

LAND USE APPLICATION  
CITY OF SHERWOOD, OREGON

# RIVERSIDE AT CEDAR CREEK

A 28-Lot Subdivision of Tax Lot 104, Tax Map 3S1 06,

Revised June 15, 2020

**OWNER TAX LOT 104:**  
Richard and Linda Scott  
17433 SW Brookman Road  
Sherwood, OR 97140

**APPLICANT:**  
Riverside Homes  
17933 NW Evergreen Place  
Beaverton, OR 97006

**APPLICANT'S REPRESENTATIVE:**  
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**FACT SHEET**

Project Name: **Riverside at Cedar Creek**

Proposed Action: A 28-Lot Single Family Residential Subdivision

Tax Map/Lot: 3S1 06 104

Site Size: 10.47 Acres

Addresses: 17433 SW Brookman Road, Sherwood, OR 97140

Location: On the north side of SW Brookman Road, approximately 50 feet east of its intersection with SW Oberst Road

Zoning: MDRL – Medium Density Residential Low

**Owner Tax Lot 104:**

Richard and Linda Scott  
17433 SW Brookman Road  
Sherwood, OR 97140

**Applicant:**

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## **GENERAL INFORMATION**

The applicant requests preliminary approval of a 28-Lot Single-Family Detached Residential Subdivision "Riverside at Cedar Creek". The subject site, specifically identified as Tax Lot 104 of Tax Map 3S106, is 10.47 acres in size. 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.

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 northern part of the site will support the 28 lots, which will be accessed from the northeast and west via public streets within the proposed Middlebrook Subdivision (SUB 18-02). The City of Sherwood Planning Commission held a hearing for SUB 18-02 on July 9, 2019 and approved the application with conditions based on the findings of fact and conditions contained in the record including testimony received, staff report and Exhibits A-J. The decision approving SUB 18-02 was rendered on July 15, 2019, with the appeal period ending July 29, 2019.

## **VICINITY & SITE INFORMATION**

Site Location: On the north side of SW Brookman Road, approximately 50 feet east of its intersection with SW Oberst Road.

Existing Uses: The site is located within the Brookman Addition community in the south end of Sherwood, Oregon. The site is a large acreage parcel with a residential subdivision to the north, Hazelnut orchard to the south, and Cedar Creek riparian corridor to the east. The site includes a single-family home and several outbuildings and structures. A packed dirt driveway extends into the site from SW Brookman Road at the southwest corner. The driveway splits into two dirt roads: one extends to the residence and the other extends into the open grass area near the outbuildings in the northwest site corner. The southern and eastern areas of the site are forested with a riparian forested community along Cedar Creek, which flows through the southwestern corner of the site. There are multiple wetland areas within the Cedar Creek floodplain.

Topography: The site topography slopes from the northwest site corner southeast towards the Cedar Creek riparian corridor. The topography at the northwest corner is generally flat within the maintained grass areas but begins to slope 14-30% down through the riparian corridor approaching Cedar Creek. There is a high point in the southeast site corner, where topography slopes northwest approaching Cedar Creek with 21-28% slopes.

Vegetation: The site is bare ground and mowed grass in the northwest half of the site surrounding the residence and outbuildings. The remainder of the site is a mix of riparian and wetland communities. The riparian areas include mature 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. To the north and west, the proposed Middlebrook Subdivision was recently approved by the City for 145 new residential units, as previously described. To the east, the Reserve at Cedar Creek development is currently under review, and proposes 59 single family residential dwellings.

**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 28 Lots for single-family detached homes. A tract of approximately 203,158 square feet (4.66 acres) (Tract B) containing Cedar Creek and its associated flood plain and vegetated corridor is to be preserved as open space that will be privately owned, unless it is dedicated to Clean Water Services or another appropriate jurisdiction. The smallest lot in the subdivision is 4,722 square feet (Lot 27), while the largest lot is approximately 8,135 square feet (Lot 23). The average lot size is approximately 5,914 square feet, however 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 maintaining the 5,000 square foot average lot size.

The design for the site includes the improvement of SW Brookman Road to a County arterial standard with a ½ street improvement along the site frontage; the through connection of the proposed SW Wapato Lake Drive within the Middlebrook Subdivision from the west to the northeast. In addition, two short private streets will each serve 1 Lot (Tracts C and D), and will be constructed to City private street standards. SW Brookman Road is to be improved to the County A2 standard for a 5-lane arterial, with a requested right-of-way width of width of 53 feet to centerline. The paved surface will include a 37-foot half street, 10-foot-wide sidewalks behind planter strips, curb and gutter, street trees, and illumination.

The local street within the development (SW Wapato Lake Drive) proposed to meet the City local street standards, with 52 feet of right-of-way and a 28-foot paved surface, curb and gutter, 6-foot-wide sidewalks, planter strips, street trees, and illumination.

The applicant proposes a single water quality facility, designed and constructed as a detention pond, and located on the north side of Cedar Creek (Tract E). Drainage from the site will be

directed to this facility via catch basins, manholes and pipes and then released into the adjoining Cedar Creek drainageway. SW Wapato Lake Drive will serve to provide access to the facility.

The Cedar Creek channel flows from a culvert under SW Brookman Road at the southeastern edge of site in an “S” shape: curving northeast, northwest, then east and extending offsite along the southeastern property boundary. The constructed channel conveys flow from wetland A in the southwest corner to Cedar Creek about 20-feet north of the Brookman Road culvert. Additionally, seasonal inundation from Cedar Creek backs up into the constructed channel.

The riparian forested community bordering both sides of Cedar Creek extends approximately 100-feet on both sides. The stream channel is 6 to 8 feet wide at the Ordinary High Water (OHW) line and is bordered by wetland areas intermingled with riparian areas. The vegetative community is forested wetland and riparian habitat comprised of species already identified above.

### III. 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, “Riverside at Cedar Creek”, includes a total of 28 Lots for single-family detached residential units. While the gross site area equals approximately 10.37 acres (451,691 square feet), when removing approximately 6.54 acres (284,772 square feet) of streets, public use areas, and environmentally constrained areas, the net development area of the site is 3.83 acres (166,919 square feet). Minimum and Maximum densities based on the net site area are calculated as follows:

Minimum Density = 3.83 acres x 5.6 units/acre = 21.45 = 21 units.

Maximum Density = 3.83 acres x 8 units/acre = 30.64 = 33 units.

Accordingly, the proposed 28 Lot subdivision falls within the 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
<b>RESIDENTIAL</b>	
Single-Family Attached or Detached Dwellings	P

**RESPONSE:** The application proposes the creation of 28 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:

<b>DEVELOPMENT STANDARD BY RESIDENTIAL ZONE</b>	<b>MDRL</b>
<b>Minimum Lot areas: (in square ft.)</b>	
<b>Single-Family Detached</b>	5,000
<b>Minimum Lot width at front property line: (in feet)</b>	25
<b>Minimum Lot width at building line<sup>1</sup> (in feet)</b>	
<b>Single-Family</b>	50
<b>Lot Depth</b>	80
<b>Maximum Height <sup>2</sup> (in feet)</b>	30 or 2 stories
<b>Setbacks (in feet)</b>	
<b>Front yard <sup>4</sup></b>	14
<b>Face of garage</b>	20
<b>Interior side yard</b>	
<b>Single-family detached</b>	5
<b>Corner lot street side</b>	
<b>Single-family or Two family</b>	15
<b>Rear Yard</b>	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 28-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 F and G 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, including in areas where roadside LIDA facilities are provided in the corridor. 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 16.94 - OFF-STREET PARKING AND LOADING*

*16.94.010 - General Requirements*

*A. Off-Street Parking Required*

*No site shall be used for the parking of vehicles until plans are approved providing for off-street parking and loading space as*

*required by this Code. Any change in uses or structures that reduces the current off-street parking and loading spaces provided on site, or that increases the need for off-street parking or loading requirements shall be unlawful and a violation of this Code, unless additional off-street parking or loading areas are provided in accordance with Section 16.94.020, or unless a variance from the minimum or maximum parking standards is approved in accordance with Chapter 16.84 Variances.*

**RESPONSE:** No parking in violation of this Section will occur prior to the development of the site. All parking on-site will comply with the requirements for site development permits for the site, and ultimately with the residential parking requirements as detailed below.

*B. Deferral of Improvements*

*Off-street parking and loading spaces shall be completed prior to the issuance of occupancy permits, unless the City determines that weather conditions, lack of available surfacing materials, or other circumstances beyond the control of the applicant make completion impossible. In such circumstances, security equal to one hundred twenty five (125) percent of the cost of the parking and loading area is provided the City. "Security" may consist of a performance bond payable to the City, cash, certified check, or other assurance of completion approved by the City. If the installation of the parking or loading area is not completed within one (1) year, the security may be used by the City to complete the installation.*

**RESPONSE:** Off-street residential parking will be available within garages and driveways, as described below. These spaces will be available prior to or concurrent with the issuance of occupancy permits for each individual dwelling. This criterion is met.

*C. Options for Reducing the Required Parking Spaces*

- 1. Two (2) or more uses or, structures on multiple parcels of land may utilize jointly the same parking and loading spaces when the peak hours of operation do not substantially overlap, provided that satisfactory evidence is presented to the City, in the form of deeds, leases, or contracts, clearly establishing the joint use.*
  - a. Within commercial, institutional and public, or industrial zones, shared parking may be provided on lots that are within five hundred (500) feet of the property line of the use to be served.*

- b. *Shared parking is allowed if the application can show that the combined peak use is available by a parking study that demonstrates:*
  - (1) *There is a sufficient number of parking spaces to accommodate the requirements of the individual businesses; or*
  - (2) *That the peak hours of operation of such establishments do not overlap, and*
  - (3) *That an exclusive permanent easement over a delineated area has been granted for parking space use.*

**RESPONSE:** The applicant is not requesting shared parking or a reduction in required parking spaces. This criterion is not applicable.

2. *Mixed use projects are developments where a variety of uses occupies a development project or complex. For example, an eating establishment, professional office building and movie theater are all components of a mixed use site. It does not include a secondary use within a primary use such as an administrative office associated with a retail establishment. In mixed-use projects, the required minimum vehicle parking shall be determined using the following formula:*

- a. *Primary use: i.e. that with the largest proportion of total floor area within the development at one hundred (100) percent of the minimum vehicle parking required for that use.*
- b. *Secondary Use: i.e. that with the second largest percentage of total floor area within the development, at ninety (90) percent of the vehicle parking required for that use.*
- c. *Subsequent use or uses, at eighty (80) percent of the vehicle parking required for that use.*

**RESPONSE:** The application is not for a mixed-use development. This criterion is not applicable.

#### *D. Prohibited Uses*

*Required parking, loading and maneuvering areas shall not be used for long-term storage or sale of vehicles or other materials, and shall not be rented, leased or assigned to any person or organization not using or occupying the building or use served.*

**RESPONSE:** Off-street parking within the development will be reserved for typical residential uses. Compliance with this standard over time will be the responsibility of individual homeowners. This criterion will be met.

*E. Location*

*1. Residential off-street parking spaces:*

- a. Shall be located on the same lot or development as the residential use.*
- b. Shall not include garages or enclosed buildings with the exception of a parking structure in multifamily developments where three (3) or more spaces are not individually enclosed. (Example: Underground or multi-level parking structures).*

**RESPONSE:** In addition to private garage spaces, of which each home is anticipated to contain a minimum of 2 spaces, each dwelling will provide a minimum of one off-street parking space within a driveway, as required per Table 1 below. This criterion is met.

- 2. For other uses, required off-street parking spaces may include adjacent on-street parking spaces, nearby public parking and shared parking located within five hundred (500) feet of the use. The distance from the parking, area to the use shall be measured from the nearest parking space to a building entrance, following a sidewalk or other pedestrian route. The right to use private off-site parking must be evidenced by a recorded deed, lease, easement, or similar written notarized letter or instrument.*

**RESPONSE:** The application is for a residential development. This criterion is not applicable.

- 3. Vehicle parking is allowed only on improved parking shoulders that meet City standards for public streets, within garages, carports and other structures, or on driveways or parking lots that have been developed in conformance with this code. Specific locations and types of spaces (car pool, compact, etc.) for parking shall be indicated on submitted plans and located to the side or rear of buildings where feasible.*
  - a. All new development with forty (40) employees or more shall include preferential spaces for carpool/vanpool designation. Carpool and vanpool parking spaces shall be located closer to the main employee entrance than all other parking spaces with the exception of ADA parking spaces. Carpool/vanpool spaces shall be clearly marked as reserved for carpool/vanpool only.*

- b. Existing development may redevelop portions of designated parking areas for multi-modal facilities (transit shelters, park and ride, and bicycle parking), subject to meeting all other applicable standards, including minimum space standards.*

**RESPONSE:** As described above, the applicant proposes off-street parking for each individual lot/dwelling within private garage spaces and driveways, consistent with the requirements of this Section, as they apply to single-family detached residential development. This criterion is met.

#### *F. Marking*

All parking, loading or maneuvering areas shall be clearly marked and painted. All interior drives and access aisles shall be clearly marked and signed to show the direction of flow and maintain vehicular and pedestrian safety.

**RESPONSE:** All off-street parking within the development is for single-family detached residential dwellings, and therefore no off-street marking is proposed or required. Any surface markings within the site will be restricted to that required as part of the proposed public street improvements. This criterion is met.

#### *G. Surface and Drainage*

- 1. All parking and loading areas shall be improved with a permanent hard surface such as asphalt, concrete or a durable pervious surface. Use of pervious paving material is encouraged and preferred where appropriate considering soils, location, anticipated vehicle usage and other pertinent factors.*
- 2. Parking and loading areas shall include storm water drainage facilities approved by the City Engineer or Building Official.*

**RESPONSE:** Each residential dwelling will include a garage with a concrete floor with a typical slope of approximately 2% towards the opening. Driveways will be paved to slope towards the street, away from the garage entrance where it will be collected and diverted into the proposed stormwater management systems within the development, as reviewed and approved by Clean Water Services and the City Engineer or Building Official. This criterion is met.

#### *H. Repairs*

*Parking and loading areas shall be kept clean and in good repair. Breaks in paved surfaces shall be repaired. Broken or splintered wheel stops shall be replaced. Painted parking space boundaries and directional symbols shall be maintained in a readable condition.*

**RESPONSE:** Following construction and final occupancy of each dwelling, maintenance of off-street parking areas will become the responsibility of each individual homeowner. This criterion will be met.

*I. Parking and Loading Plan*

*An off-street parking and loading plan, drawn to scale, shall accompany requests for building permits or site plan approvals, except for single and two-family dwellings, and manufactured homes on residential lots. The plan shall show but not be limited to:*

- 1. Delineation of individual parking and loading spaces and dimensions.*
- 2. Circulation areas necessary to serve parking and loading spaces.*
- 3. Location of accesses to streets, alleys and properties to be served, and any curb cuts.*
- 4. Landscaping as required by Chapter 16.92.*
- 5. Grading and drainage facilities.*
- 6. Signing and bumper guard specifications.*
- 7. Bicycle parking facilities as specified in Section 16.94.020.C.*
- 8. Parking lots more than one (1) acre in size shall provide street-like features including curbs, sidewalks, and street trees or planting strips.*

**RESPONSE:** The subject application is for a subdivision for single family detached residential development. Accordingly, a parking and loading plan is not required, as identified above. These criteria are not applicable.

*J. Parking Districts*

*The City may establish a parking district (i.e., permits or signage) in residential areas in order to protect residential areas from spillover parking generated by adjacent commercial, employment or mixed-use areas, or other uses that generate a high demand for parking. The district request shall be made to the City Manager, who will forward a recommendation to the City Council for a decision.*

**RESPONSE:** The applicant is not aware of any such request establish a parking district within or surrounding the development.

- K. *Structured parking and on-street parking are exempt from the parking space maximums in Section 16.94.020.A. (Ord. No. 2014-012, § 3, 7-17-2014; Ord. No. 2012-008, § 2, 7-17-2012; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; 2000-2001, § 3; Ord. 2000-2001, § 3; Ord. 86-851, § 3)*

**RESPONSE:** Single-family detached residential dwellings are excluded from the minimum and maximum parking standards, as shown in Table 1. No structured parking is proposed.

*16.94.020 - Off-Street Parking Standards*

*A. Generally*

*Where square feet are specified, the area measured shall be the gross building floor area primary to the functioning of the proposed use. Where employees are specified, persons counted shall be those working on the premises, including proprietors, during the largest shift at peak season. Fractional space requirements shall be counted as a whole space. The Review Authority may determine alternate off - street parking and loading requirements for a use not specifically listed in this Section based upon the requirements of comparable uses.*

*Table 1: Minimum and Maximum Parking Standards  
(Metro spaces are based on 1 per 1,000 sq ft of gross leasable area)*

	<i>Minimum Parking Standard</i>	<i>Maximum Permitted Parking Zone A <sup>1</sup></i>	<i>Maximum Permitted Parking Zone B <sup>2</sup></i>
<i>Single, two-family and manufactured home on lot <sup>3</sup></i>	<i>1 per dwelling unit</i>	<i>None</i>	<i>None</i>

<sup>3</sup> *If the street on which the house has direct access does not permit on-street parking or is less than twenty-eight (28) feet wide, two (2) off-street parking spaces are required per single-family residential unit. (includes single-family detached or attached, two-family dwelling or a manufactured home on an individual lot) If the abutting street is twenty-eight (28) feet or wider, one (1) standard (9 ft. × 20 ft.) parking space is required.*

**RESPONSE:** As described previously, in addition to private garage spaces, of which each home is anticipated to contain a minimum of 2 spaces, each dwelling will provide a minimum of one off-street parking space within a driveway, as required per Table 1 above. Single-family detached residential dwellings are excluded from the minimum and maximum parking standards, as shown in Table 1. This criterion is met.

*B. Dimensional and General Configuration Standards*



1. *Dimensions For the purpose of this Chapter, a "parking space" means a stall nine (9) feet in width and twenty (20) feet in length. Up to twenty five (25) percent of required parking spaces may have a minimum dimension of eight (8) feet in width and eighteen (18) feet in length so long as they are signed as compact car stalls.*

2. *Layout*

*Parking space configuration, stall and access aisle size shall be of sufficient width for all vehicle turning and maneuvering. Groups of more than four (4) parking spaces shall be served by a driveway so as to minimize backing movements or other maneuvering within a street, other than an alley. All parking areas shall meet the minimum standards shown in the following table and diagram.*

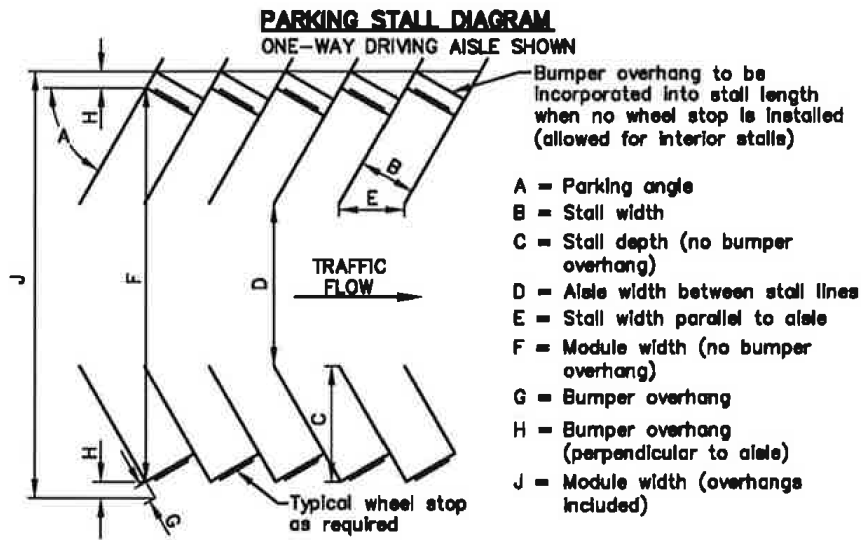


Table 2: Minimum Parking Dimension Requirements  
One-Way Driving Aisle (Dimensions in Feet)

A	B	C	D	E	F	G	H	J
45°	8.0	16.5	13.0	11.3	46.0	3.0	2.5	51.0
	9.0	18.5	12.0	12.7	49.0	3.0	2.5	54.0
60°	8.0	17.0	18.0	9.2	52.0	3.0	2.5	57.0
	9.0	19.5	16.0	10.4	55.0	3.0	2.5	60.0
75°	8.0	16.5	26.0	8.3	59.0	3.0	3.0	65.0
	9.0	19.0	23.0	9.3	61.0	3.0	3.0	67.0

90°	8.0	18.0	26.0	8.0	56.0	3.0	3.0	62.0
	9.0	20.0	24.0	9.0	58.0	3.0	3.0	64.0

*Table 3: Two-Way Driving Aisle  
(Dimensions in Feet)*

A	B	C	D	E	F	G	H	J
45°	8.0	16.5	24.0	11.3	57.0	3.0	2.5	62.0
	9.0	18.5	24.0	12.7	61.0	3.0	2.5	66.0
60°	8.0	17.0	24.0	9.2	58.0	3.0	2.5	63.0
	9.0	19.5	24.0	10.4	63.0	3.0	2.5	68.0
75°	8.0	16.5	26.0	8.3	59.0	3.0	3.0	65.0
	9.0	19.0	24.0	9.3	62.0	3.0	3.0	68.0
90°	8.0	18.0	26.0	8.0	56.0	3.0	3.0	62.0
	9.0	20.0	24.0	9.0	58.0	3.0	3.0	64.0

### 3. Wheel Stops

- a. *Parking spaces along the boundaries of a parking lot or adjacent to interior landscaped areas or sidewalks shall be provided with a wheel stop at least four (4) inches high, located three (3) feet back from the front of the parking stall as shown in the above diagram.*
- b. *Wheel stops adjacent to landscaping, bio-swales or water quality facilities shall be designed to allow storm water runoff.*
- c. *The paved portion of the parking stall length may be reduced by three (3) feet if replaced with three (3) feet of low lying landscape or hardscape in lieu of a wheel stop; however, a curb is still required. In other words, the traditional three-foot vehicle overhang from a wheel stop may be low-lying landscaping rather than an impervious surface.*

### 4. Service Drives

*Service drives shall be clearly and permanently marked and defined through use of rails, fences, walls, or other barriers or markers, and shall have minimum vision clearance area formed by the intersection of the driveway center line, the street right-of-way line, and a straight line joining said lines through points fifteen (15) feet from their intersection.*

## 5. Credit for On-Street Parking

- a. *On-Street Parking Credit. The amount of off-street parking required shall be reduced by one (1) off-street parking space for every on-street parking space adjacent to the development. On-street parking shall follow the established configuration of existing on-street parking, except that angled parking may be allowed for some streets, where permitted by City standards.*
- b. *The following constitutes an on-street parking space:*
  - (1) *Parallel parking, each twenty-four (24) feet of uninterrupted curb;*
  - (2) *Forty-five (45)/sixty (60) degree diagonal, each with ten (10) feet of curb;*
  - (3) *Ninety (90) degree (perpendicular) parking, each with eight (8) feet of curb;*
  - (4) *Curb space must be connected to the lot which contains the use;*
  - (5) *Parking spaces that would not obstruct a required clear vision area, nor any other parking that violates any law or street standard; and;*
  - (6) *On-street parking spaces credited for a specific use may not be used exclusively by that use, but shall be available for general public use at all times. No signs or actions limiting general public use of on-street spaces is permitted.*

**RESPONSE:** The subject application is for a subdivision for single family detached residential development., and does not contain any shared, marked, or public off-street parking areas. These criteria are not applicable.

## 6. Reduction in Required Parking Spaces

*Developments utilizing Engineered storm water bio-swales or those adjacent to environmentally constrained or sensitive areas may reduce the amount of required parking spaces by ten (10) percent when twenty-five (25) through forty-nine (49) parking spaces are required, fifteen (15) percent when fifty (50) and seventy-four (74) parking spaces are required and twenty (20) percent when more than seventy-five (75) parking spaces are required, provided the area that would have been used for parking is maintained as a habitat area or is generally adjacent to an environmentally sensitive or constrained area.*

## 7. *Parking Location and Shared Parking*

*Owners of off-street parking facilities may post a sign indicating that all parking on the site is available only for residents, customers and/or employees, as applicable.*

**RESPONSE:** The applicant is not requesting shared parking or a reduction in required parking spaces. This criterion is not applicable.

### C. *Bicycle Parking Facilities*

#### 1. *General Provisions*

- a. *Applicability. Bicycle parking spaces shall be provided for new development, changes of use, and major renovations, defined as construction valued at twenty-five (25) percent or more of the assessed value of the existing structure.*
- b. *Types of Spaces. Bicycle parking facilities shall be provided in terms of short-term bicycle parking and long-term bicycle parking. Short-term bicycle parking is intended to encourage customers and other visitors to use bicycles by providing a convenient and readily accessible place to park bicycles. Long-term bicycle parking provides employees, students, residents, commuters, and others who generally stay at a site for at least several hours a weather-protected place to park bicycles.*
- c. *Minimum Number of Spaces. The required total minimum number of bicycle parking spaces for each use category is shown in Table 4, Minimum Required Bicycle Parking Spaces.*
- d. *Minimum Number of Long-term Spaces. If a development is required to provide eight (8) or more required bicycle parking spaces in Table 4, at least twenty-five (25) percent shall be provided as long-term bicycle with a minimum of one (1) long-term bicycle parking space.*
- e. *Multiple Uses. When there are two or more primary uses on a site, the required bicycle parking for the site is the sum of the required bicycle parking for the individual primary uses.*

#### 2. *Location and Design.*

##### a. *General Provisions*

- (1) *Each space must be at least two (2) feet by six (6) feet in area, be accessible without moving another bicycle, and provide enough space between the rack and any obstructions to use the space properly.*
- (2) *There must be an aisle at least five (5) feet wide behind all required bicycle parking to allow room for bicycle maneuvering. Where the bicycle parking is adjacent to a sidewalk, the maneuvering area may extend into the right-of-way.*
- (3) *Lighting. Bicycle parking shall be at least as well lit as vehicle parking for security.*
- (4) *Reserved Areas. Areas set aside for bicycle parking shall be clearly marked and reserved for bicycle parking only.*
- (5) *Bicycle parking in the Old Town Overlay District can be located on the sidewalk within the right-of-way. A standard inverted "U shaped" or staple design is appropriate. Alternative, creative designs are strongly encouraged.*
- (6) *Hazards. Bicycle parking shall not impede or create a hazard to pedestrians. Parking areas shall be located so as to not conflict with vision clearance standards.*

*b. Short-term Bicycle Parking*

- (1) *Provide lockers or racks that meet the standards of this section.*
- (2) *Locate inside or outside the building within thirty (30) feet of the main entrance to the building or at least as close as the nearest vehicle parking space, whichever is closer.*

*c. Long-term Bicycle Parking*

- (1) *Provide racks, storage rooms, or lockers in areas that are secure or monitored (e.g., visible to employees or customers or monitored by security guards).*
- (2) *Locate the outside bicycle parking spaces within one hundred (100) feet of the entrance that will be accessed by the intended users.*
- (3) *All of the spaces shall be covered.*

*d. Covered Parking (Weather Protection)*

- (1) *When required, covered bicycle parking shall be provided in one (1) of the following ways: inside*

- buildings, under roof overhangs or awnings, in bicycle lockers, or within or under other structures.*
- (2) *Where required covered bicycle parking is not within a building or locker, the cover must be permanent and designed to protect the bicycle from rainfall and provide seven-foot minimum overhead clearance.*
  - (3) *Where required bicycle parking is provided in lockers, the lockers shall be securely anchored.*

*Table 4: Minimum Required Bicycle Parking Spaces*

<i>Use Categories</i>	<i>Minimum Required Spaces</i>
<i>Residential Categories</i>	
<i>Household living</i>	<i>Multi-dwelling — 2 or 1 per 10 auto spaces. All other residential structure types — None</i>

*(Ord. No. 2018-007, § 2, 10-2-2018; Ord. No. 2015-003, § 2, 3-17-2015; Ord. No. 2014-012, § 3, 7-17-2014; Ord. No. 2012-008, § 2, 7-17-2012; Ord. No. 2010-015, § 2, 10-5-2010; Ord. 2006-021; 2005-009 § 8; Ord. 2000-2001 § 3; Ord. 86-851 § 3)*

**RESPONSE:** The subject application is for a subdivision for single family detached residential development., and as such is not required to provide specified bicycle parking pursuant to Table 4. These criteria are not applicable. However, it is noted that each dwelling will include an attached garage, which typically provides the opportunity for residential bicycle parking.

*16.94.030 - Off-Street Loading Standards*

*A. Minimum Standards*

- 1. A driveway designed for continuous forward flow of passenger vehicles for the purpose of loading and unloading passengers shall be located on the site of any school, or other public meeting place, which is designed to accommodate more than twenty five (25) persons at one time.*
- 2. The minimum loading area for non-residential uses shall not be less than ten (10) feet in width by twenty-five (25) feet in length and shall have an unobstructed height of fourteen (14) feet.*
- 3. Multiple uses on the same parcel or adjacent parcels may utilize the same loading area if it is shown in the development application that the uses will not have substantially overlapping delivery times.*

4. *The following additional minimum loading space is required for buildings in excess of twenty thousand (20,000) square feet of gross floor area:*
  - a. *Twenty thousand (20,000) to fifty (50,000) sq. ft. - five hundred (500) sq. ft.*
  - b. *Fifty (50,000) sq. ft. or more - seven hundred fifty (750) sq. ft.*

*B. Separation of Areas*

*Any area to be used for the maneuvering of delivery vehicles and the unloading or loading of materials shall be separated from designated off-street parking areas and designed to prevent the encroachment of delivery vehicles onto off-street parking areas or public streets. Off-street parking areas used to fulfill the requirements of this Chapter shall not be used for loading and unloading operations.*

*C. Exceptions and Adjustments.*

*The review authority, through Site Plan Review, may approve loading areas within a street right-of-way in the Old Town Overlay District when all of the following conditions are met:*

1. *Short in duration (i.e., less than one (1) hour);*
2. *Infrequent (less than three (3) operations occur daily between 5:00 a.m. and 12:00 a.m. or all operations occur between 12:00 a.m. and 5:00 a.m. at a location that is not adjacent to a residential zone);*
3. *Does not unreasonably obstruct traffic; [or] Does not obstruct traffic during peak traffic hours;*
4. *Does not obstruct a primary emergency response route; and*
5. *Is acceptable to the applicable roadway authority.*  
*(Ord. No. 2014-012, § 3, 7-17-2014; Ord. No. 2012-008, § 2, 7-17-2012; Ord. No. 2010-015, § 2, 10-5-2010; Ord. No. 2009-005, § 2, 6-2-2009; Ord. 86-851, § 3)*

**RESPONSE:** The subject application is for a subdivision for single family detached residential development. The site does not include a *school or other public meeting place, non-residential uses, or buildings in excess of twenty thousand (20,000) square feet of gross floor area.* However, it is noted that each dwelling will include an attached garage, which typically provides the opportunity for residential bicycle parking.

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 Middlebrook Subdivision to the west and north and the Reserve at Cedar Creek Subdivision to the east, and SW Brookman Road. Sidewalks meeting city standards will be built adjacent to both sides of the extension of SW Wapato Lake Drive. 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 25 and 28, 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 25 and 28, which each have significant public street frontage, will access the extension of SW Wapato Lake Drive over individual private street tracts, 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 the proposed extension of SW Wapato Lake Drive, a local public street. 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 to provide off-street parking for each lot, 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 25 and 28, 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 25 and 28, which each have significant public street frontage, will access the

extension of SW Wapato Lake Drive over individual private street tracts, 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. 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:** The street within the proposed plat will be an extension of an already approved named street, being SW Wapato Lake Drive, and this name is shown on the proposed plat. 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 within the proposed plat will be an extension of an already approved named street, being SW Wapato Lake Drive, and this name is shown on the proposed plat. These criteria are met. 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 street is 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, and the street will be widened an additional 28 feet to create 37 feet of paving to centerline. The new local street extension is 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 local street extension of SW Wapato Lake Drive is planned to be constructed to City standards with a total pavement width of 28 feet, which is less than 40 feet, but more than the minimum required 22 feet of driving surface. 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 P7, P8 and P9, 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 required along SW Brookman Road. However, the applicant will provide fee-in-lieu or physical improvements 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. 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 Wapato Lake Drive, SW Trillium Road) 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, and it is considered that the street connection of SW White Oak Terrace within the approved Middlebrook Subdivision effectively serves as the connection indicated in Figure 18, particularly given arterial access spacing restrictions on SW Brookman Road. Further, an additional north-south connection through the site is not practicable due to the location of significant natural resources bisecting the site. Therefore, this criterion is met.

- 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 through SW White Oak Terrace (Middlebrook Subdivision), and existing streets will be extended through (SW Wapato Lake Drive) and/or across the frontage of the site (SW Trillium Road). 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 interior block is created as part of this development, being SW Wapato Lake Drive between SW Trillium Lane in the north and SW White Oak Terrace in the west. As measured along the nearside right-of-way line, the proposed block length is approximately 745 feet. However, it is noted that due to the location of significant natural resources on the property, the block face generally forms the continuous hypotenuse of a triangular block as created and anticipated as part of the Middlebrook Subdivision approval. If measuring block length along the predominantly east-west versus north-south sections, block lengths measure approximately 506 feet and 239 feet respectively, in compliance with the requirements of this section. There are no blocks created along SW Brookman Road due to the location of significant natural resources and arterial access spacing restrictions. 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 does not involve a street crossing of Cedar Creek, the significant natural water resource on the site. This criterion does not apply.

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:** A vehicular block cannot be formed to the south to connect SW Wapato Lake Drive to SW Brookman Road due to the location of Cedar Creek and its associated Flood Plain, however a pedestrian and bicycle connection has been provided between the two separate portions of the site via an existing driveway crossing at the south eastern corner of the site. Therefore, this criterion has been met.

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:** Street connections cannot be created between the northern portion of the site and SW Brookman Road, due to the location of Cedar Creek and its associated flood plains bifurcating the site into northern and southern sections. Street connections are made to the east of the site through the Middlebrook Subdivision. 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.*

	<b>Classification</b>	<b>Additional Setback</b>
<b>2.</b>	<b>Arterial</b>	<b>37 feet</b>
<b>5.</b>	<b>Local</b>	<b>26 feet</b>

**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 stub of SW Wapato Lake Drive to the west and the ¾ section of SW Trillium Road along the northern property frontage, both from the Middlebrook subdivision, and which will both be improved with the required 52 feet of right-of-way for a full local street section. 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, therefore this criterion is met. Both street intersections created are located as proposed through the approved Middlebrook Subdivision.

*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:** The site is not located such that additional or future access to adjoining properties is required. To the west, the development proposes to extend the approved stub of SW Wapato Lake Drive from the Middlebrook Subdivision; to the north, the approved  $\frac{3}{4}$  section of SW Trillium Road will be expanded to its full section; to the east no connections are provided or required to the Reserve at Cedar Creek development due to the location of significant natural resources, with the exception of a pedestrian trail to link to a proposed trail within that development; and to the south of the site is the SW Brookman Road right-of-way, which will be improved to a County arterial standard. This criterion is satisfied.

*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:** At the west end of the site, SW Wapato Lake Drive will be extended from an existing street stub, and will therefore meet this requirement. At the north east corner, SW Wapato Lake Drive will intersect with SW Trillium Road as aligned with the northern portion of SW Wapato Lake Drive. Due to the location of significant natural resources and efficient use of the site, the angle of this intersection will be less than 90 degrees, intersection SW Trillium Road as close to 90 degrees as practicable. Additional right-of-way and corner radius are provided to ease right in turns from east bound SW Trillium Road. 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 180 feet of resource area located within Tract B. 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 April 8, 2020. 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 12 intersections (10 existing and 2 future) included in the TIA are identical to the Middlebrook and Reserve at Cedar Creek Subdivision studies for consistency; 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 respective 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 \$48,207.49 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. Both street access points, including the east and west ends of the extension of SW Wapato Lake Drive, meet the required City access spacing standards, and

are located generally as shown on plans submitted and approved with the Middlebrook Subdivision. The development will access SW Brookman Road via SW White Oak Terrace, which was also proposed and approved through the Middlebrook Subdivision. 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 two private streets, located in each of Tracts C and D. Each private street will serve one single-family dwelling, and will be maintained, identified and recorded as required above. 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 SW Wapato Lake Drive, and along the site frontage with SW Trillium Road. A 10-foot wide sidewalk will be provided along the subject site's frontage of SW Brookman Road. 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 is proposed 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 edge of the resource area, with connections to the east to the Reserve at Cedar Creek development; to the south across the existing driveway crossing to SW Brookman Road; and to the north and west to the proposed SW Wapato Lake Drive extension. Further, a pedestrian and bicycle easement are provided to connect SW Trillium Lane and SW Wapato Lake Drive, located between Lots 6 and 7, and 14 and 15. 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 April 8, 2020. 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 and the Reserve at Cedar Creek application. The study intersections and requirements are the same as was required for the Middlebrook Residential Subdivision, and the Reserve 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 Clean Water Services is currently working to design and construct a trunk sewer main that will serve the Brookman Addition Concept Plan area, including this project area and the neighboring Middlebrook Subdivision. 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:** Clean Water Services is currently working to design and construct a trunk sewer main that will serve the Brookman Addition Concept Plan area, including this project area and the neighboring Middlebrook and Reserve at Cedar Creek 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 P10). These improvements are shown to be extended from the proposed Middlebrook subdivision, and have been appropriately sized and designed to meet all applicable standards. 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, including extension of a public water line within the SW Brookman Road RoW frontage. 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 facility, as shown on the preliminary plan set and identified as Tract E, have been appropriately sized and designed in accordance with all applicable City, State, DEQ and CWS standards. 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 Tract E using water quality swales, 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 are encumbered by an 8-foot wide public utility easement along the adjacent street frontage, where these lots abut a local public street. 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 two private streets, with one located in each of Tracts C and D. Each private street will serve one single-family dwellings, and will be maintained, identified and recorded as required above. 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 2, 9, 10, 13, 26, and 27) do not meet the 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 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 only approximately 6% below the minimum lot size at 4,722 square feet (Lot 27), 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 P4, Conceptual Building Setback Plan, of the submitted plan set. All of the 28 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.*



*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, biologists report, and geotechnical 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 SW Wapato Lake Drive between SW Trillium Lane in the north and SW White Oak Terrace in the west. As measured along the nearside right-of-way line, the proposed block length is approximately 745 feet. However, it is noted that due to the location of significant natural resources on the property, the block face generally forms the continuous hypotenuse of a triangular block as created and anticipated as part of the Middlebrook Subdivision approval. If measuring block length along the predominantly east-west versus north-south sections, block lengths measure approximately 506 feet and 239 feet respectively, in compliance with the requirements of this section. Similarly, the development constitutes the completion of the existing block created by the Middlebrook Subdivision located along SW Trillium Lane. Again, given the nature of the development, and the approved configuration dictated by the Middlebrook Subdivision, it is not considered practical to create a mid-block vehicular connection south of SW Trillium Lane. However, as noted in response to Section 16.128.20 below, a pedestrian connection matching that approved on the north side of SW Trillium Lane with the Middlebrook Subdivision is provided here, extending south between SW Trillium Lane and SW Wapato Lake Drive. The existing southern block of SW Wapato Lake Drive meets the block length standards as described above, while access to the public trail system is conveniently provided at the intersection of SW Wapato Lake Drive and SW Trillium Street. This meets the requirement that block lengths “*Generally*”, shall not exceed five-hundred thirty feet. There are no blocks created along SW Brookman Road due to the location of significant natural resources and arterial access spacing restrictions. 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. An 8-foot-wide public utility easement is provided along the frontage of the lots to accommodate necessary franchise utilities. Further, a public utility easement is located over Tracts B and E, as well as over Tracts C and D, where appropriate for public utilities. Final easement locations will be determined in conjunction with the appropriate service providers based on the approved engineering designs and construction of the sewer trunk lines. 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 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. It is anticipated that the Tract in its 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 Trillium Lane and the extension of SW Wapato Lake Drive, and a community trail located along the north side of the Cedar Creek significant natural resource area. Connections to the Community Trail are provided

at the east and west ends of SW Wapato Lake Drive, with a direct connection to SW Brookman Road provided in the southwest corner of the site. To the east, the Community Trail will connect directly to the Community Trail 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.

Additionally, as shown on the plan set submitted with this application, a pedestrian and bicycle accessway is provided between Lots 6/7 and 14/15 to connect SW Trillium Lane to SW Wapato Lake Drive, and reduce the block length for pedestrians and bicyclists per the requirements of this Section. The Middlebrook Subdivision was approved to provide a 15 ft. wide pedestrian access easement between its Lots 122/123 and 134/135 north of SW Trillium Lane, and this pedestrian easement will provide a continuous connection south to SW Wapato Lake Drive, and ultimately beyond to SW Brookman Road via the proposed Community Trail. 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 does not include any double frontage or reversed frontage lots. Therefore, this criterion does not apply.

*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, with the exception of Lots 25 and 28, which have street side lot lines, with access from small private street tracts running from the frontage street. These lots are oriented in this fashion due to the location of significant natural resources on the site, which compresses the lots at these locations such that appropriate lot depth can only be achieved through the use of a street side yard. 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 P6. 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 topography slopes from the north and south ends towards the interior of the site along the Cedar Creek riparian corridor, which flows from west to east near the south eastern corner of the site, and which separates the proposed development area in the north from SW Brookman Road to the south. The forested slopes from Cedar Creek and the small tributary in the south end range from 20 percent to 42 percent. The topography at the north end is generally flat within the pasture areas with a small depression in the northwest corner. 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 south west corner of the site adjacent to SW Brookman Road is approximately 178.7 feet above MSL. The lowest elevation on the site is approximately 170 feet, at the northeastern corner. 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. Pedestrian and bicycle trails within the flood plain will utilize existing formed hard surface areas, including the crossing of Cedar Creek, which will utilize the existing driveway culvert crossing. Uses in the floodplain area will be limited to the pedestrian and bicycle trail, 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 water and sanitary sewer will be constructed within the area of the Cedar Creek flood plain. All water supply and 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 Site within the City of Sherwood Municipal Code, the net developable area of the site is approximately 166,919 square feet (3.83 acres), and accordingly this section requires the creation of 5% of the net buildable area, or 8,346 square feet (0.19 acres), of open space. The development, as illustrated on the Conceptual Open Space Plan (Sheet P5), is currently shown to include approximately 32,069 square feet (19.2% of net buildable area/0.74 acres) 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 850 square feet to accommodate the requirements of Section 16.144.030.B.1., for a total additional open space provision of 31,219 square feet (18.7% of net buildable area/0.72 acres)

The additional 31,219 square feet of open space areas are located within Tract B, including the pedestrian paths located adjacent to, but outside of, the natural resource areas associated with Cedar Creek, and the pocket park area at the north east corner of the site. An additional pocket park is located within Tract A. 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 0.25 lineal miles of pedestrian trails, not counting sidewalks, accessible to both residents and the wider community. The proposed pedestrian connection between SW Trillium Lane and SW Wapato Lake Drive is not included in these numbers, as it is otherwise required by the code to meet connectivity requirements. Due to the creek crossing

between the northern portion of the site and SW Brookman Road, 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, C, D, E, and F 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 19.2% 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 Tract B (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 G 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 and woodland inventory, prepared by Morgan Holen & Associates, Inc, dated March 22, 2020, with this application. As described in the Arborist Report, a Visual Tree Assessment (VTA) was performed on the 351 individual trees surveyed across the site, looking for defect symptoms and evaluating overall condition and vitality of individual trees. The individual surveyed trees were evaluated in terms of species, diameter, crown radius, general condition and potential construction impacts.

Beyond the individual tree survey area and within the mapped vegetated corridor where no development is proposed, existing trees were not surveyed. This area does not meet the City's definition of woodland because there are fewer than 50 trees per 20,000 square feet. Regardless, the area is unaffected by the proposed development, and discussions with City staff confirmed that the area could be described more generally without individual tree data. A summary of trees in the unaffected area of the vegetated corridor is enclosed and no canopy credit is accounted for since these trees are located beyond the net development site. 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 (Sheet P2) and Tree Preservation and Removal Plan (Sheet P3), and within the revised Arborist Report (May 27, 2020), there are 351 trees located on the subject site. Of these, 177 trees (approximately 50%) are slated for removal, including 73 trees within proposed building lots, 52 trees within the proposed new street and sidewalks, 15 trees within the proposed water quality facility, 27 trees within the proposed trail alignment or along the associated retaining wall, 2 trees in proposed open space areas that are not suitable for preservation because of poor condition or structure (#6687 and #7240); One tree on the northern boundary (#14125) and one tree located just off-site near the northern boundary (#14124) for proposed sidewalk construction; 2 trees are planned for removal from the right of way in the southwest corner of the site for proposed grading and trail construction (#6687 and #7240); and 4 trees are planned for removal from the vegetated corridor including two decrepit Lombardy poplars (*Populus nigra*) (#6146 and #30210), one invasive English hawthorn (*Crataegus monogyna*) (#6140), and one Douglas-fir (#6681) along the proposed retaining wall alignment of the proposed trail.

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 Morgan Holen & Associates and Pioneer Design Group consulted on recommended adjustments, specifically to the proposed trail alignment and retaining wall construction as feasible, 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  $\pi r^2$  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 (Sheet P3) and Preliminary Street Tree and Open Space Planting Plan (L1), in combination with the submitted Arborist Report, demonstrate that an approximately 47% canopy coverage of the net development site will be provided, in excess of the 40% requirement.

As described in greater detail in the Arborist Report, and subsequent revision dated May 27, 2020, using the criteria described above and the locations of the trees relative to grading, paving, construction, and other site improvements, site wide 177 trees will be removed and 170 trees will be retained (another 2 trees will either likely be retained, and 2 will be used to create snags). Of the retained trees, 13 will be located on-site outside of environmentally constrained areas, with a total combined canopy area of 5,634 square feet (not including the tree likely retained within the net developable area). Since retained trees receive double canopy credit, the credit from preservation of the trees is 11,268 square feet. This represents 6.75% of the final net buildable area of 166,919 square feet<sup>1</sup>. The minimum canopy requirement for residential development is 40%, or 66,768 square feet, for an additional 55,500 square feet (33.25%) of canopy cover required. Pioneer Design Group's Registered Landscape Architect developed the proposed planting plan for new trees on-site. Sheet L2 provides the canopy credit calculation for 48 proposed street trees, which totals 62,409 square feet of canopy. Therefore, the minimum required tree canopy is satisfied (11,268 retained + 62,409 planted = 73,677 / 166,919 = 44.14%). In addition, numerous other trees are proposed for planting in open space tracts and the storm water facility.

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  $\pi r^2$  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.*

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<sup>1</sup> Following completion of the revised arborists report, the Net Developable Area of the site was revised down from 176,001 square feet to 166,919 square feet

*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 28-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 spaces areas to be retained. The trees within these areas are planned to be protected and retained within Tract B. These criteria are met.

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. The trees within these areas are planned to be protected and retained within Tract B, as described above. These criteria are met.

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 applicant's submitted geotechnical report demonstrates that additional tree preservation is not necessary for soil stability or erosion control. 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.

- 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 Tract B. Therefore, additional tree protection is not necessary.

- 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, and additional upland areas. The result is the preservation of a significant tree stand through the center of the site, preserved within Tract B. There are no known historic association or species located on the site. Wildlife habitat preservation is also provided through the preservation of natural areas within Tract B.

- 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.

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 a Preliminary Tree Plan including tree protection recommendations, prepared by Morgan Holen & Associates, Inc, dated March 22, 2020, 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:** ESA have identified two primary wetland areas on the site: Wetland A, and seven small wetlands associated with Cedar Creek.

Wetland A is a Palustrine Forested Broad-leaved Deciduous seasonally flooded (PFO1C) wetland, totaling 10,582 square feet (0.24 acres). Topography indicates this wetland is associated with the area historically created where Cedar Creek and the tributary converged in the southwest site corner, prior to construction of SW Brookman Road. The wetland determination data plots associated with Wetland A are DP-14 through DP-17, within Appendix C of the ESA Site Assessment.

The plant community located within and adjacent to Wetland A is Oregon Ash canopy cover with Red-Osier Dogwood (*Cornus sericea*) in the shrub strata and dense Slough sedge) in the herbaceous layer.

Wetland hydrology is through collection of overland flow from the onsite tributary, seasonal surface water ponding, and high seasonal groundwater. Hydric soils met Redox Dark Surface (F6) indicator.

The Cedar Creek Wetlands are a series of seven small Palustrine Forested Broad-leaved Deciduous seasonally flooded (PFO1C) wetlands, totaling 11,577 square feet (0.26 acres), and are in the south-central, southeast and eastern area of the site. The wetlands are located both east and west of the Cedar Creek channel, all within 80-feet. In the four wetland areas east of the creek in the southeast site corner at the toe of the forested slope, the vegetation is primarily mature Oregon Ash with dense patches of Slough Sedge. There are four small functional wetland areas, surrounded by riparian habitat. Shrub cover within and along the wetlands includes, Osoberry, Wild Gooseberry, and Red-Osier Dogwood. Other tree cover in the southeast site corner within the floodplain includes Douglas fir, Wild Cherry (*Prunus avium*) and Douglas Hawthorn.

In the three wetland areas west of Cedar Creek in the south-central and eastern portion of the site, the canopy is Oregon Ash with Red-Osier Dogwood in the understory and dense Slough Sedge in the herbaceous layer. Within one of the wetland areas associated with Cedar Creek is a mature Douglas Fir with a buttressed base, a morphological adaptation indicating long term inundation in this area.

The hydric soils met Redox Dark Surface (F6) indicators. The wetland determination data plots associated with the Cedar Creek Wetlands are DP-2 through DP-8 and DP-10 through DP-13, within Appendix C of the ESA Site Assessment.

The proposed facility is located in the southwestern area of the site, between the proposed extension of SW Wapato Lake Drive and the vegetated corridor north of Cedar Creek and its associated wetlands. The facility is separated from and located outside of the wetlands and other sensitive areas and meets the requirements of CWS R&O 19-22, as demonstrated by CWS service provider letter 20-000663 issued for the development, and included with this application.

- 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 Amended CWS service provider letter 20-000663 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 CWS service provider letter 20-000663, 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 discussed above, no wetland impacts will result from the subdivision development. 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. However, any potential impacts to the vegetated corridor due to the road dedication will 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. CWS service provider letter 20-000663 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 38,964 square feet, with an additional Vegetated Corridor (VC) of approximately 141,230 square feet. The VC width for most of the corridor along wetland A, Cedar Creek, and the associated Cedar Creek Wetlands is 50 feet in areas of less than 25% slopes. There are several areas onsite where slopes are greater than 25%. For these areas, a break in slope line was determined based on CWS methodology (R&O 19-22). All areas with steep slopes are within



good condition corridor, so the 35-foot off-set from the slope break is used. The VC for the northern most wetland is 25 feet based on less than 25% slopes and the wetland being under 0.5 acres. The slope break was determined using the surveyed base topographic map.

The VC in the southwest site corner along the tributary (VC-1) is in good condition despite a dense herbaceous layer of primarily English Ivy between the tributary and SW Brookman Road. VC east and west of the Cedar Creek channel within the floodplain is in good condition, with mature Oregon Ash, Western Beaked Hazelnut and Osoberry throughout and patches of dense Piggy Back Plant (*Tolmiea menziesii*) in the herbaceous layer (VC-3 to VC-6). In the southeast site corner, the VC adjacent to the wetland areas is in good condition (Photo 3) and plant community shifts to Douglas Fir and Serviceberry with Swordfern in the understory as the slopes increase towards SW Brookman Road (VC-7). The corridor adjacent to the constructed channel in the SW Brookman Road ROW is in good condition (VC-2).

There is extensive English Ivy cover from the driveway between SW Brookman Road and the tributary in the forested areas extending into the VC associated with wetland A in the southwest corner. The remainder of the riparian and wetland areas of the site have low percent relative cover of invasive and non-native plants.

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 along the south end of the site, preserved within Tract B. Evidence of the appropriateness of Tract B 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 Plan (Sheet P5) 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, 20-000663, 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 *Riverside Homes Brookman Road – CWS Site 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 Lot 27 at 4,722 square feet), and to reduce the lot width at the building line from 50 feet to 45 feet (Lots 1 – 10, 13 – 20, and 22 - 24).

In total, 5 of the 28 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 24,150 square feet, against a

minimum of 25,000 square feet for 5 standard 5,000 square foot lots. Accordingly, the 850 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 described in the ESA report and site plans submitted with the application, a total of 38,964 square feet of Sensitive Area and 141,230 square feet of Vegetated Corridor exists on the site, and is required to be preserved and protected from future development. In addition, when eliminating overlapping areas, a further 1,486 square feet of 100-year flood plain exists, and 8,346 square feet (5% of the net buildable area of the site) of open space is required pursuant to Section 16.142.030 for a total area of 190,026 square feet required to be provided.

As indicated on the Preliminary Plat (Sheet P1), 203,158 square feet of open space area is proposed to be designated for inclusion and protection within Tract B. This equates to 13,132 square feet of open space not otherwise required by this Code, which far exceeds the minimum of an additional 850 square feet required by this Section. This requirement 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 generally east-west in orientation, resulting in a majority of the lots including a front lot line on a generally east-west axis, and a lot depth of over 90 feet, to maximize solar gain on the south building wall. In all, 25 Lots 1 – 25) of the 28 lots on the site achieve sufficient solar access or approximately 89%, 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 Municipal Code. Accordingly, the applicant respectfully requests approval of the 28-Lot subdivision, “Riverside at Cedar Creek, as submitted.