	Fair			remove	
6337	EV-26	Douglas fir	*Pseudotsuga menziesii*	24	24	20	1256	Good	Fair			remove	
6338	DE-6	Vine maple	*Acer circinatum*	6	6	18	1017	Good	Good			remove	
6339	EV-26	Douglas fir	*Pseudotsuga menziesii*	26	26	18	1017	Good	Good			remove	
6340	EV-26	Douglas fir	*Pseudotsuga menziesii*	26	26	25	1963	Good	Good			remove	
6341	EV-16	Douglas fir	*Pseudotsuga menziesii*	15	15	10	314	Fair	Poor	Trunk oddities , sweeping.		remove	
6343	DE-16	red alder	*Alnus rubra*	16	16	0	0	Dead	Dead			remove	
6344	EV-20	Douglas fir	*Pseudotsuga menziesii*	29	29	15	707	Good	Good			remove	
6345	DE-18	willow	*Salix sp.*	18	18	18	1017	Fair	Poor	Multiple cavities.		remove	
6346	EV-20	Douglas fir	*Pseudotsuga menziesii*	26	26	15	707	Good	Good			remove	
6347	DE-18	red alder	*Alnus rubra*	18	18	0	0	Dead	Dead			remove	
6348	EV-12	Douglas fir	*Pseudotsuga menziesii*	16	16	12	452	Fair	Fair	Suppressed, high crown.		retain	x
6349	EV-12	Douglas fir	*Pseudotsuga menziesii*	15	15	8	201	Fair	Good	Thin.		retain	x
6350	EV-22	Douglas fir	*Pseudotsuga menziesii*	26	26	12	452	Good	Good			retain	x
6351	EV-20	Douglas fir	*Pseudotsuga menziesii*	25	25	18	1017	Good	Good			retain	x
6352	EV-14	Douglas fir	*Pseudotsuga menziesii*	12	12	15	707	Fair	Poor	Crooked trunk.		retain	x
6353	EV-12	Douglas fir	*Pseudotsuga menziesii*	16	16	10	314	Fair	Fair			retain	x
6355	DE-8	willow	*Salix sp.*	10	10	10	314	Good	Fair	Multistem, deadwood.		retain	
6356	DE-20	red alder	*Alnus rubra*	20	20	18	1017	Fair	Fair			retain	
6357	DE-10	cherry	*Prunus avium*	10	10	10	314	Good	Good			retain	
6358	DE-14	Oregon ash	*Fraxinus latifolia*	15	15	15	707	Good	Good			retain	
6359	DE-10	red alder	*Alnus rubra*	12	12	0	0	Dead	Dead			remove	
6360	DE-12	red alder	*Alnus rubra*	12	12	0	0	Dead	Dead			retain	
6361	DE-18	red alder	*Alnus rubra*	19	19	12	452	Fair	Poor	Declining.		remove	
6362	DE-14-12	red alder	*Alnus rubra*	14,12	18	0	0	Dead	Dead			remove	
6363	DE-10	yew	*Taxus brevifolia*	10	10	15	707	Very poor	Very poor	Lost top, dying.		remove	
6364	DE-6	red alder	*Alnus rubra*	6	6	0	0	Dead	Dead			remove	
6365	DE-12X2	red alder	*Alnus rubra*	12,12	17	10	314	Fair	Fair	North leader dead.		remove	
6366	DE-10	red alder	*Alnus rubra*	10	10	6	113	Fair	Fair	Dying, thin.		remove	
6367	DE-6	red alder	*Alnus rubra*	8	8	6	113	Fair	Fair	Dying, thin.		remove	
6368	DE-6	red alder	*Alnus rubra*	7	7	0	0	Dead	Dead			remove	
6369	DE-10	red alder	*Alnus rubra*	7	7	0	0	Dead	Dead			remove	
6370	DE-12-6	red alder	*Alnus rubra*	12,7	14	18	1017	Fair	Poor	Codominant, thin, missing bark.		remove	
6371	DE-12	red alder	*Alnus rubra*	12	12	6	113	Poor	Poor	Dead top.		retain	
6372	DE-14	red alder	*Alnus rubra*	11	11	0	0	Dead	Dead			retain	
6373	DE-6	red alder	*Alnus rubra*	6	6	5	79	Fair	Fair	Lean.		retain	
6374	DE-16	red alder	*Alnus rubra*	15	15	14	615	Good	Good			retain	
6375	EV-22	Douglas fir	*Pseudotsuga menziesii*	22	22	18	1017	Good	Good			retain	
6376	DE-16	red alder	*Alnus rubra*	16	16	18	1017	Fair	Good	Thin top.		retain	
6377	DE-12-8	red alder	*Alnus rubra*	11,6	13	15	707	Fair	Good			retain	
6378	DE-12	red alder	*Alnus rubra*	10	10	13	531	Good	Good			retain	
6379	DE-12	red alder	*Alnus rubra*	13	13	15	707	Good	Good			remove	
6380	DE-12	red alder	*Alnus rubra*	12	12	10	314	Fair	Poor	Extreme phototropism.		remove	
6381	DE-10	red alder	*Alnus rubra*	10	10	12	452	Fair	Fair			remove	
6382	DE-10	red alder	*Alnus rubra*	10	10	12	452	Fair	Fair			remove	
6383	DE-10	red alder	*Alnus rubra*	10	10	12	452	Fair	Fair			remove	
6384	DE-10	red alder	*Alnus rubra*	10	10	12	452	Fair	Fair			remove	
6385	DE-10	red alder	*Alnus rubra*	10	10	12	452	Fair	Fair			remove	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
6386	DE-14	red alder	*Alnus rubra*	14	14	12	452	Fair	Fair			remove	
6387	DE-8	red alder	*Alnus rubra*	8	8	12	452	Fair	Fair			remove	
6388	DE-8	red alder	*Alnus rubra*	8	8	6	113	Fair	Fair			retain	
6389	DE-8	red alder	*Alnus rubra*	8	8	6	113	Fair	Fair			retain	
6390	DE-10	red alder	*Alnus rubra*	10	10	6	113	Fair	Fair			retain	
6391	DE-6	red alder	*Alnus rubra*	6	6	6	113	Fair	Fair			retain	
6392	DE-6	red alder	*Alnus rubra*	6	6	6	113	Fair	Fair			retain	
6393	DE-10	red alder	*Alnus rubra*	10	10	6	113	Fair	Fair			retain	
6396	DE-14-12-10	Oregon ash	*Fraxinus latifolia*	18,20,9,20	35	25	1963	Good	Fair			retain	
6397	DE-14X2	Oregon ash	*Fraxinus latifolia*	8,15	17	30	2826	Good	Fair			retain	
6412	DE-18	Oregon ash	*Fraxinus latifolia*	18	18	25	1963	Good	Good			retain	
6417	DE-14-8	Oregon ash	*Fraxinus latifolia*	15, 7	17	30	2826	Good	Good			retain	
6418	DE-12	Oregon ash	*Fraxinus latifolia*	11	11	15	707	Good	Good			retain	
6419	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	10	314	Good	Good			retain	
6420	DE-24	Oregon ash	*Fraxinus latifolia*	25	25	25	1963	Good	Good			retain	
6421	DE-8X2	Oregon ash	*Fraxinus latifolia*	8,7	11	10	314	Good	Good			retain	
6422	DE-10	Oregon ash	*Fraxinus latifolia*	10	10	10	314	Good	Good			retain	
6423	DE-12	Oregon ash	*Fraxinus latifolia*	12	12	12	452	Good	Good			retain	
6424	DE-14-10	Oregon ash	*Fraxinus latifolia*	15,10	18	20	1256	Good	Good			retain	
6427	DE-14X2	Oregon ash	*Fraxinus latifolia*	15,9	16	15	707	Good	Fair	Decayed leader.		retain	
6430	DE-12	Oregon ash	*Fraxinus latifolia*	13	13	15	707	Fair	Fair			retain	
6431	DE-10	Oregon ash	*Fraxinus latifolia*	11	11	12	452	Fair	Fair			retain	
6432	DE-20	Oregon ash	*Fraxinus latifolia*	23	23	25	1963	Fair	Fair			retain	
6433	DE-10	Oregon ash	*Fraxinus latifolia*	9	9	12	452	Fair	Fair			retain	
6446	DE-16	Oregon ash	*Fraxinus latifolia*	19	19	17	907	Good	Poor			retain	
6447	DE-20-8-8	Oregon ash	*Fraxinus latifolia*	20,9,7	23	20	1256	Good	Poor	Trunk cavity.		retain	
6448	DE-16X2	Oregon ash	*Fraxinus latifolia*	16,15	22	15	707	Good	Fair	Low codominant.		retain	
6449	DE-12	Oregon ash	*Fraxinus latifolia*	10	10	12	452	Fair	Fair			retain	
6454	DE-22	Oregon ash	*Fraxinus latifolia*	23	23	18	1017	Fair	Fair			retain	
6455	DE-12	Oregon ash	*Fraxinus latifolia*	7	7	0	0	Dead	Dead			retain	
6456	DE-20	Oregon ash	*Fraxinus latifolia*	20	20	16	804	Fair	Fair			retain	
6457	DE-16-14-10-10	Oregon ash	*Fraxinus latifolia*	23, 7, 10, 22	34	15	707	Good	Fair			retain	
6458	DE-22	Oregon ash	*Fraxinus latifolia*	22	22	15	707	Good	Poor	22 @ 2', multiple trunk wounds.		retain	
6469	DE-12X4	Oregon ash	*Fraxinus latifolia*	15,15	21	20	1256	Good	Fair			retain	
6472	DE-48	Oregon ash	*Fraxinus latifolia*	48	48	40	5024	Good	Poor	Trunk cavity.		retain	
6477	DE-24	Oregon ash	*Fraxinus latifolia*	26	26	25	1963	Good	Fair	Near creek, codominant leaders.		retain	
6480	DE-12	Oregon ash	*Fraxinus latifolia*	12	12	12	452	Good	Fair			retain	
6481	DE-14	Oregon ash	*Fraxinus latifolia*	12	12	5	79	Poor	Poor	Broken branches.		retain	
6482	DE-14	Oregon ash	*Fraxinus latifolia*	15	15	15	707	Good	Fair			retain	
6485	DE-14	Oregon ash	*Fraxinus latifolia*	16	16	15	707	Good	Fair	Trunk wound.		retain	
6486	DE-12	Oregon ash	*Fraxinus latifolia*	12	12	15	707	Good	Good			retain	
6487	DE-16	red alder	*Alnus rubra*	16	16	20	1256	Good	Good			remove	
6488	DE-10	red alder	*Alnus rubra*	10	10	10	314	Fair	Fair	Thin, broken top, lean.		remove	
6489	DE-6-12	red alder	*Alnus rubra*	8,11	13	12	452	Good	Fair	Codominant leaders.		remove	
6490	DE-10	red alder	*Alnus rubra*	9	9	8	201	Good	Good			remove	
6491	DE-8	red alder	*Alnus rubra*	9	9	0	0	Dead	Dead			remove	
6492	DE-6	Douglas fir	*Pseudotsuga menziesii*	6	6	0	0	Dead	Dead	Evergreen.		retain	x
6493	EV-24	Douglas fir	*Pseudotsuga menziesii*	35	35	30	2826	Good	Fair	Three codominant leaders.		retain	x
6494	EV-22	Douglas fir	*Pseudotsuga menziesii*	27	27	15	707	Fair	Fair	Suppressed, unbalanced.		retain	x
6495	EV-20	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Fair	Poor	Suppressed, thin, crooked trunk.		retain	x
6496	EV-24	Douglas fir	*Pseudotsuga menziesii*	26	26	20	1256	Good	Fair	Crooked trunk.		retain	x
6497	EV-18	Douglas fir	*Pseudotsuga menziesii*	23	23	15	707	Fair	Fair	Thin, narrow, high crown, epicormic.		remove	
6498	DE-8	red alder	*Alnus rubra*	8	8	0	0	Dead	Dead			remove	
6499	DE-12	red alder	*Alnus rubra*	12	12	6	113	Good	Good			remove	
6500	DE-26	Douglas fir	*Pseudotsuga menziesii*	30	30	20	1256	Fair	Fair	Declining.		remove	
6501	EV-32	Douglas fir	*Pseudotsuga menziesii*	32	32	20	1256	Fair	Fair	Declining.		remove	
6502	EV-24	Douglas fir	*Pseudotsuga menziesii*	29	29	20	1256	Good	Good			remove	
6503	EV-6	yew	*Taxus brevifolia*	6	6	6	113	Poor	Good	Thin, suppressed.		remove	
6504	EV-30	Douglas fir	*Pseudotsuga menziesii*	32	32	20	1256	Good	Fair	Crooked trunk.		remove	
6505	EV-30	Douglas fir	*Pseudotsuga menziesii*	32	32	25	1963	Good	Good			remove	
6506	EV-20	Douglas fir	*Pseudotsuga menziesii*	19	19	0	0	Dead	Dead	Lean.		remove	
6507	DE-14	red alder	*Alnus rubra*	13	13	10	314	Good	Good			remove	
6508	EV-26	Douglas fir	*Pseudotsuga menziesii*	32	32	25	1963	Good	Good			remove	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
6509	DE-12	red alder	*Alnus rubra*	10	10	10	314	Fair	Fair	Thin, lean.		remove	
6510	EV-20	western hemlock	*Tsuga heterophylla*	20	20	15	707	Poor	Poor	Thin, codominant leaders.	x	remove	
6511	EV-18	western hemlock	*Tsuga heterophylla*	18	18	0	0	Dead	Dead		x	remove	
6512	EV-22	western hemlock	*Tsuga heterophylla*	22	22	0	0	Dead	Dead		x	remove	
6514	EV-36	western redcedar	*Thuja plicata*	36	36	25	1963	Good	Fair	Codominant leaders, one leader with cavity.	x	retain	
6515	EV-22	western hemlock	*Tsuga heterophylla*	18	18	15	707	Poor	Fair	Thin, discolored, unbalanced.	x	retain	
6516	EV-28	Douglas fir	*Pseudotsuga menziesii*	29	29	20	1256	Fair	Very poor	Thin, three leaders.		remove	
6517	DE-12	Douglas fir	*Pseudotsuga menziesii*	12	12	12	452	Good	Good		x	retain	
6518	EV-34	Douglas fir	*Pseudotsuga menziesii*	28	28	18	1017	Fair	Fair	Crooked trunk.		remove	
6519	EV-34	Douglas fir	*Pseudotsuga menziesii*	31	31	20	1256	Good	Fair	Crooked trunk.		remove	
6520	EV-30	Douglas fir	*Pseudotsuga menziesii*	31	31	20	1256	Good	Good			remove	
6521	DE-8	Douglas fir	*Pseudotsuga menziesii*	8	8	10	314	Poor	Poor	Suppressed, unbalanced, evergreen.		remove	
6522	DE-12	red alder	*Alnus rubra*	10	10	10	314	Good	Good	Bleeding canker.		remove	
6523	DE-8	red alder	*Alnus rubra*	8	8	6	113	Good	Good			remove	
6525	DE-8	red alder	*Alnus rubra*	9	9	8	201	Good	Good			remove	
6526	EV-22	Douglas fir	*Pseudotsuga menziesii*	24	24	18	1017	Good	Good			remove	
6527	EV-20	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Good	Fair	Suppressed, unbalanced.		remove	
6528	EV-10	yew	*Taxus brevifolia*	10	10	12	452	Fair	Fair	Suppressed, trunk decay.		remove	
6529	EV-30	Douglas fir	*Pseudotsuga menziesii*	29	29	25	1963	Good	Good			remove	
6530	DE-14	cherry	*Prunus avium*	13	13	15	707	Good	Good			remove	
6531	DE-14	bigleaf maple	*Acer macrophyllum*	13	13	25	1963	Good	Fair	Unbalanced.		remove	
6532	DE-18X2	bigleaf maple	*Acer macrophyllum*	20,18	23	30	2826	Good	Fair	Codominant leaders.	x	retain	
6533	DE-16	bigleaf maple	*Acer macrophyllum*	18	18	30	2826	Good	Fair	Unbalanced.		remove	
6536	EV-38	Douglas fir	*Pseudotsuga menziesii*	37	37	25	1963	Good	Good		x	retain	
6537	DE-28	cottonwood	*Populus trichocarpa*	24	24	25	1963	Good	Good			remove	
6538	DE-10	red alder	*Alnus rubra*	10	10	0	0	Dead	Dead			remove	
6539	DE-12	red alder	*Alnus rubra*	12	12	0	0	Dead	Dead			remove	
6540	DE-14	red alder	*Alnus rubra*	15	15	15	707	Good	Fair	Unbalanced.		remove	
6541	DE-12	red alder	*Alnus rubra*	12	12	6	113	Good	Good	Phototropic.		remove	
6542	DE-12	red alder	*Alnus rubra*	13	13	15	707	Good	Good			remove	
6543	DE-8	red alder	*Alnus rubra*	8	8	8	201	Good	Good			remove	
6544	DE-24	cottonwood	*Populus trichocarpa*	22	22	15	707	Good	Good			remove	
6545	DE-8	cottonwood	*Populus trichocarpa*	7	7	0	0	Dead	Dead			remove	
6546	EV-22	Douglas fir	*Pseudotsuga menziesii*	24	24	20	1256	Good	Good			remove	
6548	EV-40	Douglas fir	*Pseudotsuga menziesii*	42	42	35	3847	Good	Good			remove	
6550	EV-6	Douglas fir	*Pseudotsuga menziesii*	34	34	20	1256	Good	Good			remove	
6551	DE-10	bigleaf maple	*Acer macrophyllum*	11	11	20	1256	Good	Good			retain	
6552	DE-6	red alder	*Alnus rubra*	6	6	6	113	Good	Good			retain	
6553	DE-12	red alder	*Alnus rubra*	12	12	8	201	Fair	Fair			retain	
6554	DE-12	red alder	*Alnus rubra*	12	12	8	201	Good	Good			remove	
6555	DE-12	red alder	*Alnus rubra*	12	12	8	201	Fair	Good	Dieback.		remove	
6556	DE-14	red alder	*Alnus rubra*	14	14	12	452	Good	Good			remove	
6559	DE-6	cherry	*Prunus avium*	7	7	15	707	Good	Good			remove	
6560	EV-34	Douglas fir	*Pseudotsuga menziesii*	37	37	25	1963	Good	Good			remove	
6564	DE-8	cherry	*Prunus avium*	9	9	13	531	Good	Fair	Unbalanced.		remove	
6565	EV-32	Douglas fir	*Pseudotsuga menziesii*	34	34	18	1017	Good	Good			remove	
6566	EV-14	Douglas fir	*Pseudotsuga menziesii*	15	15	12	452	Fair	Poor	Thin, red ring rot, moderate.		remove	
6568	DE-14	bigleaf maple	*Acer macrophyllum*	15	15	20	1256	Fair	Poor	Three leaders epicormic.		remove	
6569	DE-8	bigleaf maple	*Acer macrophyllum*	9	9	20	1256	Fair	Poor			remove	
6570	DE-6	bigleaf maple	*Acer macrophyllum*	8	8	0	0	Fair	Poor			remove	
6571	EV-36	Douglas fir	*Pseudotsuga menziesii*	35	35	20	1256	Good	Good			remove	
6572	EV-12	Douglas fir	*Pseudotsuga menziesii*	10	10	12	452	Good	Good			remove	
6573	EV-16	Douglas fir	*Pseudotsuga menziesii*	18	18	10	314	Good	Fair	Unbalanced.		remove	
6574	DE-6	dogwood	*Cornus nuttallii*	6	6	13	531	Good	Fair	Unbalanced.		remove	
6575	DE-10	Douglas fir	*Pseudotsuga menziesii*	12	12	12	452	Good	Fair	Unbalanced, wrong icon.		remove	
6578	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	8	201	Good	Fair	Unbalanced.		remove	
6579	EV-14	Douglas fir	*Pseudotsuga menziesii*	16	16	10	314	Fair	Fair	Thin, unbalanced , sweeping trunk.		remove	
6581	DE-6	red alder	*Alnus rubra*	6	6	8	201	Good	Good			remove	
6582	DE-6	black gum	*Nyssa sylvatica*	5	5	6	113	Good	Good			remove	
6585	EV-12	Douglas fir	*Pseudotsuga menziesii*	16	16	6	113	Good	Fair	Unbalanced.		remove	
6586	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	0	0	Dead	Dead			remove	
6587	EV-12-6	western redcedar	*Thuja plicata*	11	11	10	314	Good	Fair	Codominant leaders.		remove	
6588	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	8	201	Fair	Fair	Unbalanced.		remove	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
6589	EV-8	Douglas fir	*Pseudotsuga menziesii*	9	9	8	201	Good	Fair	Unbalanced.		remove	
6590	EV-24	Douglas fir	*Pseudotsuga menziesii*	29	29	12	452	Good	Good			remove	
6591	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	12	452	Good	Fair	Unbalanced.		remove	
6594	EV-12	Douglas fir	*Pseudotsuga menziesii*	11	11	0	0	Dead	Dead			retain	
6595	EV-32	Douglas fir	*Pseudotsuga menziesii*	31	31	20	1256	Good	Fair	Unbalanced.		retain	
6596	EV-32	Douglas fir	*Pseudotsuga menziesii*	34	34	15	707	Good	Good			retain	
6597	EV-8	Douglas fir	*Pseudotsuga menziesii*	7	7	4	50	Fair	Fair	Suppressed.		retain	
6598	EV-14	Douglas fir	*Pseudotsuga menziesii*	14	14	10	314	Good	Good			retain	
6599	EV-10	Douglas fir	*Pseudotsuga menziesii*	12	12	8	201	Good	Fair	Unbalanced.		retain	
6600	EV-8	Douglas fir	*Pseudotsuga menziesii*	7	7	0	0	Dead	Dead			remove	
6601	EV-8	western redcedar	*Thuja plicata*	9	9	8	201	Good	Good			retain	
6602	EV-22	Douglas fir	*Pseudotsuga menziesii*	16,29	33	25	1963	Good	Fair	Codominant leaders.		remove	
6603	EV-14	Douglas fir	*Pseudotsuga menziesii*	37	37	20	1256	Good	Good			remove	
6616	EV-48	western redcedar	*Thuja plicata*	49	49	20	1256	Good	Fair	Codominant leaders.	x	retain	
6639	EV-16	Douglas fir	*Pseudotsuga menziesii*	20	20	20	1256	Good	Fair	Unbalanced.		retain	
6640	EV-28	Douglas fir	*Pseudotsuga menziesii*	36	36	25	1963	Good	Good			retain	
6641	DE-8X3	red alder	*Alnus rubra*	7,9,7	13	4	50	Very poor	Very poor	Declining.		retain	
6644	EV-12	Douglas fir	*Pseudotsuga menziesii*	15	15	15	707	Fair	Fair	Unbalanced , thin.		retain	
6645	EV-12	Douglas fir	*Pseudotsuga menziesii*	11	11	15	707	Fair	Good	Thin.		retain	
6646	EV-18	Douglas fir	*Pseudotsuga menziesii*	23	23	20	1256	Good	Good	Thin.		retain	
6647	EV-16	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Fair	Good			retain	
6651	DE-8	dogwood	*Cornus nuttallii*	8	8	20	1256	Good	Good			retain	x
6652	DE-8	cherry	*Prunus avium*	6	6	8	201	Good	Fair	Lean.		retain	x
6653	EV-10	Douglas fir	*Pseudotsuga menziesii*	11	11	5	79	Fair	Fair	Suppressed.		retain	x
6654	EV-26	Douglas fir	*Pseudotsuga menziesii*	34	34	15	707	Good	Good			retain	x
6655	EV-14	Douglas fir	*Pseudotsuga menziesii*	17	17	12	452	Good	Good			retain	x
6656	DE-10-6	cherry	*Prunus avium*	10,7	12	12	452	Good	Fair	Codominant leaders.		retain	x
6657	DE-6	cherry	*Prunus avium*	7	7	12	452	Fair	Fair	Lean, thin, suppressed.		retain	x
6658	DE-6	red alder	*Alnus rubra*	7	7	15	707	Good	Good			retain	x
6659	EV-34	western redcedar	*Thuja plicata*	39	39	20	1256	Good	Fair	Codominant leaders.		retain	x
6660	EV-22	western redcedar	*Thuja plicata*	28	28	20	1256	Good	Good			retain	x
6661	EV-30	western redcedar	*Thuja plicata*	34	34	15	707	Good	Fair			retain	
6665	DE-12	cherry	*Prunus avium*	14	14	14	615	Good	Good	Buttress wounds, stem cavity.		retain	
6666	DE-12	cherry	*Prunus avium*	12	12	12	452	Good	Good			retain	
6667	DE-12	cherry	*Prunus avium*	12	12	12	452	Good	Fair	Lean, unbalanced.		retain	
6676	DE-14	Oregon ash	*Fraxinus latifolia*	18	18	12	452	Good	Good		x	retain	
6680	DE-12	Oregon ash	*Fraxinus latifolia*	12	12	18	1017	Good	Good		x	retain	
6691	DE-36	Oregon ash	*Fraxinus latifolia*	33	33	25	1963	Good	Fair			retain	
6692	EV-24	Douglas fir	*Pseudotsuga menziesii*	32	32	30	2826	Good	Good			retain	
6694	DE-10	Oregon ash	*Fraxinus latifolia*	11	11	15	707	Good	Fair	Codominant leaders.		retain	
6695	DE-6	Oregon ash	*Fraxinus latifolia*	7	7	15	707	Good	Fair	Codominant leaders.		retain	
6696	EV-26	Douglas fir	*Pseudotsuga menziesii*	32	32	30	2826	Good	Good			retain	
6697	DE-10	Oregon ash	*Fraxinus latifolia*	10	10	8	201	Good	Fair	High crown.		retain	
6699	DE-20	Oregon ash	*Fraxinus latifolia*	24	24	20	1256	Good	Good			retain	
6700	DE-20-16	red alder	*Alnus rubra*	36	36	20	1256	Poor	Poor	Deadwood, weeping gunk.		retain	
6702	DE-12	Oregon ash	*Fraxinus latifolia*	15	15	15	707	Good	Good			retain	
6703	DE-10	Oregon ash	*Fraxinus latifolia*	10	10	12	452	Good	Good			retain	
6704	DE-12	Oregon ash	*Fraxinus latifolia*	14	14	20	1256	Good	Good			retain	
6705	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	12	452	Good	Good			retain	
6708	DE-14X2	red alder	*Alnus rubra*	14,14	20	20	1256	Fair	Fair	Thin, decline, codominant leaders.		retain	
6709	DE-16	red alder	*Alnus rubra*	17	17	0	0	Dead	Dead			retain	
6710	EV-30	western redcedar	*Thuja plicata*	38	38	20	1256	Good	Good			retain	
6714	DE-16	Oregon ash	*Fraxinus latifolia*	22	22	22	1520	Good	Good			retain	
6716	DE-12	Oregon ash	*Fraxinus latifolia*	12	12	10	314	Good	Good			retain	
6717	DE-28	Oregon ash	*Fraxinus latifolia*	28	28	30	2826	Good	Fair	Trunk wound.		retain	
6724	EV-28	Douglas fir	*Pseudotsuga menziesii*	33	33	25	1963	Good	Fair	Sweeping trunk.		retain	
6730	DE-18	Oregon ash	*Fraxinus latifolia*	21	21	22	1520	Good	Good			retain	
6739	DE-12	red alder	*Alnus rubra*	13	13	0	0	Dead	Dead			retain	
6748	DE-12	red alder	*Alnus rubra*	11	11	5	79	Good	Fair			retain	
6749	DE-20	red alder	*Alnus rubra*	19	19	12	452	Good	Fair	Broken scaffolding limb.		retain	
6750	DE-8X2	red alder	*Alnus rubra*	8,8	11	5	79	Good	Fair			retain	
6755	DE-12	red alder	*Alnus rubra*	13	13	5	79	Poor	Poor	Ivy, declining.		retain	
6756	DE-12X2	red alder	*Alnus rubra*	12,13,8	19	0	0	Dead	Dead			retain	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
6757	DE-26	Oregon ash	*Fraxinus latifolia*	24	24	20	1256	Good	Poor	Stem decay.		retain	
6758	DE-14X5	red alder	*Alnus rubra*	Avg. 14	31	25	1963	Fair	Fair	Multiple stems.		retain	
6759	DE-12	Oregon ash	*Fraxinus latifolia*	15	15	20	1256	Good	Poor	Stem cavity		retain	
6760	DE-6	Oregon ash	*Fraxinus latifolia*	7	7	7	154	Good	Fair	Sucker		retain	
6762	DE-12	red alder	*Alnus rubra*	13	13	10	314	Fair	Fair			retain	
6763	DE-12	red alder	*Alnus rubra*	15	15	20	1256	Fair	Fair			retain	
6764	DE-10X2	red alder	*Alnus rubra*	13,12	17	0	0	Dead	Dead			retain	
6765	DE-14X2	red alder	*Alnus rubra*	20	20	13	531	Good	Good	Codominant leaders.		retain	
6766	DE-12	Oregon ash	*Fraxinus latifolia*	14	14	25	1963	Good	Good			retain	
6767	DE-14	red alder	*Alnus rubra*	17	17	10	314	Fair	Fair			retain	
6768	DE-20	Oregon ash	*Fraxinus latifolia*	24	24	35	3847	Good	Good			retain	
6769	DE-16	red alder	*Alnus rubra*	20	20	8	201	Poor	Poor	Lost top, dying		retain	
6775	DE-14	Oregon ash	*Fraxinus latifolia*	14	14	12	452	Good	Good			retain	
6776	DE-14	Oregon ash	*Fraxinus latifolia*	17	17	15	707	Good	Good			retain	
6777	DE-12	Oregon ash	*Fraxinus latifolia*	13	13	25	1963	Good	Good			retain	
6782	DE-12	red alder	*Alnus rubra*	15	15	0	0	Dead	Dead			retain	
6783	DE-8	cascara	*Rhamnus purshiana*	8	8	5	79	Poor	Poor	Declining.		retain	
6784	DE-12	red alder	*Alnus rubra*	11	11	0	0	Dead	Dead			retain	
6823	DE-16	red alder	*Alnus rubra*	18	18	12	452	Poor	Fair	Declining.		retain	
6840	DE-20	red alder	*Alnus rubra*	23	23	0	0	Dead	Dead	Basal cavity, three leaders.		retain	
6849	DE-20	cherry	*Prunus avium*	23	23	15	707	Good	Good			retain	
6851	DE-14-8	red alder	*Alnus rubra*	14,8	16	15	707	Fair	Very poor	Declining.		retain	
6852	DE-22	red alder	*Alnus rubra*	25	25	25	1963	Good	Fair	Codominant leaders.		retain	
6853	DE-16-14	red alder	*Alnus rubra*	17,17	24	20	1256	Good	Fair	Codominant leaders.		retain	
6859	EV-32	Douglas fir	*Pseudotsuga menziesii*	40	40	35	3847	Good	Good			retain	
6860	EV-38	Douglas fir	*Pseudotsuga menziesii*	57	57	0	0	Dead	Dead			retain	
6861	DE-14	red alder	*Alnus rubra*	16	16	12	452	Fair	Fair	Suppressed.		retain	
6862	DE-14	red alder	*Alnus rubra*	14	14	12	452	Good	Good			retain	
6863	DE-12	red alder	*Alnus rubra*	9	9	8	201	Poor	Fair	Declining.		retain	
6864	DE-14	red alder	*Alnus rubra*	14	14	6	113	Poor	Fair	Declining.		retain	
6865	DE-12	red alder	*Alnus rubra*	9	9	0	0	Dead	Dead			retain	
6866	DE-14	red alder	*Alnus rubra*	9	9	6	113	Good	Good			retain	
6867	DE-12	red alder	*Alnus rubra*	8	8	6	113	Fair	Good	Declining.		retain	
6868	DE-20	red alder	*Alnus rubra*	9	9	0	0	Dead	Dead			retain	
6869	DE-12	red alder	*Alnus rubra*	14	14	10	314	Good	Fair	Lean.		retain	
6870	DE-12-14	Oregon ash	*Fraxinus latifolia*	12,14	18	15	707	Fair	Fair			retain	
6873	DE-10	Oregon ash	*Fraxinus latifolia*	10	10	15	707	Fair	Fair			retain	
6874	DE-28	Oregon ash	*Fraxinus latifolia*	30	30	25	1963	Fair	Fair	Stem decay.		retain	
6875	DE-32	Oregon ash	*Fraxinus latifolia*	32	32	30	2826	Fair	Poor	Stem decay.		retain	
6876	DE-30	Oregon ash	*Fraxinus latifolia*	26	26	30	2826	Good	Very poor	Stem decay.		retain	
6877	DE-12	Oregon ash	*Fraxinus latifolia*	29	29	10	314	Very poor	Very poor	Declining.		retain	
6878	DE-16	Oregon ash	*Fraxinus latifolia*	16	16	13	531	Good	Fair			retain	
6879	DE-10	Oregon ash	*Fraxinus latifolia*	10	10	12	452	Good	Fair			retain	
6880	DE-12-20	Oregon ash	*Fraxinus latifolia*	12,14	18	25	1963	Good	Poor	Multiple leaders, trunk decay.		retain	
6881	DE-18-14-10	Oregon ash	*Fraxinus latifolia*	18, 16	24	20	1256	Fair	Poor	Partially decayed, multiple leaders.		retain	
6882	DE-18	Oregon ash	*Fraxinus latifolia*	25	25	20	1256	Good	Good			retain	
6883	DE-12	Oregon ash	*Fraxinus latifolia*	11	11	25	1963	Good	Fair	Unbalanced.		retain	
6884	DE-10	cherry	*Prunus avium*	8	8	12	452	Good	Good			retain	
6885	DE-20	Oregon ash	*Fraxinus latifolia*	20	20	20	1256	Good	Good			retain	
6887	DE-10	Oregon ash	*Fraxinus latifolia*	10	10	20	1256	Good	Good			retain	
6888	DE-14	Oregon ash	*Fraxinus latifolia*	14	14	18	1017	Good	Good			retain	
6890	DE-14X4	Oregon ash	*Fraxinus latifolia*	16,16,14,13	60	30	2826	Good	Fair	Three dead leaders, multiple stems.		retain	
6891	DE-14X6	Oregon ash	*Fraxinus latifolia*	15,15,11,16,15,15	36	40	5024	Good	Fair	Multiple leaders.		retain	
6892	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	8	201	Good	Fair	Trunk flare oddities.		retain	
6893	DE-6	Oregon ash	*Fraxinus latifolia*	5	5	5	79	Good	Fair	Decay cavity.		retain	
6898	DE-8	cascara	*Rhamnus purshiana*	9	9	5	79	Good	Good			retain	
6899	EV-18	Douglas fir	*Pseudotsuga menziesii*	23	23	20	1256	Good	Good			retain	
6901	DE-16	cherry	*Prunus avium*	18	18	25	1963	Good	Good			retain	
6902	DE-14	cherry	*Prunus avium*	15	15	20	1256	Good	Good			retain	
6903	DE-16	cherry	*Prunus avium*	19	19	26	2123	Good	Fair	Codominant leaders.		retain	
6904	EV-10	yew	*Taxus brevifolia*	10	10	10	314	Poor	Poor	Thin, suppressed, no leader.		retain	
6905	EV-28	Douglas fir	*Pseudotsuga menziesii*	38	38	25	1963	Good	Good			retain	
6908	EV-28	Douglas fir	*Pseudotsuga menziesii*	39	39	30	2826	Good	Good	Cedar to east not inventoried.		retain	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
6910	EV-32	western redcedar	*Thuja plicata*	39	39	20	1256	Good	Good	No blaze.		retain	
6911	EV-38	Douglas fir	*Pseudotsuga menziesii*	41	41	30	2826	Good	Good			retain	
6913	EV-12	yew	*Taxus brevifolia*	11	11	15	707	Fair	Fair	Thin, suppressed.		retain	
6914	DE-14-20	cherry	*Prunus avium*	20,40	44	30	2826	Good	Fair	Codominant leaders.		retain	
6917	EV-20	Douglas fir	*Pseudotsuga menziesii*	27	27	20	1256	Good	Fair			retain	x
6918	EV-14	Douglas fir	*Pseudotsuga menziesii*	18	18	20	1256	Fair	Poor			retain	x
6919	EV-14	Douglas fir	*Pseudotsuga menziesii*	14	14	10	314	Fair	Fair	Thin, "j" root.		retain	x
6920	EV-18	Douglas fir	*Pseudotsuga menziesii*	18	18	10	314	Poor	Poor	Dead top.		retain	x
6921	EV-12	Douglas fir	*Pseudotsuga menziesii*	17	17	18	1017	Good	Fair	Unbalanced to S.		retain	x
6922	EV-18	Douglas fir	*Pseudotsuga menziesii*	23	23	20	1256	Good	Fair	Unbalanced to the S.		retain	x
6923	EV-8	Douglas fir	*Pseudotsuga menziesii*	9	9	10	314	Fair	Poor	Suppressed.		retain	x
6924	EV-16	Douglas fir	*Pseudotsuga menziesii*	21	21	15	707	Good	Fair	Codominant, crooked, unbalanced to the S.		retain	x
6925	EV-14	Douglas fir	*Pseudotsuga menziesii*	17	17	10	314	Good	Good			retain	x
6926	EV-8	Douglas fir	*Pseudotsuga menziesii*	10	10	8	201	Good	Good			retain	x
6927	EV-6	Douglas fir	*Pseudotsuga menziesii*	7	7	10	314	Fair	Fair	Suppressed.		retain	x
6928	EV-16	Douglas fir	*Pseudotsuga menziesii*	23	23	18	1017	Good	Fair	Unbalanced to SE, crooked trunk.		retain	
6929	EV-24	Douglas fir	*Pseudotsuga menziesii*	32	32	20	1256	Good	Fair	Crooked trunk.		retain	
6930	EV-16	Douglas fir	*Pseudotsuga menziesii*	22	22	15	707	Good	Fair	Crooked trunk.		retain	x
6931	EV-16	Douglas fir	*Pseudotsuga menziesii*	21	21	18	1017	Fair	Fair	Thin, unbalanced to the S.		retain	x
6932	EV-14	Douglas fir	*Pseudotsuga menziesii*	22	22	15	707	Good	Good			retain	x
6933	EV-24	Douglas fir	*Pseudotsuga menziesii*	24	24	15	707	Good	Fair	Crooked trunk.		remove	
6934	EV-18	Douglas fir	*Pseudotsuga menziesii*	37	37	15	707	Good	Good	Exaggerated trunk swell.		remove	
6935	EV-22	Douglas fir	*Pseudotsuga menziesii*	28	28	15	707	Good	Good			remove	
6936	EV-20	Douglas fir	*Pseudotsuga menziesii*	29	29	18	1017	Good	Good			remove	
6937	EV-20	Douglas fir	*Pseudotsuga menziesii*	26	26	18	1017	Fair	Good	Thin.		remove	
6938	EV-26	Douglas fir	*Pseudotsuga menziesii*	32	32	15	707	Good	Good			remove	
6939	EV-26	Douglas fir	*Pseudotsuga menziesii*	33	33	18	1017	Good	Good			remove	
6940	EV-38	Douglas fir	*Pseudotsuga menziesii*	50	50	25	1963	Good	Good			retain	
6941	EV-30	Douglas fir	*Pseudotsuga menziesii*	32	32	20	1256	Good	Good			retain	
6978	EV-16	Douglas fir	*Pseudotsuga menziesii*	23	23	20	1256	Good	Poor	Unbalanced.		retain	x
6979	EV-16	Douglas fir	*Pseudotsuga menziesii*	24	24	20	1256	Good	Poor	Codominant leaders , unbalanced , suppressed.		retain	x
6980	EV-10	Douglas fir	*Pseudotsuga menziesii*	12	12	12	452	Good	Poor	Suppressed.		retain	x
6981	EV-10	Douglas fir	*Pseudotsuga menziesii*	11	11	15	707	Good	Poor	Codominant leaders , unbalanced , suppressed.		retain	x
6982	EV-10	Douglas fir	*Pseudotsuga menziesii*	11	11	6	113	Good	Poor	Codominant leaders , unbalanced , suppressed.		retain	x
6983	EV-10	Douglas fir	*Pseudotsuga menziesii*	12	12	10	314	Good	Fair	Suppressed.		retain	x
6984	EV-14	Douglas fir	*Pseudotsuga menziesii*	24	24	20	1256	Good	Good			retain	x
6985	EV-12	Douglas fir	*Pseudotsuga menziesii*	15	15	8	201	Good	Fair	Crooked, unbalanced to the S.		retain	x
6986	EV-14	Douglas fir	*Pseudotsuga menziesii*	19	19	20	1256	Good	Fair	Unbalanced , suppressed		remove	
6987	EV-10	Douglas fir	*Pseudotsuga menziesii*	12	12	15	707	Good	Fair	Suppressed.		remove	
6988	EV-14	Douglas fir	*Pseudotsuga menziesii*	19	19	15	707	Good	Fair	Unbalanced.		remove	
6989	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	6	113	Good	Fair	Unbalanced.		retain	x
6990	EV-6	Douglas fir	*Pseudotsuga menziesii*	7	7	6	113	Good	Fair	Unbalanced.		retain	x
6991	EV-10	Douglas fir	*Pseudotsuga menziesii*	11	11	8	201	Fair	Fair			retain	x
6992	EV-18	Douglas fir	*Pseudotsuga menziesii*	22	22	15	707	Good	Good			retain	x
6993	EV-8	Douglas fir	*Pseudotsuga menziesii*	9	9	10	314	Good	Good			remove	
6994	EV-14	Douglas fir	*Pseudotsuga menziesii*	17	17	12	452	Good	Good			remove	
6995	EV-26	Douglas fir	*Pseudotsuga menziesii*	26	26	15	707	Good	Fair	Unbalanced to the S.		remove	
6996	EV-10	Douglas fir	*Pseudotsuga menziesii*	11	11	10	314	Fair	Fair	Suppressed.		remove	
6997	EV-14	Douglas fir	*Pseudotsuga menziesii*	16	16	10	314	Good	Good			remove	
6998	EV-10	Douglas fir	*Pseudotsuga menziesii*	9	9	10	314	Fair	Poor	Suppressed , lost top		retain	x
6999	EV-18	Douglas fir	*Pseudotsuga menziesii*	25	25	20	1256	Good	Fair	High crown.		retain	x
7000	EV-16	Douglas fir	*Pseudotsuga menziesii*	20	20	8	201	Good	Fair	Unbalanced.		retain	x
7001	EV-8	Douglas fir	*Pseudotsuga menziesii*	11	11	5	79	Fair	Fair	Suppressed.		remove	
7002	EV-14	Douglas fir	*Pseudotsuga menziesii*	19	19	10	314	Fair	Fair	Suppressed , unbalanced.		remove	
7003	EV-14	Douglas fir	*Pseudotsuga menziesii*	19	19	12	452	Fair	Fair	Suppressed , unbalanced .		remove	
7004	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	12	452	Fair	Fair	Suppressed , unbalanced .		remove	
7005	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	10	314	Fair	Fair	Suppressed , unbalanced .		remove	
7010	EV-20	Douglas fir	*Pseudotsuga menziesii*	25	25	18	1017	Good	Good			retain	x
7021	EV-36	Douglas fir	*Pseudotsuga menziesii*	43	43	25	1963	Fair	Good	Thin.		retain	
7022	EV-28	Douglas fir	*Pseudotsuga menziesii*	36	36	15	707	Good	Fair	Corrected lean to S.		retain	
7023	EV-28	Douglas fir	*Pseudotsuga menziesii*	33	33	20	1256	Good	Fair	Crooked trunk.		retain	
7024	EV-18	Douglas fir	*Pseudotsuga menziesii*	22	22	20	1256	Good	Poor	Crooked trunk.		retain	
7025	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	0	0	Dead	Dead			remove	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
7026	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	12	452	Good	Fair	Suppressed.		retain	
7027	EV-22	Douglas fir	*Pseudotsuga menziesii*	32	32	20	1256	Good	Good			retain	
7028	EV-24	Douglas fir	*Pseudotsuga menziesii*	29	29	20	1256	Good	Fair	Unbalanced to the SE.		retain	
7033	EV-26	Douglas fir	*Pseudotsuga menziesii*	39	39	15	707	Good	Good			remove	
7034	EV-12	Douglas fir	*Pseudotsuga menziesii*	18	18	15	707	Good	Fair	Unbalanced to the E.		remove	
7035	EV-20	Douglas fir	*Pseudotsuga menziesii*	25	25	15	707	Good	Fair	High crown.		remove	
7039	EV-24	Douglas fir	*Pseudotsuga menziesii*	35	35	18	1017	Good	Good			remove	
7040	EV-24	Douglas fir	*Pseudotsuga menziesii*	35	35	15	707	Fair	Good	Discolored foliage.		remove	
7041	EV-18	Douglas fir	*Pseudotsuga menziesii*	33	33	12	452	Good	Fair	Unbalanced.		remove	
7042	EV-28	Douglas fir	*Pseudotsuga menziesii*	24	24	10	314	Good	Good	Unbalanced to W.		remove	
7043	EV-16	Douglas fir	*Pseudotsuga menziesii*	21	21	12	452	Fair	Fair	Discolored foliage with high crown.		remove	
7054	EV-14	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Fair	Fair	Thin, high crown.		remove	
7055	EV-22	Douglas fir	*Pseudotsuga menziesii*	26	26	15	707	Good	Fair	Unbalanced.		remove	
7058	EV-12	Douglas fir	*Pseudotsuga menziesii*	15	15	6	113	Poor	Poor	Unbalanced, declining.		remove	
7059	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	0	0	Dead	Dead			remove	
7060	EV-24	Douglas fir	*Pseudotsuga menziesii*	32	32	18	1017	Good	Good			remove	
7065	EV-24	Douglas fir	*Pseudotsuga menziesii*	28	28	18	1017	Good	Good			remove	
7067	EV-16	Douglas fir	*Pseudotsuga menziesii*	25	25	18	1017	Good	Good			remove	
7070	DE-12	cherry	*Prunus avium*	12	12	10	314	Good	Good			remove	
7071	EV-14	Douglas fir	*Pseudotsuga menziesii*	16	16	15	707	Fair	Fair	Unbalanced, suppressed.		remove	
7072	EV-24	Douglas fir	*Pseudotsuga menziesii*	31	31	15	707	Good	Fair	Unbalanced.		remove	
7073	EV-24	Douglas fir	*Pseudotsuga menziesii*	28	28	15	707	Good	Fair	Unbalanced, sweep.		remove	
7074	EV-18	Douglas fir	*Pseudotsuga menziesii*	25	25	15	707	Good	Fair	Unbalanced.		remove	
7075	EV-14	Douglas fir	*Pseudotsuga menziesii*	16	16	10	314	Good	Fair	Unbalanced.		remove	
7076	EV-28	Douglas fir	*Pseudotsuga menziesii*	36	36	20	1256	Good	Good			remove	
7077	EV-22	Douglas fir	*Pseudotsuga menziesii*	28	28	15	707	Fair	Fair	Thin, discolored, unbalanced, lightning damage.		remove	
7078	EV-18	Douglas fir	*Pseudotsuga menziesii*	23	23	0	0	Dead	Dead			remove	
7079	EV-24	Douglas fir	*Pseudotsuga menziesii*	28	28	15	707	Good	Fair	Crooked trunk.		retain	
7080	EV-8	Douglas fir	*Pseudotsuga menziesii*	9	9	0	0	Dead	Dead			remove	
7081	EV-26	Douglas fir	*Pseudotsuga menziesii*	32	32	20	1256	Good	Good			retain	
7082	DE-16	bigleaf maple	*Acer macrophyllum*	17	17	20	1256	Good	Good			retain	
7091	DE-12	Douglas fir	*Pseudotsuga menziesii*	13	13	15	707	Good	Fair	Codominant leaders with inclusion.		remove	
7092	EV-24	Douglas fir	*Pseudotsuga menziesii*	30	30	20	1256	Fair	Poor	Red ring rot, thin, discolored, crooked trunk.		remove	
7093	EV-38	Douglas fir	*Pseudotsuga menziesii*	39	39	20	1256	Fair	Good	Discolored, thin.		remove	
7099	EV-10	Douglas fir	*Pseudotsuga menziesii*	13	13	12	452	Good	Fair	Unbalanced.		remove	
7100	EV-30	Douglas fir	*Pseudotsuga menziesii*	38	38	15	707	Good	Good			remove	
7101	EV-18	Douglas fir	*Pseudotsuga menziesii*	10	10	10	314	Good	Fair	High crown, suppressed.		remove	
7102	EV-10	Douglas fir	*Pseudotsuga menziesii*	32	32	15	707	Good	Good			remove	
7103	EV-24	Douglas fir	*Pseudotsuga menziesii*	32	32	15	707	Good	Good			remove	
7104	EV-12	Douglas fir	*Pseudotsuga menziesii*	27	27	15	707	Good	Good			remove	
7105	EV-28	Douglas fir	*Pseudotsuga menziesii*	14	14	10	314	Fair	Poor	Broken top, one sided.		remove	
7108	EV-18	Douglas fir	*Pseudotsuga menziesii*	22	22	10	314	Good	Good	Red ring rot, thin, declining.		remove	
7109	EV-40	Douglas fir	*Pseudotsuga menziesii*	46	46	22	1520	Good	Fair	Crooked lower trunk.		remove	
7113	EV-30	Douglas fir	*Pseudotsuga menziesii*	35	35	20	1256	Good	Good			remove	
7114	EV-26	Douglas fir	*Pseudotsuga menziesii*	32	32	15	707	Good	Good			remove	
7115	EV-24	Douglas fir	*Pseudotsuga menziesii*	30	30	18	1017	Good	Fair	Unbalanced.		remove	
7116	EV-20	Douglas fir	*Pseudotsuga menziesii*	27	27	13	531	Good	Fair	High crown, unbalanced, buttress root oddities.		remove	
7118	EV-20	Douglas fir	*Pseudotsuga menziesii*	29	29	15	707	Fair	Fair	Declining, thin.		remove	
7119	EV-14	Douglas fir	*Pseudotsuga menziesii*	20	20	12	452	Fair	Fair	Thin, unbalanced.		remove	
7128	EV-14	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Fair	Fair	Thin high crown.		remove	
7137	EV-26	Douglas fir	*Pseudotsuga menziesii*	30	30	18	1017	Poor	Good	Thin, deadwood, in decline.		remove	
7138	EV-14	Douglas fir	*Pseudotsuga menziesii*	17	17	8	201	Good	Good			remove	
7140	EV-14	Douglas fir	*Pseudotsuga menziesii*	18	18	0	0	Dead	Dead			remove	
7147	EV-16	Douglas fir	*Pseudotsuga menziesii*	30	30	12	452	Fair	Fair	Twisted, deadwood.		remove	
7148	EV-24	Douglas fir	*Pseudotsuga menziesii*	24	24	15	707	Fair	Good	Thin.		remove	
7149	EV-18	Douglas fir	*Pseudotsuga menziesii*	26	26	20	1256	Good	Fair	High crown.		remove	
7150	EV-14	Douglas fir	*Pseudotsuga menziesii*	17	17	12	452	Fair	Fair	Lean/sweep, thin.		remove	
7151	EV-36	Douglas fir	*Pseudotsuga menziesii*	38	38	15	707	Good	Fair	Curved trunk.		remove	
7152	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	8	201	Good	Fair	Unbalanced.		remove	
7153	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	23	1661	Fair	Good	Thin, suppressed.		remove	
7154	EV-24-20	Douglas fir	*Pseudotsuga menziesii*	48	48	15	707	Good	Fair	Codominant, twist in trunk.		remove	
7163	EV-24	Douglas fir	*Pseudotsuga menziesii*	30	30	15	707	Good	Fair	Crooked, deadwood.		remove	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
7164	EV-26	Douglas fir	*Pseudotsuga menziesii*	31	31	15	707	Good	Good			remove	
7165	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	12	452	Good	Good			remove	
7166	EV-15	Douglas fir	*Pseudotsuga menziesii*	23	23	12	452	Good	Good			remove	
7167	EV-22	Douglas fir	*Pseudotsuga menziesii*	29	29	15	707	Good	Fair	Unbalanced.		remove	
7168	EV-14	Douglas fir	*Pseudotsuga menziesii*	18	18	15	707	Good	Good			remove	
7169	EV-25	Douglas fir	*Pseudotsuga menziesii*	32	32	15	707	Good	Fair	Unbalanced.		remove	
7170	EV-16	Douglas fir	*Pseudotsuga menziesii*	20	20	8	201	Fair	Fair	Suppressed, narrow crown.		remove	
7172	EV-22	Douglas fir	*Pseudotsuga menziesii*	31	31	18	1017	Good	Fair	Unbalanced.		remove	
7177	EV-16	Douglas fir	*Pseudotsuga menziesii*	23	23	15	707	Good	Good			remove	
7178	EV-22	Douglas fir	*Pseudotsuga menziesii*	28	28	15	707	Good	Good			remove	
7179	EV-16	Douglas fir	*Pseudotsuga menziesii*	25	25	25	1963	Good	Good			remove	
7180	EV-20	Douglas fir	*Pseudotsuga menziesii*	26	26	20	1256	Good	Good			remove	
7181	EV-22	Douglas fir	*Pseudotsuga menziesii*	28	28	20	1256	Good	Good			remove	
7183	EV-26	Douglas fir	*Pseudotsuga menziesii*	32	32	20	1256	Good	Good			remove	
7184	EV-26	Douglas fir	*Pseudotsuga menziesii*	38	38	25	1963	Good	Good			remove	
7187	EV-38	Douglas fir	*Pseudotsuga menziesii*	43	43	25	1963	Good	Fair	Crooked trunk.		retain	
7188	EV-28	Douglas fir	*Pseudotsuga menziesii*	35	35	20	1256	Fair	Poor	Red ring rot, codominant leaders, crooked trunk.		remove	
7189	EV-20	Douglas fir	*Pseudotsuga menziesii*	26	26	12	452	Fair	Fair	Unbalanced, declining.		remove	
7190	DE-14	cherry	*Prunus avium*	15	15	20	1256	Good	Good			retain	
7191	EV-22	Douglas fir	*Pseudotsuga menziesii*	30	30	15	707	Fair	Fair	Thin, high crown, red ring rot.		retain	
7192	EV-20	Douglas fir	*Pseudotsuga menziesii*	25	25	10	314	Good	Fair	Unbalanced.		retain	
7193	DE-14	bigleaf maple	*Acer macrophyllum*	17	17	20	1256	Good	Fair	Lost and regrew top, unbalanced.		retain	
7194	EV-16	Douglas fir	*Pseudotsuga menziesii*	19	19	12	452	Good	Fair	High crown.		retain	
7195	DE-14	Douglas fir	*Pseudotsuga menziesii*	17	17	10	314	Good	Fair	Evergreen, high crown.		retain	
7196	EV-22	Douglas fir	*Pseudotsuga menziesii*	29	29	15	707	Good	Good			retain	
7197	EV-16	Douglas fir	*Pseudotsuga menziesii*	21	21	15	707	Poor	Fair	Crooked, thin.		retain	
7198	EV-20	Douglas fir	*Pseudotsuga menziesii*	27	27	10	314	Fair	Good	Thin, declining.		retain	
7199	EV-14	Douglas fir	*Pseudotsuga menziesii*	22	22	20	1256	Fair	Fair	Unbalanced, crooked trunk, thin.		retain	
7201	EV-24	Douglas fir	*Pseudotsuga menziesii*	28	28	20	1256	Fair	Poor	Red ring rot, crooked trunk.		retain	
7202	EV-26	Douglas fir	*Pseudotsuga menziesii*	31	31	15	707	Good	Fair	Unbalanced.		retain	
7204	EV-20	Douglas fir	*Pseudotsuga menziesii*	26	26	15	707	Good	Poor	Crooked trunk, high crown.		retain	
7205	EV-20	Douglas fir	*Pseudotsuga menziesii*	27	27	0	0	Dead	Dead			retain	
7206	DE-18	bigleaf maple	*Acer macrophyllum*	23	23	25	1963	Good	Good			retain	
7207	EV-6	Douglas fir	*Pseudotsuga menziesii*	7	7	0	0	Dead	Dead			retain	
7208	EV-14	Douglas fir	*Pseudotsuga menziesii*	16	16	10	314	Fair	Fair	High crown, suppressed, unbalanced.		retain	
7209	EV-26	Douglas fir	*Pseudotsuga menziesii*	34	34	18	1017	Good	Good			retain	
7210	EV-10	Douglas fir	*Pseudotsuga menziesii*	9	9	6	113	Fair	Good	Suppressed.		retain	
7211	EV-12	Douglas fir	*Pseudotsuga menziesii*	16	16	10	314	Good	Good			remove	
7212	EV-16	Douglas fir	*Pseudotsuga menziesii*	24	24	10	314	Good	Fair	Unbalanced.		remove	
7213	EV-24	Douglas fir	*Pseudotsuga menziesii*	27	27	15	707	Good	Poor	Red ring rot.		remove	
7214	EV-24	Douglas fir	*Pseudotsuga menziesii*	28	28	18	1017	Good	Fair	Crooked trunk.		remove	
7215	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	8	201	Fair	Fair	Unbalanced suppressed.		retain	
7216	EV-24	Douglas fir	*Pseudotsuga menziesii*	30	30	18	1017	Good	Good			retain	
7217	EV-24	Douglas fir	*Pseudotsuga menziesii*	30	30	22	1520	Good	Good			retain	
7230	DE-8	Douglas fir	*Pseudotsuga menziesii*	9	9	10	314	Good	Good			retain	
7231	EV-24	Douglas fir	*Pseudotsuga menziesii*	28	28	15	707	Good	Good			retain	
7233	EV-38	Douglas fir	*Pseudotsuga menziesii*	40	40	22	1520	Good	Good			remove	
7237	EV-34	Douglas fir	*Pseudotsuga menziesii*	37	37	25	1963	Good	Fair	Codominant leaders.		remove	
7239	EV-15	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Good	Good			remove	
7240	EV-16	Douglas fir	*Pseudotsuga menziesii*	24	24	15	707	Good	Good			remove	
7241	EV-16	Douglas fir	*Pseudotsuga menziesii*	22	22	13	531	Good	Good			remove	
7242	EV-20	Douglas fir	*Pseudotsuga menziesii*	26	26	20	1256	Good	Good			remove	
7243	EV-18	Douglas fir	*Pseudotsuga menziesii*	25	25	18	1017	Good	Good			remove	
7244	EV-14	Douglas fir	*Pseudotsuga menziesii*	17	17	20	1256	Good	Fair	Unbalanced, twisted around fir.		remove	
7245	EV-34	Douglas fir	*Pseudotsuga menziesii*	37	37	30	2826	Good	Good			remove	
7251	EV-34	Douglas fir	*Pseudotsuga menziesii*	36	36	20	1256	Good	Good			retain	
7252	EV-34	western redcedar	*Thuja plicata*	41	41	15	707	Good	Good			remove	
7253	EV-30	Douglas fir	*Pseudotsuga menziesii*	36	36	30	2826	Good	Good			remove	
7254	EV-18	Douglas fir	*Pseudotsuga menziesii*	25	25	18	1017	Good	Fair	Unbalanced.		remove	
7255	EV-21	Douglas fir	*Pseudotsuga menziesii*	28	28	20	1256	Good	Fair	Unbalanced.		remove	
7256	DE-16	red alder	*Alnus rubra*	16	16	15	707	Good	Fair	Twisted with fir.		remove	
7257	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	10	314	Good	Fair	Twisted around alder.		remove	
7264	DE-6	red alder	*Alnus rubra*	6	6	15	707	Good	Good			retain	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
7271	EV-16	Douglas fir	*Pseudotsuga menziesii*	23	23	20	1256	Good	Good			retain	
7273	EV-24	Douglas fir	*Pseudotsuga menziesii*	37	37	30	2826	Good	Good			retain	
7278	EV-24	Douglas fir	*Pseudotsuga menziesii*	31	31	20	1256	Good	Good			retain	
7347	EV-6	Douglas fir	*Pseudotsuga menziesii*	7	7	10	314	Good	Good			retain	
7352	EV-36	Douglas fir	*Pseudotsuga menziesii*	40	40	15	707	Good	Fair	Buttress root "j" shaped.		remove	
7354	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	13	531	Good	Good			remove	
7355	EV-6	Douglas fir	*Pseudotsuga menziesii*	8	8	10	314	Good	Fair	Suppressed.		remove	
7356	EV-10	Douglas fir	*Pseudotsuga menziesii*	10	10	10	314	Good	Good			remove	
7357	EV-26	Douglas fir	*Pseudotsuga menziesii*	31	31	25	1963	Good	Good			remove	
7358	EV-22	Douglas fir	*Pseudotsuga menziesii*	26	26	15	707	Good	Good			remove	
7359	EV-30	Douglas fir	*Pseudotsuga menziesii*	38	38	28	2462	Good	Good			remove	
7361	EV-16	Douglas fir	*Pseudotsuga menziesii*	21	21	18	1017	Good	Good			remove	
7362	EV-14	Douglas fir	*Pseudotsuga menziesii*	15	15	15	707	Good	Good			remove	
7363	EV-26	Douglas fir	*Pseudotsuga menziesii*	32	32	25	1963	Good	Good			remove	
7364	EV-24	Douglas fir	*Pseudotsuga menziesii*	33	33	28	2462	Good	Good			remove	
7365	EV-18	Douglas fir	*Pseudotsuga menziesii*	23	23	15	707	Good	Fair	Phototropic.		remove	
7421	EV-38	Douglas fir	*Pseudotsuga menziesii*	39	39	35	3847	Good	Good			remove	
7474	EV-14	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Good	Fair	Unbalanced.		remove	
7475	EV-30	Douglas fir	*Pseudotsuga menziesii*	38	38	20	1256	Good	Good			remove	
7476	EV-26	Douglas fir	*Pseudotsuga menziesii*	32	32	25	1963	Good	Good			remove	
7477	EV-26	Douglas fir	*Pseudotsuga menziesii*	31	31	20	1256	Good	Good			remove	
7478	EV-12	Douglas fir	*Pseudotsuga menziesii*	11	11	12	452	Good	Good			remove	
7479	EV-14	Douglas fir	*Pseudotsuga menziesii*	16	16	12	452	Good	Good			remove	
7485	EV-20	Douglas fir	*Pseudotsuga menziesii*	27	27	16	804	Good	Fair	Unbalanced.		remove	
7491	EV-24	Douglas fir	*Pseudotsuga menziesii*	31	31	23	1661	Good	Fair	Crooked trunk.		remove	
7492	EV-22	Douglas fir	*Pseudotsuga menziesii*	29	29	18	1017	Good	Good			remove	
7497	EV-18	Douglas fir	*Pseudotsuga menziesii*	27	27	14	615	Good	Good			remove	
7500	EV-18	Douglas fir	*Pseudotsuga menziesii*	26	26	12	452	Fair	Fair			remove	
7501	EV-24	Douglas fir	*Pseudotsuga menziesii*	27	27	10	314	Good	Fair	Unbalanced.		remove	
7502	EV-16	Douglas fir	*Pseudotsuga menziesii*	21	21	12	452	Good	Fair	Unbalanced.		remove	
7503	EV-26	Douglas fir	*Pseudotsuga menziesii*	26	26	20	1256	Good	Fair	Sweeping trunk.		remove	
7504	EV-22	Douglas fir	*Pseudotsuga menziesii*	25	25	15	707	Good	Good			remove	
7505	EV-20	Douglas fir	*Pseudotsuga menziesii*	25	25	15	707	Good	Good			remove	
7506	EV-14	Douglas fir	*Pseudotsuga menziesii*	16	16	8	201	Good	Poor	Crooked trunk.		remove	
7507	DE-8	Pacific madrone	*Arbutus menziesii*	7	7	15	707	Good	Fair	Horizontal trunk.		remove	
7508	DE-16	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Fair	Fair	Wrong icon, thin, unbalanced.		remove	
7510	EV-14	Douglas fir	*Pseudotsuga menziesii*	18	18	15	707	Good	Fair	Unbalanced.		remove	
7511	EV-20	Douglas fir	*Pseudotsuga menziesii*	21	21	15	707	Good	Fair	Unbalanced.		remove	
7512	EV-12	Douglas fir	*Pseudotsuga menziesii*	13	13	15	707	Good	Good			retain	x
7513	EV-18	Douglas fir	*Pseudotsuga menziesii*	24	24	18	1017	Good	Good			retain	x
7514	EV-18	Douglas fir	*Pseudotsuga menziesii*	19	19	15	707	Good	Fair	Unbalanced.		retain	x
7515	EV-6	Douglas fir	*Pseudotsuga menziesii*	7	7	0	0	Dead	Dead			remove	
7516	EV-24	Douglas fir	*Pseudotsuga menziesii*	25	25	15	707	Good	Good			retain	x
7517	EV-8	Douglas fir	*Pseudotsuga menziesii*	9	9	0	0	Dead	Dead			remove	
7518	EV-16	Douglas fir	*Pseudotsuga menziesii*	15	15	12	452	Good	Poor	Sweeping trunk.		retain	x
7519	EV-10	Douglas fir	*Pseudotsuga menziesii*	12	12	10	314	Fair	Fair	Suppressed, unbalance to S.		retain	x
7520	EV-22	Douglas fir	*Pseudotsuga menziesii*	27	27	20	1256	Good	Good			remove	
7521	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	10	314	Good	Fair	Crooked trunk, unbalanced to the S.		retain	x
7522	EV-8	Douglas fir	*Pseudotsuga menziesii*	9	9	6	113	Fair	Fair	Suppressed.		retain	x
7523	EV-22	Douglas fir	*Pseudotsuga menziesii*	28	28	15	707	Good	Fair	Sweeping trunk.		retain	x
7524	EV-18	Douglas fir	*Pseudotsuga menziesii*	21	21	12	452	Good	Fair	Sweeping trunk.		retain	x
7525	EV-6	Douglas fir	*Pseudotsuga menziesii*	6	6	10	314	Good	Fair	Suppressed.		retain	x
7526	EV-14	Douglas fir	*Pseudotsuga menziesii*	18	18	10	314	Good	Fair			remove	
7527	EV-8	Douglas fir	*Pseudotsuga menziesii*	11	11	6	113	Fair	Fair			retain	x
7529	EV-8	Douglas fir	*Pseudotsuga menziesii*	10	10	12	452	Good	Fair	Nest, sweeping trunk, suppressed		remove	
7530	EV-20	Douglas fir	*Pseudotsuga menziesii*	22	22	15	707	Fair	Fair	High crown, sweeping trunk.		remove	
7531	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	6	113	Fair	Fair	Suppressed.		remove	
7532	EV-18	Douglas fir	*Pseudotsuga menziesii*	22	22	25	1963	Good	Fair	Unbalanced.		remove	
7534	EV-20	Douglas fir	*Pseudotsuga menziesii*	24	24	18	1017	Good	Poor	Red ring rot, codominant top.		remove	
7535	EV-16	Douglas fir	*Pseudotsuga menziesii*	18	18	10	314	Good	Fair	Unbalanced.		remove	
7536	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	8	201	Good	Poor	Trunk oddities.		remove	
7537	EV-14	Douglas fir	*Pseudotsuga menziesii*	16	16	10	314	Good	Fair	Suppressed, unbalanced.		remove	
7538	EV-18	Douglas fir	*Pseudotsuga menziesii*	25	25	12	452	Good	Good			remove	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
7539	EV-18	Douglas fir	*Pseudotsuga menziesii*	21	21	15	707	Good	Poor	Red ring rot.		remove	
7540	EV-24	Douglas fir	*Pseudotsuga menziesii*	29	29	18	1017	Fair	Fair	Thin, unbalanced .		remove	
7541	EV-24	Douglas fir	*Pseudotsuga menziesii*	29	29	14	615	Good	Good			remove	
7542	EV-14	Douglas fir	*Pseudotsuga menziesii*	19	19	9	254	Fair	Fair	High crown.		remove	
7545	EV-14	Douglas fir	*Pseudotsuga menziesii*	17	17	10	314	Good	Fair	Sweeping trunk.		remove	
7546	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	8	201	Good	Fair	Unbalanced.		remove	
7547	EV-16	Douglas fir	*Pseudotsuga menziesii*	23	23	12	452	Good	Fair	Unbalanced , high crown		remove	
7548	EV-18	Douglas fir	*Pseudotsuga menziesii*	24	24	15	707	Good	Fair	High crown, unbalanced		remove	
7549	EV-16	Douglas fir	*Pseudotsuga menziesii*	19	19	15	707	Good	Fair	High crown.		remove	
7550	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	13	531	Good	Poor	Unbalanced , suppressed		remove	
7551	EV-16	Douglas fir	*Pseudotsuga menziesii*	20	20	13	531	Fair	Fair	High crown.		remove	
7552	EV-20	Douglas fir	*Pseudotsuga menziesii*	25	25	12	452	Good	Good			remove	
7553	EV-14	Douglas fir	*Pseudotsuga menziesii*	15	15	12	452	Good	Fair	Unbalanced.		remove	
7554	EV-26	Douglas fir	*Pseudotsuga menziesii*	30	30	15	707	Good	Good			remove	
7556	EV-14	Douglas fir	*Pseudotsuga menziesii*	18	18	15	707	Good	Good			remove	
7557	EV-18	Douglas fir	*Pseudotsuga menziesii*	25	25	18	1017	Good	Fair	Unbalanced , crooked trunk		remove	
7558	EV-22	Douglas fir	*Pseudotsuga menziesii*	25	25	15	707	Good	Good			remove	
7559	EV-14	Douglas fir	*Pseudotsuga menziesii*	18	18	15	707	Good	Good			remove	
7561	EV-22	Douglas fir	*Pseudotsuga menziesii*	26	26	15	707	Good	Good			remove	
7562	EV-20	Douglas fir	*Pseudotsuga menziesii*	25	25	20	1256	Good	Good			remove	
7563	EV-26	Douglas fir	*Pseudotsuga menziesii*	30	30	20	1256	Fair	Poor	Red ring rot.		remove	
7564	EV-26	Douglas fir	*Pseudotsuga menziesii*	32	32	25	1963	Poor	Fair	Thin, declining.		remove	
7565	EV-18	Douglas fir	*Pseudotsuga menziesii*	24	24	15	707	Good	Fair	Sweeping trunk.		remove	
7566	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	12	452	Good	Poor	Lost top.		remove	
7567	EV-24	Douglas fir	*Pseudotsuga menziesii*	30	30	15	707	Fair	Fair	Crooked trunk.		remove	
7568	DE-12	Pacific madrone	*Arbutus menziesii*	11	11	5	79	Fair	Fair	Horizontal trunk.		remove	
7569	EV-20-16	Douglas fir	*Pseudotsuga menziesii*	28,20	34	20	1256	Good	Fair	Codominant leaders, crack at base.		retain	x
7570	EV-24	Douglas fir	*Pseudotsuga menziesii*	30	30	25	1963	Good	Good	Habitat tree at base.		retain	x
7571	EV-26	Douglas fir	*Pseudotsuga menziesii*	34	34	15	707	Good	Fair	Codominant at 10'.		remove	
7572	EV-6	Douglas fir	*Pseudotsuga menziesii*	6	6	12	452	Fair	Fair	Suppressed.		remove	
7573	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	10	314	Fair	Fair	Thin, suppressed.		retain	x
7574	EV-20	Douglas fir	*Pseudotsuga menziesii*	26	26	15	707	Fair	Fair	Unbalanced to the S, utility clearance.		remove	
7575	EV-16	Douglas fir	*Pseudotsuga menziesii*	21	21	15	707	Good	Fair	Unbalanced to the S.		remove	
7576	EV-14	Douglas fir	*Pseudotsuga menziesii*	14	14	12	452	Very poor	Very poor	Almost dead.		remove	
7577	EV-20	Douglas fir	*Pseudotsuga menziesii*	24	24	13	531	Good	Fair	Unbalanced to S, pruned for utility lines.		remove	
7578	EV-24	Douglas fir	*Pseudotsuga menziesii*	25	25	15	707	Good	Good			retain	x
7579	EV-10	Douglas fir	*Pseudotsuga menziesii*	11	11	12	452	Good	Good			retain	x
7580	EV-14	Douglas fir	*Pseudotsuga menziesii*	19	19	12	452	Fair	Fair	Thin, unbalanced to the S.		remove	
7581	EV-8	Douglas fir	*Pseudotsuga menziesii*	9	9	8	201	Fair	Fair	Suppressed.		remove	
7582	EV-8	Douglas fir	*Pseudotsuga menziesii*	9	9	8	201	Fair	Fair	Suppressed, conk.		remove	
7583	EV-24	Douglas fir	*Pseudotsuga menziesii*	26	26	15	707	Good	Fair	Unbalanced to s.		remove	
7584	EV-6	Douglas fir	*Pseudotsuga menziesii*	6	6	8	201	Good	Poor	Suppressed, codominant leaders.		remove	
7585	EV-20	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Fair	Poor	Stem cavity, unbalanced to S, crooked.		remove	
7586	EV-16	Douglas fir	*Pseudotsuga menziesii*	21	21	15	707	Good	Fair	Unbalanced to the S.		remove	
7587	EV-26	Douglas fir	*Pseudotsuga menziesii*	30	30	15	707	Poor	Poor	Codominant, thin.		remove	
7588	EV-18-18	Douglas fir	*Pseudotsuga menziesii*	38	38	30	2826	Fair	Poor	Codominant leaders with secondary leaders, fused, red ring rot.		remove	
7589	EV-24	Douglas fir	*Pseudotsuga menziesii*	28	28	20	1256	Good	Fair	Unbalanced to the S, crooked.		retain	x
7590	EV-14	Douglas fir	*Pseudotsuga menziesii*	19	19	18	1017	Fair	Fair			retain	x
7591	EV-18	Douglas fir	*Pseudotsuga menziesii*	21	21	15	707	Good	Good			remove	
7592	DE-6	willow	*Salix sp.*	6	6	10	314	Fair	Poor	Deadwood.		retain	x
7594	EV-16	Douglas fir	*Pseudotsuga menziesii*	23	23	13	531	Good	Good			remove	
7595	EV-6	Douglas fir	*Pseudotsuga menziesii*	6	6	8	201	Fair	Fair	Suppressed.		remove	
7596	EV-26	Douglas fir	*Pseudotsuga menziesii*	30	30	18	1017	Good	Fair	Unbalanced.		remove	
7597	EV-14	Douglas fir	*Pseudotsuga menziesii*	16	16	18	1017	Good	Good			remove	
7598	EV-30	Douglas fir	*Pseudotsuga menziesii*	32	32	20	1256	Good	Fair	Unbalanced.		remove	
7599	EV-10	Douglas fir	*Pseudotsuga menziesii*	10	10	10	314	Good	Good			remove	
7600	EV-20	Douglas fir	*Pseudotsuga menziesii*	24	24	20	1256	Good	Fair	Crooked trunk.		remove	
7601	EV-6	Douglas fir	*Pseudotsuga menziesii*	6	6	10	314	Poor	Poor	Thin, suppressed.		remove	
7602	EV-18	Douglas fir	*Pseudotsuga menziesii*	16	16	15	707	Good	Good			remove	
7603	EV-12	Douglas fir	*Pseudotsuga menziesii*	13	13	12	452	Good	Fair			remove	
7604	EV-14	Douglas fir	*Pseudotsuga menziesii*	17	17	10	314	Good	Fair			remove	
7605	EV-14	Douglas fir	*Pseudotsuga menziesii*	16	16	13	531	Good	Fair	Unbalanced.		remove	
7606	EV-22	Douglas fir	*Pseudotsuga menziesii*	27	27	15	707	Good	Good			remove	

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Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
7607	EV-10	Douglas fir	*Pseudotsuga menziesii*	10	10	0	0	Dead	Dead			remove	
7608	EV-10	Douglas fir	*Pseudotsuga menziesii*	11	11	0	0	Dead	Dead			remove	
7609	EV-18	Douglas fir	*Pseudotsuga menziesii*	23	23	15	707	Good	Good			remove	
7610	EV-20	Douglas fir	*Pseudotsuga menziesii*	26	26	18	1017	Good	Good			remove	
7611	EV-22	Douglas fir	*Pseudotsuga menziesii*	33	33	18	1017	Good	Good			remove	
7612	EV-12	Douglas fir	*Pseudotsuga menziesii*	11	11	10	314	Good	Fair	High crown.		remove	
7613	EV-16	Douglas fir	*Pseudotsuga menziesii*	20	20	8	201	Good	Fair	High crown.		remove	
7614	EV-20	Douglas fir	*Pseudotsuga menziesii*	26	26	20	1256	Good	Good			remove	
7619	DE-14	red alder	*Alnus rubra*	20	20	5	79	Very poor	Very poor	Almost dead.		retain	
7620	EV-18	Douglas fir	*Pseudotsuga menziesii*	24	24	18	1017	Fair	Fair	Unbalanced and sweeping trunk.		retain	
7621	EV-16	Douglas fir	*Pseudotsuga menziesii*	16	16	12	452	Poor	Poor	Unbalanced, twisted.		retain	
7622	DE-16	red alder	*Alnus rubra*	22	22	20	1256	Good	Fair	Lost top, dying.		retain	
7626	EV-8	western redcedar	*Thuja plicata*	8	8	15	707	Good	Good			retain	
7627	EV-34	western redcedar	*Thuja plicata*	37	37	0	0	Dead	Dead			retain	
7628	EV-6	Douglas fir	*Pseudotsuga menziesii*	6	6	0	0	Poor	Poor	Grafted on to dead cedar.		retain	
7629	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	0	0	Dead	Dead			retain	
7630	DE-6	western serviceberry	*Amelanchier alnifolia*	7	7	10	314	Good	Fair	Codominant leaders, crossed and fused.		retain	
7631	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	0	0	Dead	Dead			retain	
7634	EV-14	Douglas fir	*Pseudotsuga menziesii*	16	16	12	452	Fair	Poor	Sweeping trunk, thin, discolored.	x	retain	
7635	EV-12	western redcedar	*Thuja plicata*	11	11	10	314	Good	Fair	Uprooted and regrew, phototropic.		retain	
7636	DE-6X2	plum	*Prunus sp.*	9,8	12	8	201	Fair	Fair			retain	
7642	EV-16	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Fair	Fair	Unbalanced, thin.	x	retain	
7643	EV-16	Douglas fir	*Pseudotsuga menziesii*	22	22	15	707	Good	Good			retain	
7644	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	6	113	Fair	Good	Suppressed.		retain	
7645	EV-18	Douglas fir	*Pseudotsuga menziesii*	26	26	0	0	Dead	Dead			retain	
7649	DE-20	red alder	*Alnus rubra*	25	25	0	0	Dead	Dead			retain	
7652	EV-14	Douglas fir	*Pseudotsuga menziesii*	13	13	10	314	Good	Fair	High crown.		retain	
7656	EV-16	Douglas fir	*Pseudotsuga menziesii*	13	13	10	314	Good	Fair	Unbalanced.		retain	
7658	EV-16	Douglas fir	*Pseudotsuga menziesii*	16	16	10	314	Good	Fair	Unbalanced, high crown.		retain	
7659	EV-8	Douglas fir	*Pseudotsuga menziesii*	7	7	10	314	Poor	Poor	Thin, declining.		retain	
7660	EV-14	Douglas fir	*Pseudotsuga menziesii*	14	14	10	314	Good	Poor	Codominant top.		retain	
7662	EV-12	Douglas fir	*Pseudotsuga menziesii*	10	10	0	0	Dead	Dead			retain	
7665	DE-20	Oregon ash	*Fraxinus latifolia*	26	26	20	1256	Good	Good			retain	
7675	EV-22	Douglas fir	*Pseudotsuga menziesii*	30	30	15	707	Good	Good			retain	
7676	EV-34	western redcedar	*Thuja plicata*	20	20	0	0	Dead	Dead			retain	
7677	EV-32	Douglas fir	*Pseudotsuga menziesii*	14	14	15	707	Good	Fair	Unbalanced.		retain	
7678	DE-10	Douglas fir	*Pseudotsuga menziesii*	10	10	10	314	Good	Good		x	retain	
7679	DE-12	Douglas fir	*Pseudotsuga menziesii*	12	12	8	201	Good	Good		x	retain	
7680	EV-14	Douglas fir	*Pseudotsuga menziesii*	14	14	10	314	Fair	Good	Thin.	x	retain	
7686	EV-16	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Good	Good			retain	
7688	DE-12	unknown	unknown	12	12	0	0	Dead	Dead			retain	
7695	DE-12	plum	*Prunus sp.*	10	10	20	1256	Fair	Poor	Multistem, declining.		retain	x
7696	DE-14	willow	*Salix sp.*	13	13	20	1256	Good	Fair	Ivy, multistem.		retain	x
7697	DE-8	willow	*Salix sp.*	8	8	15	707	Fair	Fair	Terminal dieback, ivy, multistem.		retain	x
7705	EV-12	Douglas fir	*Pseudotsuga menziesii*	15	15	0	0	Dead	Dead		x	retain	
7706	EV-12	Douglas fir	*Pseudotsuga menziesii*	15	15	8	201	Fair	Good	Thin discolored.	x	retain	
7707	EV-18	Douglas fir	*Pseudotsuga menziesii*	25	25	25	1963	Good	Fair	Unbalanced, sweeping trunk.		retain	
7708	EV-16	Douglas fir	*Pseudotsuga menziesii*	21	21	10	314	Good	Fair	Ivy, unbalanced.		retain	
7709	EV-6	Douglas fir	*Pseudotsuga menziesii*	6	6	8	201	Fair	Poor	Suppressed, few live limbs.		retain	
7710	EV-20	Douglas fir	*Pseudotsuga menziesii*	27	27	20	1256	Good	Fair	Red ring rot.		retain	
7711	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	15	707	Good	Fair	Unbalanced, suppressed.		retain	
7712	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	10	314	Good	Fair	Red ring rot.	x	retain	
7713	EV-16	Douglas fir	*Pseudotsuga menziesii*	20	20	10	314	Good	Fair	Red ring rot.	x	retain	
7714	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	8	201	Good	Good			retain	
7715	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	10	314	Fair	Fair	Ivy, unbalanced, suppressed.		retain	
7716	DE-6	western serviceberry	*Amelanchier alnifolia*	7	7	20	1256	Good	Good		x	retain	
7720	DE-14	red alder	*Alnus rubra*	13	13	10	314	Good	Good			remove	
7721	DE-12	red alder	*Alnus rubra*	11	11	10	314	Good	Good			remove	
7722	DE-14	red alder	*Alnus rubra*	13	13	15	707	Good	Good			remove	
7723	DE-14	red alder	*Alnus rubra*	13	13	12	452	Good	Good			remove	
7724	DE-10	red alder	*Alnus rubra*	10	10	5	79	Good	Good			remove	
7725	EV-22	Douglas fir	*Pseudotsuga menziesii*	25	25	20	1256	Good	Good	Unbalanced.		remove	
7727	EV-12	western redcedar	*Thuja plicata*	11	11	12	452	Good	Good			retain	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
7729	EV-20	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Good	Fair	Sweeping trunk.		remove	
7730	EV-18	Douglas fir	*Pseudotsuga menziesii*	30	30	15	707	Poor	Poor	Thin, dead codominant.		remove	
7731	EV-24	Douglas fir	*Pseudotsuga menziesii*	33	33	20	1256	Fair	Good	Thin.		remove	
7732	EV-32	Douglas fir	*Pseudotsuga menziesii*	34	34	20	1256	Good	Fair	Unbalanced.		remove	
7733	EV-26	Douglas fir	*Pseudotsuga menziesii*	34	34	25	1963	Good	Good			remove	
7734	EV-28-16	Douglas fir	*Pseudotsuga menziesii*	41	41	20	1256	Good	Fair	Codominant leaders.		remove	
7737	EV-36-12	Douglas fir	*Pseudotsuga menziesii*	38,15	41	20	1256	Good	Fair			remove	
7750	DE-14	yew	*Taxus brevifolia*	14	14	15	707	Fair	Good	Thin, suppressed.		retain	
7762	DE-6	bigleaf maple	*Acer macrophyllum*	6	6	12	452	Good	Good			retain	
7763	DE-18	Douglas fir	*Pseudotsuga menziesii*	32	32	15	707	Good	Good			retain	
7764	DE-18	Douglas fir	*Pseudotsuga menziesii*	18	18	20	1256	Good	Good		x	retain	
7766	DE-15-10	cherry	*Prunus avium*	16,9	19	25	1963	Good	Good		x	retain	
7767	EV-26	Douglas fir	*Pseudotsuga menziesii*	34	34	25	1963	Good	Good		x	retain	
7768	EV-22	Douglas fir	*Pseudotsuga menziesii*	24	24	25	1963	Good	Good			retain	
7769	EV-26	Douglas fir	*Pseudotsuga menziesii*	36	36	39	4776	Good	Good			remove	
7770	EV-28	Douglas fir	*Pseudotsuga menziesii*	39	39	30	2826	Good	Good			remove	
7772	DE-22	bigleaf maple	*Acer macrophyllum*	25	25	30	2826	Good	Good		x	remove	
7773	EV-26	Douglas fir	*Pseudotsuga menziesii*	34	34	20	1256	Good	Good			remove	
7774	DE-12	bigleaf maple	*Acer macrophyllum*	13	13	20	1256	Good	Good		x	retain	
7775	DE-16	western hemlock	*Tsuga heterophylla*	20	20	15	707	Poor	Good	High declining brown crown, wrong icon.		remove	
7777	DE-12	western hemlock	*Tsuga heterophylla*	15	15	0	0	Dead	Dead			remove	
7778	EV-10	yew	*Taxus brevifolia*	10	10	10	314	Poor	Good	Suppressed.		remove	
7779	EV-24	Douglas fir	*Pseudotsuga menziesii*	33	33	25	1963	Good	Good			remove	
7780	EV-30	Douglas fir	*Pseudotsuga menziesii*	37	37	20	1256	Good	Good			remove	
7781	EV-10	western redcedar	*Thuja plicata*	11	11	12	452	Good	Good			retain	
7782	EV-24	Douglas fir	*Pseudotsuga menziesii*	28	28	15	707	Good	Good			retain	
7783	EV-26	Douglas fir	*Pseudotsuga menziesii*	29	29	12	452	Good	Fair	Unbalanced.		retain	
7784	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	8	201	Good	Poor	Red ring rot, suppressed.		retain	
7786	EV-24	Douglas fir	*Pseudotsuga menziesii*	28	28	25	1963	Good	Good			retain	
7787	EV-20	Douglas fir	*Pseudotsuga menziesii*	23	23	15	707	Good	Poor	Heavily unbalanced.		retain	
7788	EV-26	western hemlock	*Tsuga heterophylla*	29	29	15	707	Fair	Very poor	Thin, discolored, codominant, twisted.		remove	
7789	EV-22	Douglas fir	*Pseudotsuga menziesii*	25	25	0	0	Dead	Dead			remove	
7790	EV-8	yew	*Taxus brevifolia*	9	9	15	707	Good	Good			retain	
7791	EV-30	Douglas fir	*Pseudotsuga menziesii*	32	32	15	707	Good	Good			retain	
7792	DE-16	red alder	*Alnus rubra*	16	16	15	707	Good	Good			retain	
7793	DE-14	red alder	*Alnus rubra*	15	15	15	707	Poor	Poor	Thin, few live limbs.		remove	
7795	EV-32	Douglas fir	*Pseudotsuga menziesii*	20	20	20	1256	Good	Fair	Unbalanced, sweeping trunk.		retain	
7796	EV-38	Douglas fir	*Pseudotsuga menziesii*	21	21	20	1256	Good	Fair	Sweeping trunk.		retain	
7797	DE-12	yew	*Taxus brevifolia*	11	11	12	452	Poor	Poor	Declining.		retain	
7798	EV-38	Douglas fir	*Pseudotsuga menziesii*	38	38	25	1963	Fair	Good	Discolored foliage, heavy ivy.		retain	x
7799	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	15	707	Poor	Fair	Suppressed, discolored foliage.		retain	x
7800	EV-40	Douglas fir	*Pseudotsuga menziesii*	43	43	30	2826	Good	Fair	Unbalanced to the S, possible old artists conk found.		retain	x
7801	EV-30	Douglas fir	*Pseudotsuga menziesii*	31	31	20	1256	Good	Good			retain	x
7802	EV-10	Douglas fir	*Pseudotsuga menziesii*	11	11	15	707	Fair	Poor	Suppressed, crooked trunk, unbalanced to S.		retain	x
7803	EV-16	Douglas fir	*Pseudotsuga menziesii*	21	21	12	452	Fair	Poor	Red ring rot, crooked trunk.		retain	x
7804	EV-20	Douglas fir	*Pseudotsuga menziesii*	24	24	15	707	Fair	Fair	Discolored, high crown.		retain	x
7810	DE-16	Oregon ash	*Fraxinus latifolia*	17	17	18	1017	Good	Fair			retain	
7811	DE-12	Oregon ash	*Fraxinus latifolia*	13	13	18	1017	Good	Fair			retain	
7814	DE-10	cascara	*Rhamnus purshiana*	10	10	15	707	Good	Fair	Lost top, suppressed.		retain	
7833	EV-36	Douglas fir	*Pseudotsuga menziesii*	35	35	30	2826	Good	Good			retain	
7834	DE-16	cherry	*Prunus avium*	17	17	20	1256	Fair	Good	Thin.		retain	
7835	EV-36	Douglas fir	*Pseudotsuga menziesii*	34	34	25	1963	Good	Good			retain	
7836	DE-8	cascara	*Rhamnus purshiana*	8	8	8	201	Very poor	Very poor	Thin, decaying.		retain	
7837	DE-8	unknown	unknown	8	8	0	0	Dead	Dead			remove	
7838	DE-16	willow	*Salix sp.*	20	20	18	1017	Poor	Poor	Declining, cracks and decay.		retain	
7840	EV-30	Douglas fir	*Pseudotsuga menziesii*	35	35	30	2826	Good	Good			retain	
7841	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	0	0	Dead	Dead			retain	
7842	EV-28	Douglas fir	*Pseudotsuga menziesii*	31	31	25	1963	Good	Good			retain	
7843	EV-28	Douglas fir	*Pseudotsuga menziesii*	30	30	30	2826	Good	Good			retain	
7844	DE-8	cherry	*Prunus avium*	10	10	13	531	Good	Good			retain	
7845	DE-6	cherry	*Prunus avium*	7	7	12	452	Good	Good			retain	
7846	DE-8	cascara	*Rhamnus purshiana*	8	8	6	113	Fair	Poor	Broken top.		retain	
7849	DE-20	Oregon ash	*Fraxinus latifolia*	23	23	25	1963	Good	Good			retain	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
7850	DE-16	red alder	*Alnus rubra*	19	19	0	0	Dead	Dead			retain	
7851	DE-20	Oregon ash	*Fraxinus latifolia*	22	22	20	1256	Good	Good			retain	
7852	DE-18	Oregon ash	*Fraxinus latifolia*	18	18	30	2826	Good	Good			retain	
7853	DE-16	red alder	*Alnus rubra*	18	18	0	0	Dead	Dead			retain	
7854	DE-10	Oregon ash	*Fraxinus latifolia*	9	9	20	1256	Good	Good			retain	
7855	EV-34	Douglas fir	*Pseudotsuga menziesii*	33	33	20	1256	Good	Fair	Sweeping trunk, unbalanced.		retain	
7861	EV-24	Douglas fir	*Pseudotsuga menziesii*	25	25	20	1256	Good	Fair	Sweeping trunk, unbalanced.		retain	
7862	DE-12	red alder	*Alnus rubra*	14	14	0	0	Dead	Dead			retain	
7863	EV-18	western redcedar	*Thuja plicata*	18	18	20	1256	Good	Fair	Stem wound.		retain	
7864	EV-34	western redcedar	*Thuja plicata*	29	29	15	707	Good	Poor	Lean, partially uprooted.		retain	
7865	DE-26	Oregon ash	*Fraxinus latifolia*	28	28	25	1963	Good	Good	Large deadwood.		retain	
7866	DE-14X4	Oregon ash	*Fraxinus latifolia*	20,12,12, 12	29	35	3847	Good	Fair	Multiple leaders.		retain	
7869	DE-10-8-8	red alder	*Alnus rubra*	10,8,9	16	0	0	Dead	Dead			retain	
7879	DE-12	Oregon ash	*Fraxinus latifolia*	13	13	18	1017	Good	Good			retain	
7880	DE-12	Oregon ash	*Fraxinus latifolia*	13	13	10	314	Good	Good			retain	
7881	EV-36	Douglas fir	*Pseudotsuga menziesii*	33	33	20	1256	Good	Fair	Sweeping trunk.		retain	
7882	EV-38	Douglas fir	*Pseudotsuga menziesii*	42	42	25	1963	Good	Good			retain	
7883	DE-8	Oregon ash	*Fraxinus latifolia*	7	7	10	314	Good	Good			retain	
7884	DE-14	Oregon ash	*Fraxinus latifolia*	15	15	25	1963	Good	Good			retain	
7885	DE-12	cherry	*Prunus avium*	12	12	12	452	Good	Good			retain	
7886	DE-12	cherry	*Prunus avium*	13	13	12	452	Good	Good			retain	
7887	DE-10	Oregon ash	*Fraxinus latifolia*	8	8	12	452	Good	Good			retain	
7895	DE-34-14-16-12	Oregon ash	*Fraxinus latifolia*	16,18,30,22	44	35	3847	Fair	Very poor			retain	
7900	DE-26-12X6	Oregon ash	*Fraxinus latifolia*	61	61	20	1256	Fair	Very poor	Severe trunk decay, 13" dia sprouts.		retain	
7901	DE-22-16-14	Oregon ash	*Fraxinus latifolia*	14,18,22	32	25	1963	Fair	Poor	Basal decay.		retain	
7902	DE-8	hawthorn	*Crataegus douglasii*	10	10	10	314	Good	Fair			retain	
7903	DE-16	Oregon ash	*Fraxinus latifolia*	15	15	15	707	Good	Good			retain	
7904	DE-20-14	Oregon ash	*Fraxinus latifolia*	22,14	26	25	1963	Good	Fair	Compromised trunk with decay.		retain	
7905	DE-14	Oregon ash	*Fraxinus latifolia*	13	13	15	707	Good	Good			retain	
7906	DE-14	Oregon ash	*Fraxinus latifolia*	13	13	15	707	Good	Good			retain	
7907	DE-12	willow	*Salix sp.*	11	11	8	201	Good	Good			retain	
7908	DE-18-12X4	Oregon ash	*Fraxinus latifolia*	14,14,14,18	30	35	3847	Good	Fair	Multiple leaders.		retain	
7912	EV-12	Douglas fir	*Pseudotsuga menziesii*	13	13	13	531	Good	Fair	Crooked trunk.		remove	
7914	DE-12	red alder	*Alnus rubra*	11	11	20	1256	Good	Good			remove	
7915	DE-10	red alder	*Alnus rubra*	9	9	20	1256	Good	Good			remove	
7917	EV-40	Douglas fir	*Pseudotsuga menziesii*	41	41	35	3847	Good	Fair	Codominant leaders.	x	retain	
7918	DE-10	cherry	*Prunus avium*	8	8	10	314	Good	Fair	Codominant leaders.	x	retain	
7919	DE-12	cherry	*Prunus avium*	11	11	10	314	Good	Good		x	retain	
7920	DE-12	cherry	*Prunus avium*	12	12	15	707	Good	Good		x	retain	
7921	DE-6	cherry	*Prunus avium*	7	7	8	201	Fair	Fair	Thin high crown.		remove	
7924	DE-26	cherry	*Prunus avium*	24	24	25	1963	Good	Fair	Codominant leaders.		remove	
7928	DE-8	filbert	*Corylus sp.*	8	8	12	452	Good	Good	Multistem filbert.		retain	
7929	DE-16	cherry	*Prunus avium*	20	20	20	1256	Good	Fair	Codominant leaders.		remove	
7930	DE-14	cherry	*Prunus avium*	17	17	20	1256	Good	Fair	Codominant leaders.		remove	
7933	DE-8	dogwood	*Cornus nuttallii*	10	10	12	452	Good	Good			remove	
8197	DE-6	cherry	*Prunus avium*	6	6	8	201	Good	Fair	Unbalanced.		remove	
8198	DE-10	Oregon ash	*Fraxinus latifolia*	10	10	15	707	Good	Fair	Unbalanced.		remove	
8199	EV-8	Douglas fir	*Pseudotsuga menziesii*	7	7	0	0	Dead	Dead			remove	
8200	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	0	0	Dead	Dead			remove	
8201	EV-14	Douglas fir	*Pseudotsuga menziesii*	13	13	12	452	Fair	Fair			remove	
8202	EV-18	Douglas fir	*Pseudotsuga menziesii*	18	18	12	452	Fair	Fair	Thin, high crown.		remove	
8203	EV-24	Douglas fir	*Pseudotsuga menziesii*	24	24	18	1017	Good	Good			remove	
8204	EV-28	Douglas fir	*Pseudotsuga menziesii*	28	28	20	1256	Good	Poor	Moderate red ring rot.		remove	
8209	DE-8	Oregon ash	*Fraxinus latifolia*	9	9	12	452	Good	Fair	Unbalanced.		remove	
8210	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	8	201	Fair	Fair	Suppressed.		remove	
8211	EV-14	Douglas fir	*Pseudotsuga menziesii*	13	13	12	452	Good	Fair	High crown.		remove	
8212	EV-16	Douglas fir	*Pseudotsuga menziesii*	16	16	15	707	Good	Fair	Unbalanced.		remove	
8213	EV-12	Douglas fir	*Pseudotsuga menziesii*	11	11	8	201	Fair	Fair	Thin, weird buttress root.		remove	
8214	EV-20	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Good	Fair	Unbalanced.		remove	
8215	EV-16	Douglas fir	*Pseudotsuga menziesii*	18	18	12	452	Good	Fair	Unbalanced.		remove	
8216	EV-6	Douglas fir	*Pseudotsuga menziesii*	6	6	0	0	Dead	Dead			remove	
8217	EV-16	Douglas fir	*Pseudotsuga menziesii*	19	19	15	707	Good	Good			remove	
8218	EV-14	Douglas fir	*Pseudotsuga menziesii*	15	15	0	0	Dead	Dead			remove	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
8220	EV-26	Douglas fir	*Pseudotsuga menziesii*	32	32	25	1963	Good	Good			remove	
8221	EV-10	cherry	*Prunus avium*	9	9	10	314	Good	Good			remove	
8222	DE-8	cherry	*Prunus avium*	8	8	15	707	Good	Fair	Unbalanced.		remove	
8224	DE-6	cherry	*Prunus avium*	6,5	8	10	314	Good	Fair	Unbalanced, suppressed.		remove	
8225	EV-38	Douglas fir	*Pseudotsuga menziesii*	41	41	25	1963	Good	Good			remove	
8226	DE-8	dogwood	*Cornus nuttallii*	8	8	8	201	Good	Fair	Unbalanced.		remove	
8227	DE-6	cherry	*Prunus avium*	6	6	8	201	Good	Good			remove	
8229	DE-12X2	cherry	*Prunus avium*	20	20	20	1256	Good	Fair	Fused codominant leaders.		remove	
8231	DE-8	cherry	*Prunus avium*	7	7	12	452	Good	Fair	Unbalanced.		remove	
8233	DE-8	cherry	*Prunus avium*	9	9	12	452	Good	Good			remove	
8234	DE-14X2	cherry	*Prunus avium*	13,13	18	20	1256	Good	Fair	Codominant leaders.		remove	
8235	DE-8	cherry	*Prunus avium*	8	8	10	314	Good	Fair	Unbalanced , lean.		remove	
8236	DE-20	bigleaf maple	*Acer macrophyllum*	21	21	20	1256	Good	Good			remove	
8237	DE-8	cherry	*Prunus avium*	8	8	12	452	Good	Fair	Unbalanced, suppressed.		remove	
8238	DE-6	cherry	*Prunus avium*	5	5	15	707	Good	Fair	Unbalanced, suppressed.		remove	
8252	EV-18	Douglas fir	*Pseudotsuga menziesii*	18	18	12	452	Good	Good	Unbalanced.	x	remove	
8253	EV-20	Douglas fir	*Pseudotsuga menziesii*	21	21	10	314	Good	Good			remove	
8254	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	8	201	Good	Good			remove	
8257	DE-6	bigleaf maple	*Acer macrophyllum*	7	7	12	452	Good	Good			remove	
8258	EV-22	Douglas fir	*Pseudotsuga menziesii*	23	23	20	1256	Good	Good			remove	
8259	EV-22	Douglas fir	*Pseudotsuga menziesii*	22	22	20	1256	Good	Good			remove	
8260	EV-12	Douglas fir	*Pseudotsuga menziesii*	11	11	8	201	Good	Good			remove	
8261	EV-12	Douglas fir	*Pseudotsuga menziesii*	9	9	0	0	Dead	Dead			remove	
8262	EV-18	Douglas fir	*Pseudotsuga menziesii*	18	18	12	452	Good	Fair	Unbalanced.		remove	
8263	EV-20	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Good	Fair	Unbalanced.		remove	
8264	EV-12	Douglas fir	*Pseudotsuga menziesii*	11	11	10	314	Fair	Fair	Unbalanced, suppressed.		remove	
8265	EV-26	Douglas fir	*Pseudotsuga menziesii*	32	32	15	707	Good	Good			remove	
8266	EV-16	Douglas fir	*Pseudotsuga menziesii*	17	17	15	707	Fair	Fair	Pistol grip/ "j" root.		remove	
8267	EV-12	Douglas fir	*Pseudotsuga menziesii*	11	11	5	79	Poor	Fair	Thin, suppressed.		remove	
8269	EV-12	Douglas fir	*Pseudotsuga menziesii*	11	11	0	0	Dead	Dead			remove	
8270	EV-8	Douglas fir	*Pseudotsuga menziesii*	7	7	12	452	Fair	Fair	Unbalanced, suppressed.		remove	
8271	EV-30	Douglas fir	*Pseudotsuga menziesii*	32	32	25	1963	Good	Fair	Sweeping trunk.		remove	
8274	EV-14	Douglas fir	*Pseudotsuga menziesii*	14	14	10	314	Good	Good			retain	
8278	DE-12	red alder	*Alnus rubra*	13	13	18	1017	Good	Poor	Stem decay.		retain	
8279	EV-22	Douglas fir	*Pseudotsuga menziesii*	22	22	15	707	Good	Good			retain	
8280	EV-20	Douglas fir	*Pseudotsuga menziesii*	21	21	12	452	Good	Good			retain	
8281	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	8	201	Good	Good			retain	
8283	EV-12	Douglas fir	*Pseudotsuga menziesii*	13	13	12	452	Good	Good			retain	x
8284	EV-28	Douglas fir	*Pseudotsuga menziesii*	28	28	15	707	Good	Good			remove	
8285	EV-22	Douglas fir	*Pseudotsuga menziesii*	21	21	10	314	Good	Fair	High crown.		remove	
8286	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	6	113	Good	Good			remove	
8287	DE-14	cherry	*Prunus avium*	14	14	18	1017	Good	Good			remove	
8288	EV-10	Douglas fir	*Pseudotsuga menziesii*	10	10	12	452	Good	Good			remove	
8298	DE-12	Douglas fir	*Pseudotsuga menziesii*	10	10	12	452	Good	Fair	Unbalanced.		remove	
8304	DE-6	cherry	*Prunus avium*	11	11	12	452	Fair	Good	Thin. 6" dead dogwood to east.		remove	
8309	EV-26	Douglas fir	*Pseudotsuga menziesii*	25	25	15	707	Good	Good			retain	
8310	EV-8	Oregon ash	*Fraxinus latifolia*	8	8	20	1256	Good	Good	Wrong icon.		retain	
8311	DE-16	Oregon ash	*Fraxinus latifolia*	16	16	15	707	Fair	Fair	Declining, thin.		retain	
8312	DE-18	Oregon ash	*Fraxinus latifolia*	23	23	17	907	Good	Good			retain	
8313	EV-16	Douglas fir	*Pseudotsuga menziesii*	17	17	0	0	Dead	Dead			retain	
8314	DE-12	Oregon ash	*Fraxinus latifolia*	11	11	12	452	Good	Good			retain	
8315	DE-16	Oregon ash	*Fraxinus latifolia*	22	22	20	1256	Good	Fair	High crown.		retain	
8316	DE-6	bigleaf maple	*Acer macrophyllum*	7	7	20	1256	Good	Good			retain	
8317	DE-16	Oregon ash	*Fraxinus latifolia*	17	17	20	1256	Good	Good			retain	
8318	EV-16	Douglas fir	*Pseudotsuga menziesii*	16	16	15	707	Good	Fair	Suppressed.		retain	
8319	DE-8	Oregon ash	*Fraxinus latifolia*	7	7	12	452	Good	Fair	Unbalanced.		remove	
8320	DE-14	bigleaf maple	*Acer macrophyllum*	16	16	20	1256	Good	Good			remove	
8325	DE-10	bigleaf maple	*Acer macrophyllum*	10	10	20	1256	Good	Good			remove	
8326	EV-24	Douglas fir	*Pseudotsuga menziesii*	25	25	20	1256	Good	Good			retain	
8328	EV-18	Douglas fir	*Pseudotsuga menziesii*	20	20	25	1963	Fair	Fair	Thin, unbalanced, sweeping trunk.		retain	
8329	EV-14	Douglas fir	*Pseudotsuga menziesii*	20	20	30	2826	Good	Fair	Unbalanced, suppressed		remove	
8332	EV-18	Douglas fir	*Pseudotsuga menziesii*	25	25	15	707	Good	Good	Unbalanced.		retain	
8333	EV-12	Douglas fir	*Pseudotsuga menziesii*	14	14	12	452	Good	Fair	Unbalanced.		remove	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
8338	EV-32	Douglas fir	*Pseudotsuga menziesii*	36	36	25	1963	Good	Good			remove	
8339	EV-34	Douglas fir	*Pseudotsuga menziesii*	40	40	30	2826	Good	Good			remove	
8343	DE-5	cherry	*Prunus avium*	5	5	10	314	Good	Good			remove	
8346	EV-16	Douglas fir	*Pseudotsuga menziesii*	19	19	8	201	Good	Good			retain	
8356	EV-16	Douglas fir	*Pseudotsuga menziesii*	17	17	16	804	Good	Fair	Unbalanced.		remove	
8357	EV-16	Douglas fir	*Pseudotsuga menziesii*	18	18	20	1256	Good	Fair	Unbalanced, crooked trunk.		remove	
8358	EV-40	Douglas fir	*Pseudotsuga menziesii*	39	39	20	1256	Good	Good			remove	
8359	EV-26	Douglas fir	*Pseudotsuga menziesii*	28	28	20	1256	Good	Fair	Unbalanced.		remove	
8360	EV-18	Douglas fir	*Pseudotsuga menziesii*	21	21	20	1256	Good	Fair			remove	
8376	EV-12	Douglas fir	*Pseudotsuga menziesii*	15	15	15	707	Good	Good			remove	
8377	EV-12	Douglas fir	*Pseudotsuga menziesii*	13	13	15	707	Good	Good			remove	
8379	EV-40	Douglas fir	*Pseudotsuga menziesii*	43	43	35	3847	Good	Good			remove	
8380	EV-22	Douglas fir	*Pseudotsuga menziesii*	23	23	29	2641	Good	Fair	Lost and regrew top.		remove	
8381	EV-28	Douglas fir	*Pseudotsuga menziesii*	34	34	30	2826	Good	Good			remove	
8382	DE-12	red alder	*Alnus rubra*	13	13	20	1256	Good	Good			remove	
8383	DE-18	cherry	*Prunus avium*	21	21	25	1963	Good	Good			remove	
8384	DE-12	cherry	*Prunus avium*	10	10	20	1256	Good	Fair	Unbalanced.		remove	
8387	EV-28	Douglas fir	*Pseudotsuga menziesii*	32	32	20	1256	Good	Good			retain	
8388	EV-26	Douglas fir	*Pseudotsuga menziesii*	25	25	25	1963	Good	Good			retain	
8389	EV-30	Douglas fir	*Pseudotsuga menziesii*	35	35	25	1963	Good	Good			retain	
8390	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	8	201	Good	Good			retain	
8391	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	6	113	Good	Good			retain	
8394	DE-14-8-6	Oregon ash	*Fraxinus latifolia*	14,6,8	17	12	452	Good	Fair	Inclusion , deadwood.		retain	
8395	DE-14X2	Oregon ash	*Fraxinus latifolia*	12,12,12	21	20	1256	Good	Fair	Codominant leaders.		retain	
8396	DE-12	Oregon ash	*Fraxinus latifolia*	10	10	15	707	Good	Good			retain	
8397	DE-14	Oregon ash	*Fraxinus latifolia*	14	14	15	707	Good	Good			retain	
8398	DE-12	Oregon ash	*Fraxinus latifolia*	10	10	15	707	Good	Good			retain	
8399	DE-14	Oregon ash	*Fraxinus latifolia*	15	15	15	707	Good	Good			retain	
8400	DE-10	Oregon ash	*Fraxinus latifolia*	8	8	15	707	Good	Good			retain	
8401	DE-18	Oregon ash	*Fraxinus latifolia*	18	18	15	707	Good	Good			retain	
8402	DE-14	Oregon ash	*Fraxinus latifolia*	14	14	10	314	Good	Good			retain	
8403	DE-8X2	Oregon ash	*Fraxinus latifolia*	8,7	11	20	1256	Good	Good			retain	
8404	DE-18	Oregon ash	*Fraxinus latifolia*	18	18	13	531	Good	Good			retain	
8405	DE-14	Oregon ash	*Fraxinus latifolia*	15	15	15	707	Good	Fair	High crown.		retain	
8406	DE-16	Oregon ash	*Fraxinus latifolia*	17	17	10	314	Good	Fair	J root, high crown.		retain	
8407	DE-12	Oregon ash	*Fraxinus latifolia*	11	11	13	531	Good	Good			retain	
8408	DE-18-14	Oregon ash	*Fraxinus latifolia*	14, 16	21	20	1256	Good	Fair	Codominant leaders.		retain	
8409	DE-6	Oregon ash	*Fraxinus latifolia*	7	7	6	113	Good	Good			retain	
8410	DE-24	Oregon ash	*Fraxinus latifolia*	23	23	20	1256	Good	Good			retain	
8411	DE-12	Oregon ash	*Fraxinus latifolia*	14	14	20	1256	Good	Fair	Deadwood.		retain	
8412	DE-6	Oregon ash	*Fraxinus latifolia*	7	7	15	707	Good	Good			retain	
8413	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	8	201	Good	Good			retain	
8414	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	12	452	Good	Good			retain	
8415	DE-24	Oregon ash	*Fraxinus latifolia*	22	22	20	1256	Good	Fair	Lean.		retain	
8416	DE-22	Oregon ash	*Fraxinus latifolia*	22	22	20	1256	Good	Fair	Deadwood.		retain	
8417	DE-8	Oregon ash	*Fraxinus latifolia*	6	6	6	113	Good	Good			retain	
8418	DE-12	Oregon ash	*Fraxinus latifolia*	11	11	12	452	Good	Good			retain	
8419	DE-12	Oregon ash	*Fraxinus latifolia*	12	12	12	452	Good	Good			retain	
8420	DE-6	Oregon ash	*Fraxinus latifolia*	5	5	12	452	Poor	Poor	Dead top.		retain	
8421	DE-8	Oregon ash	*Fraxinus latifolia*	7	7	15	707	Good	Good			retain	
8422	DE-8	Oregon ash	*Fraxinus latifolia*	9	9	8	201	Good	Good			retain	
8424	DE-8	Oregon ash	*Fraxinus latifolia*	12	12	15	707	Good	Good			retain	
8425	DE-14	Oregon ash	*Fraxinus latifolia*	15	15	15	707	Good	Good			retain	
8426	DE-14	Oregon ash	*Fraxinus latifolia*	13	13	15	707	Good	Good			retain	
8427	DE-8-6	Oregon ash	*Fraxinus latifolia*	8,6	10	12	452	Good	Good			retain	
8428	DE-24	Oregon ash	*Fraxinus latifolia*	26	26	20	1256	Good	Fair	Cavity.		retain	
8429	DE-16	Oregon ash	*Fraxinus latifolia*	18	18	16	804	Good	Good			retain	
8430	DE-10	Oregon ash	*Fraxinus latifolia*	10	10	20	1256	Good	Good			retain	
8431	DE-14	Oregon ash	*Fraxinus latifolia*	15	15	15	707	Good	Good			retain	
8432	DE-16	Oregon ash	*Fraxinus latifolia*	17	17	20	1256	Good	Fair	High crown.		retain	
8433	DE-8	Oregon ash	*Fraxinus latifolia*	9	9	15	707	Good	Fair			retain	
8434	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	15	707	Good	Fair			retain	
8435	DE-6	Oregon ash	*Fraxinus latifolia*	7	7	12	452	Good	Good			retain	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
8436	DE-16-14	Oregon ash	*Fraxinus latifolia*	17,15	23	20	1256	Good	Fair	Codominant leaders, high crown.		retain	
8438	EV-26	Douglas fir	*Pseudotsuga menziesii*	27	27	18	1017	Good	Good			retain	
8439	DE-8	red alder	*Alnus rubra*	8	8	6	113	Good	Good			retain	
8440	EV-28	Douglas fir	*Pseudotsuga menziesii*	29	29	18	1017	Good	Fair	Codominant leaders.		retain	
8441	DE-12	red alder	*Alnus rubra*	8	8	20	1256	Fair	Fair			retain	
8442	EV-22	Douglas fir	*Pseudotsuga menziesii*	24	24	18	1017	Good	Good			retain	
8443	EV-20	Douglas fir	*Pseudotsuga menziesii*	25	25	20	1256	Good	Fair	Broken top, thin, unbalanced.		retain	
8444	EV-24	Douglas fir	*Pseudotsuga menziesii*	25	25	12	452	Good	Fair	Unbalanced.		retain	
8446	DE-10	Oregon ash	*Fraxinus latifolia*	10	10	15	707	Good	Fair	High crown.		retain	
8448	EV-16	Douglas fir	*Pseudotsuga menziesii*	14	14	0	0	Dead	Dead			retain	
8449	EV-14	Douglas fir	*Pseudotsuga menziesii*	11	11	0	0	Dead	Dead			retain	
8450	DE-6	Oregon ash	*Fraxinus latifolia*	6	6	13	531	Good	Fair	Suppressed.		retain	
8452	DE-6	cherry	*Prunus avium*	6	6	6	113	Fair	Fair	Mechanical damage.		retain	
8453	DE-6	cherry	*Prunus avium*	6	6	6	113	Fair	Fair			retain	
8454	DE-6	cherry	*Prunus avium*	6	6	6	113	Fair	Fair			retain	
8455	DE-6	cherry	*Prunus avium*	6	6	6	113	Fair	Fair			retain	
8457	DE-6	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8458	DE-6	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8459	DE-6	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8460	DE-6	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8463	EV-24X2	Duplicate	N/A	0	0	0	0	N/A	N/A			n/a	
8465	EV-28	Douglas fir	*Pseudotsuga menziesii*	31	31	30	2826	Good	Fair	Unbalanced.		remove	
8466	EV-28	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8467	EV-24	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8470	DE-8	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8471	DE-6	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8472	DE-6	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8473	DE-10	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8476	EV-28	Douglas fir	*Pseudotsuga menziesii*	37	37	36	4069	Good	Poor	mechanical damage on all sides.		retain	
8477	EV-28	Douglas fir	*Pseudotsuga menziesii*	30	30	25	1963	Good	Fair	Crooked trunk, mechanical damage, buried.		retain	
8478	EV-24	Douglas fir	*Pseudotsuga menziesii*	23	23	12	452	Good	Poor	Crooked trunk, mechanical damage, seam.		retain	
8479	EV-24	Douglas fir	*Pseudotsuga menziesii*	27	27	15	707	Good	Good	Buried.		retain	
8480	EV-6	Douglas fir	*Pseudotsuga menziesii*	7	7	6	113	Fair	Poor	Suppressed.		retain	
8481	EV-14	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8482	EV-20	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8485	EV-8	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8486	EV-8	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8487	EV-6	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8488	EV-8	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8489	EV-20	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8490	EV-14	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8491	EV-10	Douglas fir	*Pseudotsuga menziesii*	22	22	13	531	Good	Poor	Stem wound, buried.		retain	
8492	EV-14	Douglas fir	*Pseudotsuga menziesii*	15	15	10	314	Good	Good	Buried.		retain	
8493	EV-48	Douglas fir	*Pseudotsuga menziesii*	46	46	25	1963	Good	Fair	Buried, likely had trunk wounds.		remove	
8494	EV-22	Douglas fir	*Pseudotsuga menziesii*	23	23	10	314	Good	Fair	Mechanical damage.		retain	
8496	EV-40	western redcedar	*Thuja plicata*	41	41	20	1256	Good	Fair	Mechanical damage around entire trunk base .		remove	
8497	EV-22	Douglas fir	*Pseudotsuga menziesii*	22	22	15	707	Fair	Good	Thin, suppressed.		retain	
8498	EV-28	Douglas fir	*Pseudotsuga menziesii*	32	32	30	2826	Fair	Good	Deadwood.		retain	
8499	EV-20	Douglas fir	*Pseudotsuga menziesii*	19	19	0	0	Dead	Dead			retain	
8502	DE-14	Oregon ash	*Fraxinus latifolia*	15	15	20	1256	Good	Good	Poison oak.	x	retain	
8503	EV-60	Douglas fir	*Pseudotsuga menziesii*	60	60	35	3847	Good	Poor	Poison oak, broken top, wildlife.	x	retain	
8504	DE-6	Oregon ash	*Fraxinus latifolia*	6	6	8	201	Good	Good		x	retain	
8506	DE-12	Oregon ash	*Fraxinus latifolia*	13	13	15	707	Good	Good			retain	
8507	DE-24	Oregon ash	*Fraxinus latifolia*	25	25	30	2826	Good	Fair	Odd growth, snag to east.		retain	
8518	DE-24	red alder	*Alnus rubra*	25	25	0	0	Dead	Dead			retain	
8523	EV-40	Douglas fir	*Pseudotsuga menziesii*	42	42	28	2462	Good	Good		x	retain	
8524	EV-32	Douglas fir	*Pseudotsuga menziesii*	29	29	20	1256	Good	Fair	Sweeping trunk.	x	retain	
8525	EV-36	Douglas fir	*Pseudotsuga menziesii*	37	37	25	1963	Good	Good			retain	
8526	DE-28	Oregon ash	*Fraxinus latifolia*	28	28	15	707	Good	Fair			retain	
8527	DE-14	Oregon ash	*Fraxinus latifolia*	15	15	8	201	Good	Fair			retain	
8531	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	6	113	Good	Fair	Crooked trunk.	x	retain	
8532	DE-14	Oregon ash	*Fraxinus latifolia*	12	12	12	452	Good	Fair	Crooked trunk.	x	retain	
8533	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	8	201	Good	Good		x	retain	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
8534	DE-12	Oregon ash	*Fraxinus latifolia*	12	12	8	201	Good	Fair	Mechanical damage.	x	retain	
8535	DE-18	Oregon ash	*Fraxinus latifolia*	17	17	20	1256	Poor	Poor	Broken leader.		retain	
8536	DE-26	Oregon ash	*Fraxinus latifolia*	25	25	20	1256	Good	Fair	High crown.		retain	
8537	DE-32	Oregon ash	*Fraxinus latifolia*	28	28	25	1963	Good	Poor	High crown , codominant leaders, inclusion , seam		retain	
8538	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	10	314	Good	Fair	Trunk oddities.		retain	
8539	DE-26	Oregon ash	*Fraxinus latifolia*	25	25	25	1963	Fair	Fair			retain	
8540	DE-10	Oregon ash	*Fraxinus latifolia*	8	8	8	201	Good	Good			retain	
8541	DE-14	Oregon ash	*Fraxinus latifolia*	15	15	15	707	Good	Good			retain	
8542	DE-10	Oregon ash	*Fraxinus latifolia*	9	9	9	254	Good	Good			retain	
8543	DE-14	Oregon ash	*Fraxinus latifolia*	15	15	15	707	Good	Good			retain	
8544	DE-16	Oregon ash	*Fraxinus latifolia*	14	14	15	707	Good	Good			retain	
8545	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	0	0	Dead	Dead			retain	
8546	DE-20	Oregon ash	*Fraxinus latifolia*	20	20	20	1256	Good	Good			retain	
8547	DE-28	Douglas fir	*Pseudotsuga menziesii*	27	27	20	1256	Fair	Poor	Wrong icon, sweeping trunk, epicormic growth.		retain	
8548	EV-10	Douglas fir	*Pseudotsuga menziesii*	10	10	0	0	Dead	Dead			retain	
8549	DE-14	Oregon ash	*Fraxinus latifolia*	14	14	20	1256	Good	Good			retain	
8550	DE-8	Oregon ash	*Fraxinus latifolia*	7	7	12	452	Good	Good	Mechanical damage.		retain	
8551	EV-24	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8552	EV-12	Douglas fir	*Pseudotsuga menziesii*	24	24	15	707	Fair	Good	Buried, thin.		retain	
8553	EV-14	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8554	EV-30	Douglas fir	*Pseudotsuga menziesii*	28	28	18	1017	Good	Good	Mechanical damage.		retain	
8555	DE-16	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8564	EV-28	Douglas fir	*Pseudotsuga menziesii*	32	32	18	1017	Good	Poor	Mechanical damage.		remove	
8565	EV-8-6	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8566	EV-20	Douglas fir	*Pseudotsuga menziesii*	23	23	12	452	Good	Fair	Sweeping trunk.		retain	
8567	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	8	201	Good	Poor	Suppressed , large mechanical wound.		retain	
8568	EV-12	Douglas fir	*Pseudotsuga menziesii*	10	10	6	113	Good	Poor	Suppressed.		retain	
8569	EV-22	Douglas fir	*Pseudotsuga menziesii*	21	21	12	452	Good	Poor	Red ring rot.		retain	
8570	EV-20	Oregon ash	*Fraxinus latifolia*	16	16	10	314	Fair	Fair	Fused trunks, codominant, high crown .		retain	
8571	EV-18	Douglas fir	*Pseudotsuga menziesii*	17	17	0	0	Dead	Dead			retain	
8572	EV-14	Oregon ash	*Fraxinus latifolia*	15	15	15	707	Good	Fair	Unbalanced.		retain	
8573	EV-24	Oregon ash	*Fraxinus latifolia*	20	20	20	1256	Good	Fair	Unbalanced.		retain	
8574	EV-18	Oregon ash	*Fraxinus latifolia*	17	17	15	707	Fair	Fair	Narrow , high crown, wrong icon.		retain	
8576	DE-8	cascara	*Rhamnus purshiana*	8	8	12	452	Good	Poor	Unbalanced , trunk cavity		retain	
8577	DE-10	Oregon ash	*Fraxinus latifolia*	9	9	12	452	Good	Fair	Mechanical damage.		retain	
8580	EV-60	Douglas fir	*Pseudotsuga menziesii*	60	60	36	4069	Good	Good			remove	
8581	EV-26	Douglas fir	*Pseudotsuga menziesii*	30	30	30	2826	Good	Poor	Codominant leaders, mechanical damage.		remove	
8582	EV-26	Douglas fir	*Pseudotsuga menziesii*	25	25	12	452	Good	Poor	Mechanical damage to roots.		remove	
8585	DE-6	Douglas fir	*Pseudotsuga menziesii*	6	6	10	314	Poor	Poor	Suppressed.		remove	
8589	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	8	201	Poor	Good	Thin.	x	remove	
8590	EV-28	Douglas fir	*Pseudotsuga menziesii*	26	26	12	452	Good	Good		x	remove	
8593	EV-26	Douglas fir	*Pseudotsuga menziesii*	27	27	15	707	Good	Poor	Mechanical damage to anchoring root.		remove	
8594	EV-10	Douglas fir	*Pseudotsuga menziesii*	10	10	12	452	Fair	Fair	Thin, suppressed.		retain	
8597	DE-6	Oregon ash	*Fraxinus latifolia*	7	7	8	201	Good	Good			retain	
8603	EV-20	Douglas fir	*Pseudotsuga menziesii*	21	21	12	452	Fair	Good	Thin.		retain	
8613	DE-10	red alder	*Alnus rubra*	9	9	5	79	Good	Poor	Dead codominant.		retain	
8615	DE-18-12	red alder	*Alnus rubra*	16,9	19	13	531	Good	Poor	Deadwood.		retain	
8616	DE-12	red alder	*Alnus rubra*	11	11	12	452	Good	Good			retain	
8617	DE-10	Oregon ash	*Fraxinus latifolia*	9	9	15	707	Good	Fair			retain	
8618	DE-14	Oregon ash	*Fraxinus latifolia*	14	14	15	707	Good	Good	Suppressed.		retain	
8619	DE-10	Oregon ash	*Fraxinus latifolia*	9	9	8	201	Good	Good			retain	
8622	DE-24	Oregon ash	*Fraxinus latifolia*	25	25	20	1256	Good	Poor	Stem cavities, large deadwood.		retain	
8624	DE-16-6	Oregon ash	*Fraxinus latifolia*	16,7	17	15	707	Good	Good			retain	
8633	DE-20X2	bigleaf maple	*Acer macrophyllum*	20,20	28	25	1963	Good	Fair	Mechanical damage to roots.		remove	
8634	DE-14	Oregon ash	*Fraxinus latifolia*	16	16	15	707	Good	Good			remove	
8635	DE-10	cherry	*Prunus avium*	9	9	12	452	Good	Fair	Unbalanced.		remove	
8636	EV-20	Douglas fir	*Pseudotsuga menziesii*	21	21	15	707	Good	Good			remove	
8637	DE-14-8	cherry	*Prunus avium*	12,6	13	15	707	Good	Fair	Codominant leaders.		remove	
8638	DE-16	cherry	*Prunus avium*	14	14	23	1661	Fair	Fair	Self corrected lean.		remove	
8640	DE-14	Oregon ash	*Fraxinus latifolia*	6	6	13	531	Good	Fair			retain	
8641	DE-6	Oregon ash	*Fraxinus latifolia*	10	10	12	452	Good	Fair	Codominant leaders.		retain	
8642	DE-10	Oregon ash	*Fraxinus latifolia*	9	9	10	314	Good	Fair			retain	
8643	DE-10	Oregon ash	*Fraxinus latifolia*	10	10	10	314	Good	Fair			retain	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
8644	DE-12	Willow	*Salix sp.*	12	12	8	201	Good	Good			retain	
8645	DE-8	Oregon ash	*Fraxinus latifolia*	7	7	8	201	Good	Good			retain	
8646	DE-8	Oregon ash	*Fraxinus latifolia*	7	7	9	254	Good	Good			retain	
8647	DE-12	Oregon ash	*Fraxinus latifolia*	12	12	12	452	Good	Good			retain	
8648	DE-10-6	Oregon ash	*Fraxinus latifolia*	11,6	13	15	707	Good	Good			retain	
8649	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	8	201	Fair	Fair			retain	
8650	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	8	201	Good	Good			retain	
8651	DE-14	willow	*Salix sp.*	13	13	10	314	Poor	Fair	Declining.		retain	
8652	DE-12	Oregon ash	*Fraxinus latifolia*	13	13	15	707	Good	Good			retain	
8653	DE-8	Willow	*Salix sp.*	6	6	6	113	Fair	Fair	Suppressed.		retain	
8654	EV-28	Douglas fir	*Pseudotsuga menziesii*	31	31	20	1256	Good	Good			retain	
8655	DE-16-8	red alder	*Alnus rubra*	16,8	18	13	531	Fair	Fair	Thin, codominant leaders		retain	
8656	DE-8	cascara	*Rhamnus purshiana*	6	6	6	113	Fair	Fair	Large wound.		retain	
8657	DE-8	Oregon ash	*Fraxinus latifolia*	9	9	12	452	Good	Good			retain	
8658	DE-6	Oregon ash	*Fraxinus latifolia*	6	6	8	201	Fair	Fair			retain	
8660	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	8	201	Good	Fair	Mechanical damage.		retain	
8671	EV-24X2	Douglas fir	*Pseudotsuga menziesii*	51	51	30	2826	Good	Fair	Codominant leaders.		remove	
8672	EV-26	Douglas fir	*Pseudotsuga menziesii*	31	31	30	2826	Good	Fair	Unbalanced, mechanical damage		remove	
8673	EV-26	Douglas fir	*Pseudotsuga menziesii*	30	30	25	1963	Good	Good	Mechanical damage.		remove	
8675	DE-8	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8676	DE-6	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8677	DE-10	willow	*Salix sp.*	19	19	15	707	Fair	Fair	Multistem willow, trees on ground around it.		remove	
8678	DE-8	Oregon ash	*Fraxinus latifolia*	7	7	10	314	Fair	Fair	Buried.		remove	
8679	DE-8	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8680	DE-16	willow	*Salix sp.*	13	13	10	314	Fair	Fair			retain	
8681	DE-6	Oregon ash	*Fraxinus latifolia*	6	6	6	113	Fair	Fair			retain	
8684	DE-8	Oregon ash	*Fraxinus latifolia*	7	7	13	531	Good	Fair	Basal wound		retain	
8685	DE-24	Oregon ash	*Fraxinus latifolia*	23	23	30	2826	Good	Good			retain	
8686	DE-12	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8689	EV-40	Douglas fir	*Pseudotsuga menziesii*	48	48	30	2826	Good	Fair	Mechanical damage to roots.		retain	
8690	DE-12	Oregon ash	*Fraxinus latifolia*	11	11	10	314	Fair	Fair			retain	
8691	DE-30	Oregon ash	*Fraxinus latifolia*	30	30	20	1256	Fair	Poor	Decayed leader		retain	
8698	DE-26	Oregon ash	*Fraxinus latifolia*	30	30	30	2826	Good	Good			retain	
8699	DE-20	Oregon ash	*Fraxinus latifolia*	23	23	25	1963	Good	Good			retain	
8708	DE-16-12	Oregon ash	*Fraxinus latifolia*	12,15	19	20	1256	Good	Fair			retain	
8714	EV-16	Oregon ash	*Fraxinus latifolia*	13	13	15	707	Good	Good			retain	
8715	EV-14	Douglas fir	*Pseudotsuga menziesii*	16	16	12	452	Good	Good			retain	
8719	DE-10	willow	*Salix sp.*	15	15	20	1256	Good	Fair			retain	
8722	DE-6	Oregon ash	*Fraxinus latifolia*	6	6	6	113	Fair	Fair			retain	
8723	DE-22-10	Oregon ash	*Fraxinus latifolia*	14,22	26	20	1256	Good	Poor	Trunk cavity.		retain	
8724	DE-14-12	Oregon ash	*Fraxinus latifolia*	15,3	15	20	1256	Good	Poor	Trunk wound.		retain	
8725	DE-6	Oregon ash	*Fraxinus latifolia*	8	8	20	1256	Good	Poor	Inclusion.		retain	
8726	DE-16	Oregon ash	*Fraxinus latifolia*	14	14	20	1256	Good	Poor	Inclusion.		retain	
8727	DE-12	Oregon ash	*Fraxinus latifolia*	12	12	20	1256	Good	Poor	Inclusion.		retain	
8728	DE-10	Oregon ash	*Fraxinus latifolia*	10	10	20	1256	Good	Poor	Inclusion.		retain	
8733	DE-8	cherry	*Prunus avium*	7	7	8	201	Good	Fair	Unbalanced , suppressed		remove	
8734	DE-8	cherry	*Prunus avium*	8	8	12	452	Good	Good			remove	
8735	DE-14	cherry	*Prunus avium*	16	16	20	1256	Good	Fair	Inclusion.		remove	
8736	DE-20	cherry	*Prunus avium*	20	20	20	1256	Good	Fair	Inclusion.		remove	
8737	DE-8	cherry	*Prunus avium*	8	8	10	314	Good	Fair	Inclusion.		remove	
8738	DE-10	cherry	*Prunus avium*	10	10	10	314	Fair	Fair			remove	
8739	DE-8	cherry	*Prunus avium*	8	8	6	113	Fair	Fair			remove	
8740	DE-6	cherry	*Prunus avium*	6	6	8	201	Fair	Fair			remove	
8741	DE-8	cherry	*Prunus avium*	8	8	6	113	Fair	Fair			remove	
8743	DE-10	cascara	*Rhamnus purshiana*	10	10	15	707	Good	Good			remove	
8747	DE-10	cherry	*Prunus avium*	10	10	10	314	Good	Good			remove	
8748	DE-16	cherry	*Prunus avium*	16	16	10	314	Good	Good			remove	
8749	DE-8	cherry	*Prunus avium*	8	8	10	314	Good	Good			remove	
8750	DE-8	cherry	*Prunus avium*	8	8	10	314	Good	Good			remove	
8751	DE-8	cherry	*Prunus avium*	7	7	10	314	Good	Good			remove	
8752	DE-8	cherry	*Prunus avium*	8	8	10	314	Good	Good			remove	
8753	DE-8	cherry	*Prunus avium*	9	9	10	314	Good	Good			remove	
8754	DE-10	cherry	*Prunus avium*	11	11	10	314	Good	Good			remove	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
8755	DE-18	cherry	*Prunus avium*	17	17	15	707	Good	Good			remove	
8757	DE-8	cherry	*Prunus avium*	9	9	12	452	Good	Fair	Codominant with inclusion.		remove	
8758	DE-8	cherry	*Prunus avium*	9	9	10	314	Good	Good			remove	
8765	DE-8	Oregon ash	*Fraxinus latifolia*	7	7	15	707	Good	Good			retain	
8766	DE-12	Oregon ash	*Fraxinus latifolia*	13	13	18	1017	Good	Good			retain	
8767	DE-10	hawthorn	*Crataegus douglasii*	11	11	0	0	Dead	Dead			retain	
8768	DE-10	Oregon ash	*Fraxinus latifolia*	11	11	15	707	Good	Good			retain	
8769	DE-14	Oregon ash	*Fraxinus latifolia*	7	7	10	314	Good	Good			retain	
8770	DE-18	willow	*Salix sp.*	18	18	12	452	Good	Fair			retain	
8771	DE-12	Oregon ash	*Fraxinus latifolia*	10	10	8	201	Good	Good			retain	
8772	DE-6	red alder	*Alnus rubra*	6	6	0	0	Dead	Dead			retain	
8773	DE-12-6	red alder	*Alnus rubra*	12	12	8	201	Very poor	Fair	Declining.		retain	
8775	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	5	79	Fair	Fair			retain	
8776	DE-10	Oregon ash	*Fraxinus latifolia*	11	11	10	314	Fair	Fair			retain	
8777	DE-10	Oregon ash	*Fraxinus latifolia*	11	11	10	314	Fair	Fair			retain	
8778	DE-8	Oregon ash	*Fraxinus latifolia*	9	9	10	314	Fair	Fair			retain	
8779	DE-12	Oregon ash	*Fraxinus latifolia*	12	12	12	452	Fair	Fair			retain	
8780	DE-8	Oregon ash	*Fraxinus latifolia*	9	9	12	452	Fair	Fair			retain	
8781	DE-8	willow	*Salix sp.*	6	6	6	113	Poor	Very poor	Declining.		retain	
8782	DE-10	Oregon ash	*Fraxinus latifolia*	9	9	10	314	Good	Good			retain	
8783	DE-8	red alder	*Alnus rubra*	8	8	0	0	Dead	Dead			retain	
8784	DE-8	willow	*Salix sp.*	6	6	4	50	Good	Poor	Trunk wound.		retain	
8785	DE-8	Oregon ash	*Fraxinus latifolia*	7	7	12	452	Good	Good			retain	
8786	DE-6	Oregon ash	*Fraxinus latifolia*	6	6	10	314	Good	Good			retain	
8787	DE-16-14-12	Oregon ash	*Fraxinus latifolia*	18,11,14	25	25	1963	Good	Poor	Inclusion , multistem.		retain	
8788	DE-14X2	Oregon ash	*Fraxinus latifolia*	23	23	15	707	Good	Poor	DBH at 4', codominant leaders, cavity.		retain	
8789	DE-12	Oregon ash	*Fraxinus latifolia*	12	12	10	314	Good	Good			retain	
8790	DE-8	Oregon ash	*Fraxinus latifolia*	9	9	10	314	Good	Good			retain	
8791	DE-12	Oregon ash	*Fraxinus latifolia*	11	11	20	1256	Good	Good			retain	
8792	DE-12	Oregon ash	*Fraxinus latifolia*	14	14	20	1256	Good	Good			retain	
8794	DE-18	Oregon ash	*Fraxinus latifolia*	15	15	15	707	Good	Good	Buried.		retain	x
8796	DE-8	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8797	DE-8	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8802	DE-10	cherry	*Prunus avium*	10	10	10	314	Good	Poor	Suppressed.		remove	
8803	DE-8	cherry	*Prunus avium*	12	12	12	452	Good	Poor	Crooked trunk.		remove	
8811	DE-20	Oregon ash	*Fraxinus latifolia*	20	20	22	1520	Good	Good			retain	
8812	DE-8	Oregon ash	*Fraxinus latifolia*	8	8	10	314	Good	Good			retain	
8814	DE-16-14	Oregon ash	*Fraxinus latifolia*	18,14	23	15	707	Good	Fair	Codominant leaders.		retain	
8815	DE-14	Oregon ash	*Fraxinus latifolia*	13	13	12	452	Good	Good			retain	
8817	DE-12-8	Oregon ash	*Fraxinus latifolia*	15,9	16	15	707	Good	Good			retain	
8824	EV-32	Douglas fir	*Pseudotsuga menziesii*	33	33	25	1963	Good	Good	Buried.		retain	
8826	EV-28	Douglas fir	*Pseudotsuga menziesii*	32	32	25	1963	Good	Good			retain	
8828	DE-12	Oregon ash	*Fraxinus latifolia*	10	10	15	707	Good	Fair			retain	
8829	DE-12	Oregon ash	*Fraxinus latifolia*	13	13	15	707	Good	Good			retain	
8830	DE-12	Oregon ash	*Fraxinus latifolia*	13	13	15	707	Good	Fair	Trunk cavity.		retain	
8831	DE-10	Oregon ash	*Fraxinus latifolia*	11	11	15	707	Good	Good			retain	
8832	DE-10	Oregon ash	*Fraxinus latifolia*	10	10	10	314	Good	Good			retain	
8833	DE-10	Oregon ash	*Fraxinus latifolia*	8	8	10	314	Good	Good			retain	
8834	DE-12	Oregon ash	*Fraxinus latifolia*	12	12	13	531	Good	Good			retain	
8835	DE-6	Oregon ash	*Fraxinus latifolia*	6	6	15	707	Good	Fair	Suppressed.		retain	
8838	EV-14	Douglas fir	*Pseudotsuga menziesii*	14	14	0	0	Dead	Dead			retain	
8839	EV-32	Douglas fir	*Pseudotsuga menziesii*	34	34	25	1963	Good	Good			retain	
8840	EV-38	Douglas fir	*Pseudotsuga menziesii*	40	40	25	1963	Good	Good	Partially buried.		retain	
8841	DE-6	Oregon ash	*Fraxinus latifolia*	6	6	10	314	Good	Good			retain	
8842	EV-14	Douglas fir	*Pseudotsuga menziesii*	13	13	12	452	Good	Good			retain	
8843	DE-6	Oregon ash	*Fraxinus latifolia*	6	6	15	707	Good	Good			retain	
8844	DE-8	cherry	*Prunus avium*	8	8	15	707	Good	Good			retain	
8847	EV-20	Douglas fir	*Pseudotsuga menziesii*	21	21	18	1017	Good	Good			remove	
8848	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	10	314	Fair	Fair	Suppressed.		remove	
8849	EV-18	Douglas fir	*Pseudotsuga menziesii*	16	16	8	201	Fair	Good	Suppressed.		remove	
8850	EV-6	Douglas fir	*Pseudotsuga menziesii*	7	7	6	113	Fair	Fair	Suppressed.		remove	
8851	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	8	201	Fair	Fair	Suppressed.		remove	
8852	EV-6	Douglas fir	*Pseudotsuga menziesii*	6	6	0	0	Dead	Dead			remove	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
8853	EV-20	Douglas fir	*Pseudotsuga menziesii*	23	23	20	1256	Good	Good	Possible mechanical damage to roots		remove	
8854	EV-40	Douglas fir	*Pseudotsuga menziesii*	36	36	30	2826	Good	Fair	Mechanical damage to roots.		remove	
8855	EV-38	Douglas fir	*Pseudotsuga menziesii*	33	33	35	3847	Good	Fair	Mechanical damage to roots, unbalanced .		remove	
8856	EV-12	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
8857	EV-42	Douglas fir	*Pseudotsuga menziesii*	36	36	36	4069	Good	Good			remove	
8864	EV-26	Douglas fir	*Pseudotsuga menziesii*	30	30	30	2826	Good	Good			remove	
8868	DE-16	cottonwood	*Populus trichocarpa*	17	17	12	452	Good	Good		x	remove	
8869	DE-10	cottonwood	*Populus trichocarpa*	10	10	10	314	Good	Fair	Slim flux.		remove	
8870	DE-12	cottonwood	*Populus trichocarpa*	13	13	10	314	Good	Fair	Slim flux.		remove	
8871	EV-20	Deodar cedar	*Cedrus deodara*	20	20	15	707	Good	Good			remove	
8872	DE-10	cottonwood	*Populus trichocarpa*	11	11	10	314	Good	Good			remove	
8873	DE-10	cottonwood	*Populus trichocarpa*	12	12	12	452	Good	Good			remove	
8874	DE-5	Norway maple	*Acer platanoides*	6	6	12	452	Good	Good			remove	
8875	DE-6	oneseed hawthorn	*Crataegus monogyna*	6	6	10	314	Fair	Fair			remove	
8880	DE-14	cottonwood	*Populus trichocarpa*	16	16	15	707	Good	Fair	Unbalanced.		remove	
8881	DE-12	cottonwood	*Populus trichocarpa*	12	12	12	452	Good	Good			remove	
8884	DE-12	cottonwood	*Populus trichocarpa*	13	13	10	314	Good	Good			remove	
8885	DE-14-12	cottonwood	*Populus trichocarpa*	18	18	15	707	Good	Fair	Low codominant split.		remove	
8886	DE-12	cottonwood	*Populus trichocarpa*	11	11	10	314	Good	Good			remove	
9218	EV-28	Douglas fir	*Pseudotsuga menziesii*	26	26	15	707	Fair	Fair	Thin, narrow, unbalanced, codominant leaders.		retain	
9219	EV-18	Douglas fir	*Pseudotsuga menziesii*	19	19	10	314	Fair	Fair	Thin, narrow, unbalanced.		retain	
9221	EV-28	Douglas fir	*Pseudotsuga menziesii*	28	28	20	1256	Good	Fair	Unbalanced.		remove	
9222	EV-28	Douglas fir	*Pseudotsuga menziesii*	27	27	20	1256	Good	Good			remove	
9223	EV-18	Douglas fir	*Pseudotsuga menziesii*	17	17	15	707	Good	Good			remove	
9224	EV-44	Douglas fir	*Pseudotsuga menziesii*	42	42	30	2826	Good	Good			remove	
9225	EV-8	Douglas fir	*Pseudotsuga menziesii*	8	8	7	154	Fair	Fair	Thin, suppressed.		remove	
9226	EV-8	Douglas fir	*Pseudotsuga menziesii*	9	9	8	201	Fair	Fair	Thin, lost top.		retain	
11285	DE-26	cottonwood	*Populus trichocarpa*	28	28	25	1963	Good	Good		x	remove	
11287	EV-26	Douglas fir	*Pseudotsuga menziesii*	27	27	20	1256	Good	Good		x	remove	
11289	EV-30	Douglas fir	*Pseudotsuga menziesii*	26	26	30	2826	Good	Good		x	retain	
11290	DE-6	willow	*Salix sp.*	6	6	6	113	Fair	Fair	Unbalanced.	x	retain	
11294	EV-16	Douglas fir	*Pseudotsuga menziesii*	18	18	15	707	Good	Fair	Codominant leaders.	x	retain	
11295	DE-12 X2	cottonwood	*Populus trichocarpa*	26	26	18	1017	Good	Fair	Codominant split, inclusion.	x	retain	
11296	DE-14	Duplicate	N/A	0	0	0	0	N/A	N/A			n/a	
11604	EV-38	Douglas fir	*Pseudotsuga menziesii*	39	39	35	3847	Good	Good			remove	
11605	EV-26	Douglas fir	*Pseudotsuga menziesii*	22	22	15	707	Good	Good		x	remove	
11606	EV-14	Douglas fir	*Pseudotsuga menziesii*	16	16	8	201	Good	Good		x	remove	
11607	EV-24	Douglas fir	*Pseudotsuga menziesii*	22	22	15	707	Good	Fair	Large sweeping trunk.	x	remove	
11608	EV-12	western hemlock	*Tsuga heterophylla*	13	13	0	0	Dead	Dead			remove	
11609	EV-16	western hemlock	*Tsuga heterophylla*	17	17	12	452	Poor	Poor	Suppressed.	x	remove	
11610	EV-12	Douglas fir	*Pseudotsuga menziesii*	11	11	0	0	Dead	Dead		x	remove	
11611	EV-16	Douglas fir	*Pseudotsuga menziesii*	13	13	8	201	Good	Fair	High crown.	x	remove	
11612	EV-16	Douglas fir	*Pseudotsuga menziesii*	12	12	12	452	Good	Poor	Suppressed, crooked trunk.	x	remove	
11627	EV-28	Douglas fir	*Pseudotsuga menziesii*	29	29	25	1963	Good	Poor	Red ring rot.	x	remove	
11628	EV-30	Douglas fir	*Pseudotsuga menziesii*	37	37	30	2826	Good	Good		x	remove	
11629	EV-12	Douglas fir	*Pseudotsuga menziesii*	11	11	12	452	Fair	Fair	Suppressed , unbalanced .	x	remove	
11630	EV-13	Douglas fir	*Pseudotsuga menziesii*	14	14	12	452	Good	Poor	Mechanical damage.	x	remove	
11631	EV-26	Duplicate	N/A	0	0	0	0	N/A	N/A			n/a	
11715	DE-12	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
11779	DE-6X3	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
11780	EV-28	Douglas fir	*Pseudotsuga menziesii*	28	28	30	2826	Good	Poor	Mechanical damage to roots.	x	retain	
11787	EV-30	Douglas fir	*Pseudotsuga menziesii*	28	28	25	1963	Good	Poor	Mechanical damage to roots.	x	retain	
11788	EV-32	Douglas fir	*Pseudotsuga menziesii*	32	32	30	2826	Good	Poor	Root damage.	x	retain	
11792	DE-8	cherry	*Prunus avium*	8	8	10	314	Fair	Fair	High crown.	x	retain	
11793	DE-8	cherry	*Prunus avium*	8	8	10	314	Fair	Fair	High crown.	x	retain	
11794	DE-8X3	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
11795	DE-8	cherry	*Prunus avium*	7	7	8	201	Good	Good	Buried.	x	retain	
11796	DE-8	Oregon ash	*Fraxinus latifolia*	10	10	8	201	Good	Good	Buried.	x	retain	
11797	DE-10	cherry	*Prunus avium*	14	14	15	707	Good	Good	Buried.	x	retain	
11798	DE-14	cherry	*Prunus avium*	14	14	18	1017	Good	Good	Brush pile.	x	retain	
11799	DE-8	Oregon ash	*Fraxinus latifolia*	7	7	8	201	Good	Good	Buried.	x	retain	
11800	DE-8	cherry	*Prunus avium*	7	7	10	314	Good	Fair		x	retain	
11806	DE-8	cherry	*Prunus avium*	7	7	10	314	Good	Fair		x	retain	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
11807	DE-8	cherry	*Prunus avium*	7	7	10	314	Good	Fair		x	retain	
11810	DE-6	Does not exist	N/A	0	0	0	0	N/A	N/A			n/a	
11844	DE-14	cherry	*Prunus avium*	13	13	18	1017	Good	Fair	Dead top.		remove	
11845	DE-12	cherry	*Prunus avium*	10	10	8	201	Fair	Fair			remove	
11846	DE-8	cherry	*Prunus avium*	10	10	0	0	Fair	Fair	Mechanical damage.		remove	
11847	DE-6	cherry	*Prunus avium*	6	6	8	201	Fair	Fair			remove	
11848	DE-8	cherry	*Prunus avium*	10	10	0	0	dead	dead			remove	
11849	DE-6	cherry	*Prunus avium*	6	6	8	201	Fair	Fair			remove	
11850	DE-9	cherry	*Prunus avium*	9	9	8	201	Fair	Fair			remove	
11851	DE-12	cherry	*Prunus avium*	12	12	8	201	Fair	Fair			remove	
11852	DE-6	cherry	*Prunus avium*	6	6	8	201	Fair	Fair			remove	
11858	EV-26	Could not find on map	Unknown	0	0	0	0	N/A	N/A			n/a	
11859	EV-26	Could not find on map	Unknown	0	0	0	0	N/A	N/A			n/a	
11860	DE-6	Could not find on map	Unknown	0	0	0	0	N/A	N/A			n/a	
11864	DE-8	cherry	*Prunus avium*	6	6	5	79	Poor	Fair	Buried.	x	retain	
11865	EV-36	Douglas fir	*Pseudotsuga menziesii*	34	34	20	1256	Good	Fair	Buried, slight sweep to trunk.	x	retain	
11872	EV-26	Douglas fir	*Pseudotsuga menziesii*	28	28	20	1256	Good	Fair	Sweeping trunk.	x	retain	
11970	DE-10	red alder	*Alnus rubra*	8,8,13	17	12	452	Good	Good		x	retain	
11971	DE-12	red alder	*Alnus rubra*	12	12	10	314	Good	Good		x	retain	
12039	DE-14	yew	*Taxus brevifolia*	12	12	18	1017	Good	Good		x	retain	
12040	EV-40	Douglas fir	*Pseudotsuga menziesii*	42	42	15	707	Good	Fair	Codominant leaders at 50'.	x	retain	
12042	DE-30	red alder	*Alnus rubra*	31	31	10	314	Poor	Poor	Half dead, mechanical damage	x	remove	
12180	EV-26	Douglas fir	*Pseudotsuga menziesii*	28	28	20	1256	Fair	Fair		x	retain	
12181	EV-14	Douglas fir	*Pseudotsuga menziesii*	30	30	20	1256	Good	Fair		x	retain	
12182	EV-10 DEAD	red alder	*Alnus rubra*	11	11	0	0	Dead	Dead		x	retain	
12183	DE-9	red alder	*Alnus rubra*	9	9	5	79	Fair	Fair		x	retain	
12184	DE-12	red alder	*Alnus rubra*	12	12	5	79	Fair	Fair		x	retain	
12185	DE-12	red alder	*Alnus rubra*	10	10	5	79	Fair	Fair	Declining.	x	retain	
12186	DE-14	red alder	*Alnus rubra*	10	10	5	79	Fair	Fair	Declining.	x	retain	
12187	DE-14	red alder	*Alnus rubra*	13	13	5	79	Fair	Fair	Declining.	x	retain	
12230	EV-34	Douglas fir	*Pseudotsuga menziesii*	37	37	20	1256	Good	Fair	Codominant leaders.	x	retain	
12231	EV-38	Douglas fir	*Pseudotsuga menziesii*	38	38	20	1256	Good	Fair	Codominant leaders.	x	retain	
12232	EV-20	Douglas fir	*Pseudotsuga menziesii*	26	26	15	707	Fair	Poor	Unbalanced to S, struggling top, thin.	x	retain	
12233	EV-22	Douglas fir	*Pseudotsuga menziesii*	23	23	15	707	Poor	Poor	Thin, red ring rot, narrow.	x	retain	
12234	EV-14	Douglas fir	*Pseudotsuga menziesii*	17	17	15	707	Fair	Fair	Part of 223, narrow, unbalanced to S.	x	retain	
12235	EV-26	Douglas fir	*Pseudotsuga menziesii*	25	25	12	452	Good	Fair	Unbalanced to the S, high crown	x	retain	
12236	EV-28	Douglas fir	*Pseudotsuga menziesii*	32	32	20	1256	Good	Good	Ivy.	x	retain	
12237	EV-30	Douglas fir	*Pseudotsuga menziesii*	30	30	25	1963	Good	Good	Ivy.	x	retain	
12238	EV-22	Douglas fir	*Pseudotsuga menziesii*	22	22	20	1256	Fair	Fair	Ivy, unbalanced to the S, suppressed.	x	retain	
12239	DE-6	dogwood	*Cornus nuttallii*	6	6	15	707	Good	Good	Growing below large Douglas fir, ivy.	x	retain	
12240	EV-20	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Good	Good	Ivy.	x	retain	
12241	EV-20	Douglas fir	*Pseudotsuga menziesii*	23	23	10	314	Good	Fair	High crown, ivy.	x	retain	
12242	EV-32	Douglas fir	*Pseudotsuga menziesii*	30	30	20	1256	Good	Fair	Ivy, unbalanced to the S.	x	retain	
12243	EV-16	Douglas fir	*Pseudotsuga menziesii*	18	18	15	707	Fair	Fair	Heavy ivy, unbalanced to the S.	x	retain	
12244	EV-6	Douglas fir	*Pseudotsuga menziesii*	8	8	10	314	Fair	Poor	Suppressed, unbalanced to the S.	x	retain	
12252	EV-42	Douglas fir	*Pseudotsuga menziesii*	22	22	25	1963	Good	Good	Ivy.	x	retain	
12253	EV-30	Douglas fir	*Pseudotsuga menziesii*	10	10	12	452	Good	Good		x	retain	
12284	EV-24	Douglas fir	*Pseudotsuga menziesii*	26	26	15	707	Good	Fair	Unbalanced to the S, narrow crown.	x	retain	
12285	EV-32	Douglas fir	*Pseudotsuga menziesii*	35	35	15	707	Very poor	Very poor	Red ring rot.	x	retain	
12287	EV-16	Douglas fir	*Pseudotsuga menziesii*	16	16	15	707	Good	Fair	Codominant leader failed at 20' and crooked dominant leader.	x	retain	
12288	EV-14	Douglas fir	*Pseudotsuga menziesii*	13	13	8	201	Good	Good		x	retain	
12289	EV-8	Douglas fir	*Pseudotsuga menziesii*	9	9	8	201	Good	Poor	Multiple crooks in trunk, suppressed.	x	retain	
12290	EV-18	Douglas fir	*Pseudotsuga menziesii*	21	21	10	314	Good	Good	Narrow crown.	x	retain	
12291	EV-18	Douglas fir	*Pseudotsuga menziesii*	19	19	12	452	Good	Fair	Unbalanced to S.	x	retain	
12292	EV-20	Douglas fir	*Pseudotsuga menziesii*	22	22	15	707	Good	Fair	Near road, unbalanced to S.	x	retain	
12293	EV-22	Douglas fir	*Pseudotsuga menziesii*	22	22	15	707	Good	Fair	Unbalanced to the S.	x	retain	
12294	EV-12	Douglas fir	*Pseudotsuga menziesii*	12	12	12	452	Fair	Poor	Codominant leaders, suppressed.	x	retain	
12295	EV-14	Douglas fir	*Pseudotsuga menziesii*	17	17	10	314	Poor	Very poor	Red ring rot.	x	retain	
12296	EV-18	Douglas fir	*Pseudotsuga menziesii*	17	17	13	531	Fair	Fair	Suppressed, high crown.	x	retain	
12297	EV-16	Douglas fir	*Pseudotsuga menziesii*	16	16	12	452	Good	Poor	Codominant leaders.	x	retain	
12298	EV-34	Douglas fir	*Pseudotsuga menziesii*	34	34	20	1256	Good	Fair	Crooked trunk, poison oak.	x	retain	
12301	EV-18	Douglas fir	*Pseudotsuga menziesii*	18	18	12	452	Good	Poor	Ivy, unbalanced to S.	x	retain	
12302	EV-38	Douglas fir	*Pseudotsuga menziesii*	40	40	20	1256	Good	Good	Ivy.	x	retain	

Attachment 2

Tree No.	Svy. Descript.	Common Name	Scientific name	DBH[1]	Converted to Single Stem DBH	C-Rad[2]	Canopy Area (sq. ft.)	Condition[3]	Structure[3]	Comments	Offsite	Treatment	Retained, Onsite, & Outside Env. Constrained Lands
12303	DE-12	red alder	*Alnus rubra*	12	12	0	0	Dead	Dead		x	retain	
12304	EV-24	Douglas fir	*Pseudotsuga menziesii*	25	25	18	1017	Good	Fair	Unbalanced to the S.	x	retain	
12305	DE-16	Douglas fir	*Pseudotsuga menziesii*	21	21	15	707	Good	Good	Ivy.	x	retain	
12306	EV-22	Douglas fir	*Pseudotsuga menziesii*	22	22	15	707	Good	Poor	Ivy, unbalanced to the S.	x	retain	
14212	EV-20	Douglas fir	*Pseudotsuga menziesii*	20	20	20	1256	Good	Fair	Unbalanced to S.	x	retain	
14213	EV-26	Douglas fir	*Pseudotsuga menziesii*	30	30	25	1963	Good	Fair	Small codominant leader on N side.	x	retain	
14214	EV-20	Douglas fir	*Pseudotsuga menziesii*	26	26	15	707	Good	Fair	Unbalanced to the S, narrow crown.	x	retain	
14215	EV-10	Douglas fir	*Pseudotsuga menziesii*	10	10	5	79	Poor	Good	Suppressed.	x	retain	
14255	EV-18	Douglas fir	*Pseudotsuga menziesii*	22	22	15	707	Good	Fair	Unbalanced to S.	x	retain	
14256	EV-18	Douglas fir	*Pseudotsuga menziesii*	20	20	10	314	Good	Fair	Unbalanced to S, low LCR.	x	retain	
14259	EV-12	Douglas fir	*Pseudotsuga menziesii*	13	13	10	314	Good	Fair	Unbalanced to S, lost and regrew top.	x	retain	
14260	EV-22	Douglas fir	*Pseudotsuga menziesii*	28	28	20	1256	Good	Fair	Unbalanced to S.	x	retain	
14262	EV-24	Douglas fir	*Pseudotsuga menziesii*	26	26	25	1963	Good	Fair	High crown, ~30% LCR.	x	retain	
14263	EV-6	Douglas fir	*Pseudotsuga menziesii*	6	6	8	201	Fair	Fair	Suppressed, unbalanced to the S.	x	retain	
14264	EV-18	Douglas fir	*Pseudotsuga menziesii*	21	21	20	1256	Good	Fair	Unbalanced to S, lost and regrew top.	x	retain	
14265	EV-24	Douglas fir	*Pseudotsuga menziesii*	24	24	20	1256	Good	Fair	Slightly unbalanced to S.	x	retain	
14266	EV-20	Douglas fir	*Pseudotsuga menziesii*	23	23	10	314	Good	Poor	Lost top at 15', regrew two leaders.	x	retain	
14267	EV-14	Douglas fir	*Pseudotsuga menziesii*	17	17	15	707	Good	Fair	Crooked trunk, phototropism.	x	retain	
14268	EV-6	Douglas fir	*Pseudotsuga menziesii*	6	6	8	201	Fair	Fair	Suppressed.	x	retain	
14271	EV-30	Douglas fir	*Pseudotsuga menziesii*	29	29	25	1963	Good	Fair	Unbalanced to S.	x	retain	
14272	EV-30	Douglas fir	*Pseudotsuga menziesii*	30	30	25	1963	Good	Fair	Unbalanced to S, phototropic top.	x	retain	
14273	EV-32	Douglas fir	*Pseudotsuga menziesii*	31	31	25	1963	Good	Fair	Unbalanced to S, crooked trunk at 18'.	x	retain	
14274	EV-10	Douglas fir	*Pseudotsuga menziesii*	11	11	10	314	Good	Fair	Suppressed, unbalanced to the S.	x	retain	
14275	EV-30	Douglas fir	*Pseudotsuga menziesii*	30	30	30	2826	Good	Good		x	retain	
14323	EV-10	Douglas fir	*Pseudotsuga menziesii*	11	11	8	201	Poor	Good	Suppressed.	x	retain	
14324	EV-16	Douglas fir	*Pseudotsuga menziesii*	19	19	15	707	Good	Fair	Suppressed, crooked trunk.	x	retain	
14325	EV-16	Douglas fir	*Pseudotsuga menziesii*	17	17	8	201	Good	Fair	Narrow crown, crooked trunk.	x	retain	
14326	EV-16	Douglas fir	*Pseudotsuga menziesii*	24	24	15	707	Good	Poor	Narrow crown, unbalanced to S.	x	retain	
14327	EV-6	Douglas fir	*Pseudotsuga menziesii*	6	6	8	201	Fair	Fair	Suppressed.	x	retain	
14328	EV-14	Douglas fir	*Pseudotsuga menziesii*	18	18	20	1256	Good	Fair	Unbalanced to the S.	x	retain	
14330	EV-22	Douglas fir	*Pseudotsuga menziesii*	12	12	10	314	Fair	Poor	Suppressed, thin, discolored.	x	retain	
14331	EV-18	Douglas fir	*Pseudotsuga menziesii*	20	20	15	707	Good	Poor	Lost and regrew top twice, unbalanced.	x	retain	
14332	EV-12	Douglas fir	*Pseudotsuga menziesii*	10	10	0	0	Dead	Dead		x	retain	
14333	EV-22	Douglas fir	*Pseudotsuga menziesii*	25	25	20	1256	Good	Poor	Unbalanced to S.	x	retain	
14345	EV-32	Douglas fir	*Pseudotsuga menziesii*	32	32	20	1256	Fair	Fair	Thin, high crown.	x	retain	
14346	EV-18	Douglas fir	*Pseudotsuga menziesii*	20	20	12	452	Fair	Poor	Unbalanced to the S, thin, crooked trunk.	x	retain	
14348	EV-14	Douglas fir	*Pseudotsuga menziesii*	16	16	15	707	Good	Poor	Unbalanced to the S, lost and regrew top.	x	retain	
16994	EV-24	Douglas fir	*Pseudotsuga menziesii*	31	31	30	2826	Good	Good			remove	
16995	EV-24	Douglas fir	*Pseudotsuga menziesii*	30	30	30	2826	Good	Fair	Unbalanced.	x	remove	
16998	EV-40	Duplicate	N/A	0	0	0	0	N/A	N/A			n/a	
18864	EV-14	Douglas fir	*Pseudotsuga menziesii*	17	17	15	707	Good	Fair	Sweeping trunk.	x	remove	
18867	EV-6	western hemlock	*Tsuga heterophylla*	6	6	0	0	Dead	Dead		x	remove	
18869	DE-6	cherry	*Prunus avium*	6	6	10	314	Fair	Fair	High crown , unbalanced .		remove	
18870	EV-34	Douglas fir	*Pseudotsuga menziesii*	34	34	25	1963	Good	Good			remove	

[1]DBH is the trunk diameter measured according to the International Society of Arboriculture standards in inches. In cases where the tree splits into multiple trunks at ground level, DBH is the square root of the sum of the squared DBH of each stem.
[2]C-rad is the approximate crown radius in feet.
[3]Condition and Structure ratings range from very poor, poor, fair, to good.

Attachment 3
Additional Tree Protection Recommendations

The following recommendations meet City of Sherwood Code requirements:

Before Construction Begins

1. Notify all contractors of tree protection procedures. For successful tree protection on a construction site, all contractors must know and understand the goals of tree protection.
    a. Hold a tree protection meeting with all contractors to explain the goals of tree protection.
    c. Have all contractors sign memoranda of understanding regarding the goals of tree protection. The memoranda should include a penalty for violating the tree protection plan. The penalty should equal the resulting fines issued by the local jurisdiction plus the appraised value of the tree(s) within the violated tree protection zone per the current Trunk Formula Method as outline in the current edition of the ***Guide for Plant Appraisal*** by the Council of Tree & Landscape Appraisers. The penalty should be paid to the owner of the property.
2. Fencing
    a. Trees to remain on site should be protected by installation of tree protection fencing at the dripline. Alternatively, tree protection fencing may be set as shown in Attachment 1.
    b. The fencing should be put in place before the ground is cleared to protect the trees and the soil around the trees from disturbances.
    c. Fencing should be established by the project arborist based on the needs of the trees to be protected and to facilitate construction.
    d. Fencing should consist of 6-foot high steel fencing on concrete blocks or 6-foot metal fencing secured to the ground with 8-foot metal posts to prevent it from being moved by contractors, sagging, or falling down.
    e. Fencing should remain in the position that is established by the project arborist and not be moved without approval from the project arborist until final project approval.
3. Signage
    a. All tree protection fencing should have signage as follows so that all contractors understand the purpose of the fencing:

> **TREE PROTECTION ZONE**
>
> **DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION FENCING.**
>
> Please contact the project arborist if alterations to the approved location of the tree protection fencing are necessary.
>
> Todd Prager, Project Arborist - 971-295-4835

    b. Signage should be placed every 75-feet or less.

During Construction

1. Protection Guidelines Within the Tree Protection Zones:
    a. No new buildings; grade change or cut and fill, during or after construction; new impervious surfaces; or utility or drainage field placement should be allowed within the tree protection zones.
    b. No traffic should be allowed within the tree protection zones. This includes but is not limited to vehicle, heavy equipment, or even repeated foot traffic.
    c. No storage of materials including but not limiting to soil, construction material, or waste from the site should be permitted within the tree protection zones. Waste includes but is not limited to concrete wash out, gasoline, diesel, paint, cleaner, thinners, etc.
    d. Construction trailers should not to be parked/placed within the tree protection zones.
    e. No vehicles should be allowed to park within the tree protection zones.
    f. No other activities should be allowed that will cause soil compaction within the tree protection zones.
2. The trees should be protected from any cutting, skinning or breaking of branches, trunks or woody roots.
3. The project arborist should be notified prior to the cutting of woody roots from trees that are to be retained to evaluate and oversee the proper cutting of roots with sharp cutting tools. Cut roots should be immediately covered with soil or mulch to prevent them from drying out.
4. Trees that have roots cut should be provided supplemental water during the summer months.
5. Any necessary passage of utilities through the tree protection zones should be by means of tunneling under woody roots by hand digging or boring with oversight by the project arborist.
6. Any deviation from the recommendations in this section should receive prior approval from the project arborist.

After Construction

1. Carefully landscape the areas within the tree protection zones. Do not allow trenching for irrigation or other utilities within the tree protection zones.
2. Carefully plant new plants within the tree protection zones. Avoid cutting the woody roots of trees that are retained.
3. Do not install permanent irrigation within the tree protection zones unless it is drip irrigation to support a specific planting or the irrigation is approved by the project arborist.
4. Provide adequate drainage within the tree protection zones and do not alter soil hydrology significantly from existing conditions for the trees to be retained.
5. Provide for the ongoing inspection and treatment of insect and disease populations that can damage the retained trees and plants.
6. The retained trees may need to be fertilized if recommended by the project arborist.
7. Any deviation from the recommendations in this section should receive prior approval from the project arborist.

Attachment 4
Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct. The site plans and other information provided by Westwood Homes and their consultants was the basis of the information provided in this report.
2. It is assumed that this property is not in violation of any codes, statutes, ordinances, or other governmental regulations.
3. The consultant is not responsible for information gathered from others involved in various activities pertaining to this project. Care has been taken to obtain information from reliable sources.
4. Loss or alteration of any part of this delivered report invalidates the entire report.
5. Drawings and information contained in this report may not be to scale and are intended to be used as display points of reference only.
6. The consultant's role is only to make recommendations. Inaction on the part of those receiving the report is not the responsibility of the consultant.
7. The purpose of this report is to:
   - Assess the existing trees at the project site;
   - Identify the trees to be removed and retained based on construction impacts;
   - Provide tree protection recommendations for the trees to be retained; and
   - Provide recommendations for meeting the tree canopy requirements in section 16.142.070 of the City of Sherwood Code.