



**CITY OF CORNELIUS
COMMUNITY DEVELOPMENT
PLANNING COMMISSION ADOPTED STAFF REPORT**

**LAUREL GARDEN ZONING MAP AMENDMENT
Land Use File No. ZC-01-24**

**Planning Commission Hearing: January 28, 2025, *Hearing opened and
immediately continued to February 11, 2025***

Staff Report Date: January 31, 2025

Request: A Type III Zoning Map Amendment (ZC-01-24) application for a zoning map amendment from County FD-20 to City of Cornelius Low Density Residential (R-7) zone and Multi-Unit Residential (A-2) zone.

Applicant's

Representative: Melissa Slotemaker, AICP, AKS Engineering

Applicant: The Holt Group, INC.

Property Owner: Hering Family Joint Trust

Location: NW Corner of SW345th Avenue and SW Cook Street

Map: T01 S, R03 W, Map 02C, Tax Lot #400

Applicable Review Criteria: Cornelius Municipal Code (CMC) 18.10 & 18.15 (Application & Review Procedures), CMC 18.20 Low-Density Residential Zone (R-7), CMC 18.35 Multi-Unit Residential (A-2), CMC 18.125 (Amendment to the Zoning Ordinance), Statewide Planning Goals.

Process: The Zoning Map Amendment proposal (ZC-01-24) was initiated by the applicant on behalf of the property owner. The applicant has filed an application with the Community Development Department on forms prescribed by the Community Development Director or designee. Before taking final action on the proposed amendments, the Planning Commission (Commission) shall hold a public hearing. The Commission shall recommend to the City Council (Council) approval, disapproval, or modification of the proposed amendments. A public hearing has been scheduled before the City Council on this matter on March 3, 2025. The Council shall consider the matter via adoption of an Ordinance.

APPEAL RIGHTS

The Planning Commission will make a recommendation to the City Council concerning the request and the Council will make a decision. Any appeal of a decision by Council shall be made to the State Land Use Board of Appeals (LUBA) per ORS 197.830. For an issue to be considered for

appeal to LUBA, it must be raised before the close of the record of the public hearing. Such issues must be raised with sufficient specificity so as to afford the hearing body and the parties an adequate opportunity to respond to each issue. If there is no continuance granted at the hearing, any participant in the hearing may request that the record remain open for at least seven days after the hearing.

BASIC FACTS AND BACKGROUND INFORMATION

1. The site is located west of SW 345th Avenue and north of SW Cook Street and immediately south of Laurel Woods Subdivision Phases 8 and 9 in the City of Cornelius.
2. The subject property (Site) consists of a single tax lot approximately 7.60 acres.
3. The subject property is currently zoned by Washington County as FD-20 (Future Development 20 Acres).
4. The Site is located within the UGB is designated as a mix of Low Density Residential and Medium Density Residential approved by the City Council via Ordinance #2015-06.
5. The Site is vacant.
6. The applicant and property owner are requesting a Type III Zoning Map Amendment (ZC-01-24) for a property recently annexed into the Cornelius City Limits from County FD-20 to City of Cornelius Single Unit Residential (R-7) zone and City of Cornelius Multi-Unit (A-2) (see Applicant's Submittal, Exhibit B, within Staff Report Attachment 1).
7. On September 3, 2024 the applicant held the required neighborhood meeting. There were 6 attendees present that were not associated with the project (see Applicant's Submittal, Exhibit H, within Staff Report Attachment 1).
8. The Expedited Annexation had been approved by the City Council and became effective on November 8, 2024, (see Staff Report Attachment 4).
9. On December 20, 2024, staff provided the Oregon Department of Land and Conservation (DLCDC) with a required notice of the proposal and the date of the first evidentiary hearing, January 28, 2025 (see Staff Report Attachment 2).
10. On January 2, 2025, Public Notice of the proposal was published in the local newspaper (Forest Grove News Times) regarding the application and upcoming public hearing at Planning Commission on January 28, 2025, and City Council on March, 3 2025, (see Staff Report Attachment 2).
11. On December 26, 2025, Public Notice was mailed to property owners within 250 feet of the Site regarding the application and scheduled public hearings (see Staff Report Attachment 2).

12. On December 26, 2025, Notice of the proposed zone change was provided to affected agencies (see Staff Report Attachment 2).
13. As of this date, the city has received no public comments regarding the proposal.
14. As of this date, the City Engineer has submitted comments regarding the proposal, which are found in Staff Report Attachment 3.

FINDINGS OF FACT

18.10 Application Procedure

18.10.030 Neighborhood review meeting.

(A) Prior to submittal of a Type III request which requires review by the planning commission, and for the application to be complete, the applicant shall provide an opportunity to meet with neighboring property owners, residents and businesses by conducting a neighborhood review meeting.

(B) The purpose of the neighborhood review meeting is to allow the neighbors and residents to become familiar with the proposal and to identify any issues which may be associated with an application. The intention of the meeting is for submittal of an application that is more responsive to neighborhood concerns, reducing the likelihood for delays and appeals of the application.

(C) The applicant shall send by regular mail a written notice announcing the neighborhood review meeting to the community development director and property owners within 250 feet of the subject property. The notice shall include the date, time and location of the meeting and a brief description of the nature and location of the proposal. The neighborhood review meeting must be held at an accessible location within the Cornelius city limits. The notice shall be deposited in the mail in the city, not less than 20 days prior to the required neighborhood review meeting.

(D) At the neighborhood review meeting, the applicant shall present the proposed application to the neighbors in attendance.

(E) The applicant shall not be required to hold more than one neighborhood review meeting provided such meeting is held within 189 days prior to submitting a land use or design review application for one specific site.

Findings: The Applicant's Exhibit H, within Staff Report Attachment 1, reports on the Neighborhood Review Meeting.

18.10.040. Application documents.

Findings: The applicant submitted all required documents through multiple submittals. They are found within Staff Report Attachment 1.

18.10.050. Complete submittal required.

Findings: The application was deemed complete on December 19, 2024.

18.10.060. Application Fees.

Findings: The applicant paid all fees on November 25, 2024.

ZONING MAP AMENDMENT REVIEW CRITERIA

Section 18.125.10(C), Approval Criteria:

1. *The proposal conforms with the City's Comprehensive Plan.*

Findings: The applicant is requesting an amendment of the Zoning Map from County Future Development (FD-20) to City Low Density Residential (R-7) and Multi-Unit Residential (A-2). The proposed zoning designations conform with the Low-Density Residential and Medium Density Residential Comprehensive Plan designations as approved through Ordinance 2015-06. Staff concludes this criterion is met.

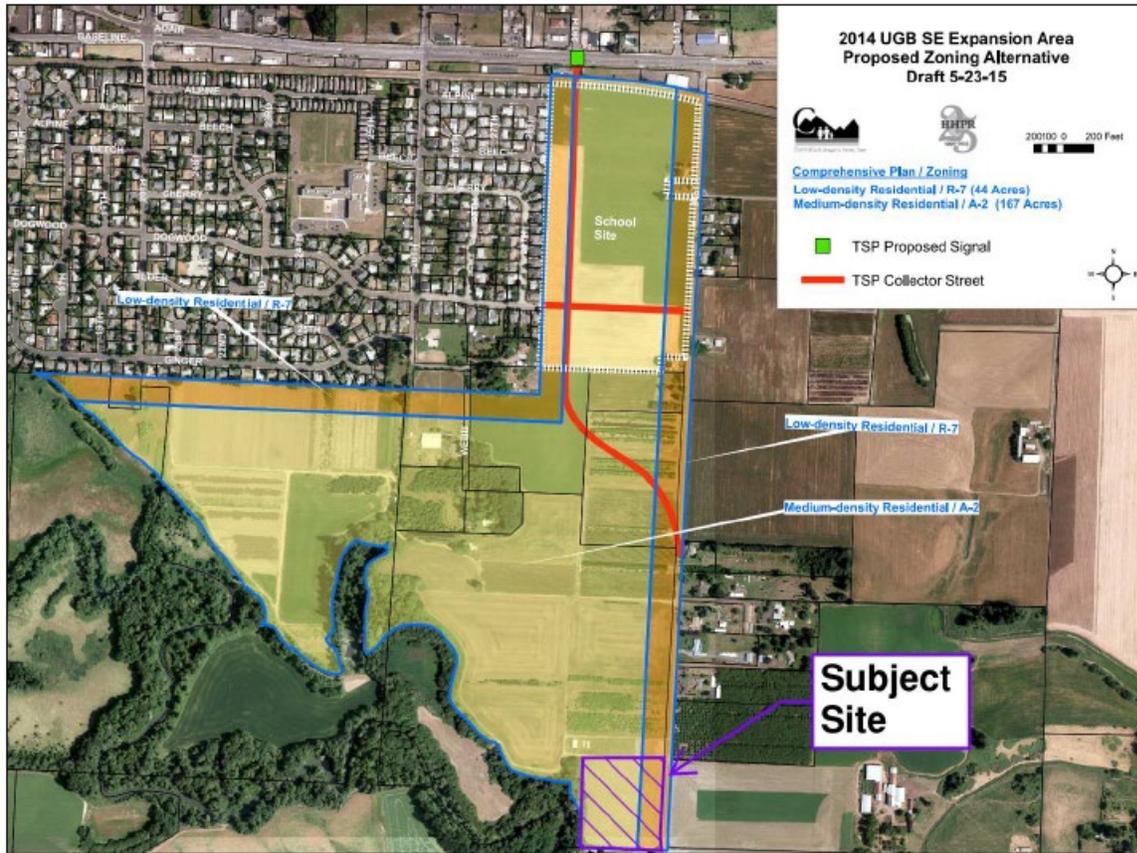
2. *The permitted uses of the proposed new zone will not materially and/or adversely affect the character of the neighborhood.*

Findings: The tax lot is bounded to the north by the Laurel Woods subdivision, to the east by SW 345th Avenue and agricultural uses, to the south by agricultural uses and to the west by City-owned property (Vegetated Corridor and Water Quality and Quantity Facility from the Laurel Woods subdivision) and the Tualatin River. The proposed zoning conforms to the zoning established with Ordinance #2015-06 for the Laurel Woods Subdivision and this Site. Consequently, development on this property will be similar to that of the Laurel Woods Subdivision.

In the future any proposed development of the subject property shall be required to conform to the Low Density Residential (R-7) and Multi-Unit Residential (A-2) zoning districts. With conformance to the R-7 and A-2 standards the newly annexed area will be of the same character of the abutting Laurel Woods subdivision. The new zone will not materially and/or adversely affect these developed lots. Staff concludes this criterion is met.

3. *The proposal will place all property similarly situated in the area in the same zoning category or in appropriate complementary categories, without creating a "spot zone".*

Findings: The subject property directly abuts City of Cornelius Low Density Residential (R-7) and Multi-Unit Residential (A-2) zoning districts to the north and west. The proposed zoning continues the existing zoning on the subdivision to the north. Thus, the proposal does not create any 'spot zone' or 'island' zoning and implements the Comprehensive Plan land use designation applied through Ordinance No. 2015-06. Staff concludes this criterion is met.



Conclusions: Based upon the findings above, staff finds that the City of Cornelius criteria for amending the zoning map is met.

CONFORMANCE WITH THE STATEWIDE PLANNING GOALS:

Goal 1 Citizen Involvement: To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

Findings: The City adopted and acknowledged Comprehensive Plan identifies interested parties in addition to the required public notice requirements within State Law. The City’s Municipal Code Title 18 provides the zoning regulations for all development within the Cornelius corporate limits. This Title also provides the application processes and procedures to follow for three types of applications: Type I – ministerial, Type II – administrative, and Type III – Planning Commission hearings. Mailed and published public notice is provided for all Type II and Type III applications. Additionally, all Type III applications must include information on the Applicant held Neighborhood Review Meeting in order to be deemed complete. The city provides the opportunity for residents to be involved in its planning processes.

Goal 2 Land Use Planning:

Part I—Planning: To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual basis for such decisions and actions.

Findings: The City has an adopted and acknowledged Comprehensive Plan and implementing measures (CMC Title 18, Zoning).

Part II—Exceptions:

Findings: No exceptions are proposed for this zoning map amendment.

Goals 3 and 4 Agricultural Lands and Forest Lands, respectively.

Findings: The proposed zone change is wholly within the Portland Metropolitan Urban Growth Boundary (UGB) for the City of Cornelius. The property is not zoned in Washington County with a Farm or Forest designation – it is zoned Future Development (FD-20). Thus, these two goals are inapplicable to the proposed zone change.

Goal 5 Natural Resources, Scenic and Historic Area, and Open Space: To protect natural resources and conserve scenic and historic areas and open spaces.

Findings: Ordinance No. 2015-06 adopted comprehensive plan designations for this area. The floodplain for the Tualatin River is designated as a Significant Natural Resource Overlay zone. The property subject to the zone change abuts but does not include the Significant Natural Resource Overlay zone. The adopted and acknowledged Comprehensive Plan and implementing measures (CMC Title 18, Zoning) addresses protection and conservation of resources noted above in the development process.

Goal 6 Air, Water, and Land Resources Quality: To maintain and improve the quality of the air, water and land resources of the state.

Findings: The City has an adopted and acknowledged Comprehensive Plan and implementing measures (CMC Title 18, Zoning). Additionally, the city implements Clean Water Services design and construction standards requiring water quality and quantity retention and vegetated corridors.

Goal 7 Areas subject to natural hazards: To protect people and property from natural hazards.

Findings: Ordinance No. 2015-06 adopted comprehensive plan designations for this area. The FEMA 100-year floodplain for the Tualatin River is designated as a Significant Natural Resource Overlay zone. The property subject to the zone change abuts but does not include the Significant Natural Resource Overlay zone. The adopted and acknowledged Comprehensive Plan and implementing measures (CMC Title 18, Zoning) addresses floodplain regulations in the

development process. As noted earlier in this report, the 100 year floodplain abuts the project and no part of the project, including the proposed work on the two city properties, is at or below the base flood elevation for the 100-year flood.

Goal 8 Recreational needs: To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.

Findings: The city has an adopted Parks Master Plan to provide parks and trails in the city. As part of Ordinance No. 2015-16, consideration for future parks and recreational needs of the City was addressed.

Goal 9 Economic Development: To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.

Findings: The city adopted an Economic Opportunities Analysis and Economic Development Strategy in 2023 to stimulate and provide opportunities for economic activity in the city.

Goal 10 Housing: To provide for the housing needs of the citizens of the state.

Findings: The city adopted a Housing Needs Analysis in 2021. The Housing Needs Analysis (HNA) found that the existing supply of housing units outnumber the number of households by 180 units, indicating an average vacancy rate of 5%. Also, there is support for more ownership housing at both the lower and higher price ranges. The study found that most of the housing in Cornelius is clustered at the low-middle to middle property values, while the household incomes and ability to pay indicated that some households could afford housing at higher prices.

Additionally, market rates for most rental units in 2020 were \$700 to \$1,600 per month. The greatest unmet need was for the lowest end of the income scale where many renters paid more than 30% of their income in housing costs. There was also some indication that some renter households could support more units at higher rent levels. The HNA had four conclusions regarding housing need:

1. The results show a need for 1,854 new housing units by 2040.
2. Of the units needed, roughly 51% are projected to be ownership units, while 49% are projected to be rental units. This represents more renters than the estimated tenure split, but it is projected that more rental units will be needed to address future needs for a greater proportion of rental units, given demographic and housing market trends, including age and income characteristics of future residents.
3. There is some new need for ownership housing at the low-end of the pricing spectrum. But income trends suggest that the greatest demand will remain in the middle and upper-middle price ranges (\$200K to \$400K). This is because some of the city's current housing is found at lower value levels due to age and condition. Therefore, there may be support for some units at higher price points. The \$250,000 to \$350,000 price point (in 2020 dollars) is projected to remain the greatest share of demand.

4. The greatest need for rental units is found at the lowest and some higher price points. Market rents are currently clustered in the \$700 to \$1,600 range in current dollars (2020). Therefore, most units are to be found in this range. There is insufficient rental housing for the lowest income households making \$25,000 or less, and there may also be some support for higher rent units, which may be in new apartment complexes, townhomes or detached single-family homes for rent.

The proposed rezone provides both low density (single unit housing) and medium density (multi-unit housing) opportunities.

Goal 11 Public Facilities and Services: To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

Findings: The city adopted several public facility master plans: Water Master Plan, Sanitary Sewer Master Plan, Storm Sewer Master Plan. The city implements those plans through applying the Comprehensive Plan, Municipal Code Title 18 Zoning and the Public Works Standards.

Goal 12 Transportation: To provide and encourage a safe, convenient and economic transportation system.

Transportation Planning Rule (OAR 660-012-0060)

- (1) An amendment that would significantly affect an existing or planned transportation facility must include measures to mitigate the performance of the facility with one of five options. The second half of the statement, however; notes UNLESS the amendment is allowed under section (3), (9) or (10)....***
- (9) applies if all the of the following are met:***
 - (a) The zoning is consistent with the existing Comprehensive Plan Map designation and the proposal does not change the comprehensive plan map.***
 - (b) the local government has an acknowledged TSP and the proposed zoning is consistent with the TSP.***
 - (c) The area was not exempted or an exception was not applied.***

The proposed zoning of A-2 and R-7 is consistent with the Comprehensive Plan Map designation of Medium Density Residential and Low Density Residential. The Transportation System Plan (TSP) has been acknowledged and the zoning is consistent with the acknowledged TSP. No exemption or exception was applied to the property. Thus, the criteria of OA660-012-0060(9) have been met and no mitigation measures are necessary.

Findings: The city maintains its adopted Transportation System Plan and implements it through land development and a Capital Improvement Plan. Participation in County and regional planning for transportation also occurs. A Traffic Analysis Memorandum was prepared to

determine the impact of the anticipated development of the Site on existing systems. It is within Applicant's Exhibit F, within staff report Attachment 1. **Additionally, as noted in the TPR analysis, the proposal complies with OAR 660-012-0060 (9) and no mitigation measures are required under the Transportation Planning Rule.**

Goal 13 Energy Conservation: To conserve energy.

Findings: The City's adopted land use regulations implement sound planning based on state and regional density requirements.

Goal 14 Urbanization: To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.

Findings: This land was added as an Urban Reserve to the Portland Metropolitan Urban Growth Boundary in 2014. In 2015, the city adopted Comprehensive Planning for the area. The Site annexed to the City in 2024 (see Attachment 4, DOR Annexation Approval). This proposal is to apply the corresponding City zoning to the Comprehensive Plan applied through Ordinance No. 2015-06.

Goals 15 through 19 address the Willamette River Greenway, Estuarine Resources, Coastal Shorelands, Beaches and Dunes, and Ocean Resources.

Findings: None of these types of resources are found in or near Cornelius, thus these Statewide Planning Goals are inapplicable to the proposed zone change.

RECOMMENDATION

The request is for approval of a zone change on approximately 7.60 acres of recently annexed land from County FD-20 to City of Cornelius Low Density Residential (R-7) and Multi-Unit Residential (A-2) zoning districts.

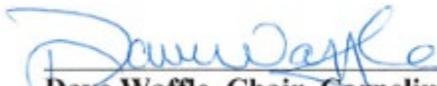
- The proposal is consistent with the City's Comprehensive Plan and the Cornelius Municipal Code.
- The permitted uses within the two zones will be compatible with the Laurel Woods subdivision to the north.
- As shown on the Ordinance No. 2015-06 Exhibit on Page 5, the zoning is split as it is in the entirety of the land brought into the UGB in 2014, thus it is not spot zoning.
- The proposal is compliant with the applicable Statewide Planning Goals.

Based upon the facts, findings and conclusions in this Staff Report, the Community Development Director recommends that the Planning Commission recommend approval of ZC-01-24 to the Cornelius City Council, subject to the following conditions:

1. The request shall be reviewed for approval by the City Council.

2. The subject area shall be zoned as Low Density Residential (R-7) and Multi-Unit Residential (A-2), as shown on Attachment 5.

**DATE OF PLANNING COMMISSION HEARING ADOPTING THE STAFF REPORT:
February 11, 2025**



Dave Waffle, Chair, Cornelius Planning Commission



Barbara Fryer, AICP, Community Development Director

- Attachments:
- 1 Applicant's submittal
 - 2 Notices: DLCD PAPA NOTICE, Newspaper Notice affidavit, and Mailed Notice affidavit of mailing
 - 3 Internal Comments
 - 4 DOR Annexation approval
 - 5 Existing and Proposed Zoning
 - 6 Fair Housing Council of Oregon Letter

Attachment 1: Application Materials

planned PUD can accommodate the continued operation of this irrigation pump as determined necessary. This policy is met.

Chapter VIII Transportation System Plan

1. **Safety.** Develop a transportation system that maintains and improves individual health and safety by maximizing pedestrian and bicycle transportation options, public safety and service access, and safe and smooth connections.
2. **Transportation System Management.** Emphasize effective and efficient management of the transportation system for all users.
3. **Travel Choices and Livability.** Develop and maintain a well-connected transportation system that offers convenient and available pedestrian, bicycle and transit trips, facilitates access to daily needs and services, and enhances livability.
5. **Fiscal Responsibility.** Sustain an economically viable transportation system for existing and future users that protects and improves existing transportation assets while cost-effectively enhancing the total system.

Response: As shown on the Preliminary Plans (Exhibit A), the application includes a robust network of new streets and accessways that have been designed to accommodate the full range of users anticipated in this area. New streets throughout the project area connect with existing abutting streets and are arranged in a quasi-grid that respects the presence of significant natural resources on and near the site. Through a combination of safe walking, bicycling, and motor vehicle facilities, and short block lengths, the transportation layout included in this application will promote walking and bicycling for a greater number of daily trips as compared to typical suburban and auto-oriented subdivision layouts. This enhanced pedestrian and bicycle access will in turn provide greater opportunities for passive and active recreation and will directly contribute to enhanced livability for Cornelius' residents. These policies are met.

(2) The applicable requirements of the zoning district are satisfied; and

Response: As demonstrated by the Preliminary Plans (Exhibit A) and discussed in this narrative, the planned PUD meets the requirements of the R-7 and A-2 zoning districts with the flexibility provided through the PUD process. This criterion is met.

(3) That the location, size, design, and functional characteristics of the proposed use are such that it can be made reasonably compatible with and have a minimum impact on the livability and appropriate development of other properties in the surrounding neighborhood;

Response: The planned improvements include a ±27-lot subdivision intended for detached single-unit dwellings. Additional improvements include public streets, open space, and vegetated corridor buffers, as well as the utility improvements necessary to serve the subdivision. The location, size, and design of the planned subdivision is compatible with and will not adversely impact surrounding properties and uses. Open spaces and pedestrian corridors and trails are located on the west side of the property adjacent to

the vegetated corridor that leads to the Tualatin River. The functional characteristics of the PUD are similar to the adjacent subdivision/PUD to the north. This criterion is met.

- (4) The granting of the proposal will provide for a facility that is consistent with the overall needs of the city.

Response: The planned PUD conforms with the goals and policies of the Comprehensive Plan and provides needed housing and improved facilities to the City. This criterion is met.

- (C) **Modifications.** A request to substantially modify an existing conditional use permit shall be processed in the same manner as a new request for a conditional use permit. Minor modifications of an existing conditional use permit may be approved by the community development director. When an interpretation is discretionary, notice shall be provided in accordance with Chapter 18.15 CMC.

Response: This application does not include a modification to an existing conditional use permit. This standard is not applicable.

- (D) **Public Hearing Required.** A public hearing shall be scheduled for each application requiring action by the planning commission. The hearing shall be conducted at the next regularly scheduled planning commission meeting where legally sufficient notice can be provided to the public prior to the hearing, following receipt and verification of a completed application. Notice of the time, place and purpose of the public hearing shall be given in accordance with the requirements of CMC 18.15.030.
- (E) **Notification of Action.** The community development director shall notify the applicant of the conditional use decision rendered by the planning commission, in writing within five days after the decision has been made.
- (F) **Time Limit on Approvals.** A conditional use permit shall become void two years after the date of final approval or after such time less than two years as may be specified as a condition of approval unless prior to that time a building permit has been issued for the project and substantial construction has taken place.
- (G) **Special Conditions.**
 - (1) The permit granted pursuant to the provisions of this section shall run with the land and shall continue to be valid upon a change of ownership of the site or structure unless otherwise specified in conditions attached to the permit.
 - (2) The applicant shall file a copy of the approved conditional use permit with the Washington County Department of Records and Elections. Building permits shall not be issued until the applicant has provided evidence satisfactory to the city of compliance.

Response: The above conditional use permit procedures are understood.

Chapter 18.110 PLANNED UNIT DEVELOPMENT (PUD) CONDITIONAL USE

(...)

18.110.020 Development requirements.

The following standards and requirements shall govern the application of a planned unit development and apply in a planned unit development conditional use:

- (A) A planned unit development may include any uses and conditional uses permitted in an underlying or abutting zone. Standards governing area, density, off-street parking, or other requirements shall be guided by the standards of the zone that most nearly portrays the character of the zone in which the planned unit development is proposed.

Response: The planned improvements include a new ±27-lot subdivision for detached single-unit dwellings in the R-7 and A-2 zoning districts. This application includes a PUD to provide flexibility to certain code standards. A PUD is processed through a conditional use permit; therefore, this application also includes a conditional use application.

The objective of the planned improvements is to construct a subdivision for detached housing. Rather than design the planned subdivision in strict conformance with the existing zone district boundaries as established by the Comprehensive Plan, this application plans to average residential lot sizes and densities across the site through the PUD process. The purpose of this density averaging is to create a more livable and functional neighborhood that aligns with site characteristics and adjacent neighborhoods (namely, the Laurel Woods subdivision to the north of the site). This application includes new residential lots that satisfy the equivalent density required per the adopted zoning configuration, but in a manner that distributes density across the site.

The planned PUD includes open space tracts along the site’s western boundary adjacent to the Tualatin River and affiliated floodplain/vegetated corridor, with the planned detached single-unit lots for new homes located in the central and eastern portions of the site. This design is designed to minimize impacts to the Tualatin River and its affiliated natural resources while simultaneously achieving the City’s objective of accommodating anticipated population growth and housing needs. This lot configuration is planned to create an organic and appealing aesthetic to the neighborhood, making it a more desirable residential neighborhood for future residents than if the subdivision was designed around the strict boundaries of the existing zoning designations. Therefore, this standard is met.

(B) **Planned unit developments shall not be less than one acre in area.**

Response: The subject property is ±7.60 acres in area. This standard is met.

(C) **Approval compliance, required by CMC 17.05.040(E), for subdivision improvements shall be required to ensure that a development proposal, as submitted, is completed within the required time limit.**

Response: This standard is understood and planned to be met.

18.110.030 **Procedures.**

The following procedures shall be observed in applying and acting on a planned unit development request:

(A) **Application Requirements.**

(1) **The community development director shall provide forms that specify the information required for submission of a planned unit development (PUD). The applicant shall prepare site plan(s) with other supplementary material as may be required and shall submit the necessary number of copies to the community development director.**

Response: The required application forms, site plans, and supplemental materials are provided along with this application narrative.

(2) **Applicability of Planned Unit Development Regulations. The requirements for a planned unit development set forth in these sections are in addition to**

the conditional use permit (CUP) procedures, authority and standards of Chapter 18.105 CMC. The applicant must submit a request for a PUD in conjunction with an application for a CUP.

Response: As discussed in responses to CMC Chapter 18.105 above, this application includes a CUP. The necessary forms, plans, and supplemental materials for a CUP are included with this application.

- (3) Plans submitted for planned unit developments shall be subject to design review of site plans, which shall include any and all information describing the proposed lot and street layout, relationship to adjacent properties and major road systems, locations of building masses (size, type, and function) and building design. The applicant may provide an alternative to the building design information by submitting a justification why it is necessary and appropriate to deviate from this requirement. Open spaces, parks and greenways, as well as any recreation facilities, shall be specified.

Response: As discussed elsewhere in this narrative, this application includes a ZMA, CUP, PUD, and Subdivision. This consolidated land use application is being processed through a Type III procedure. The necessary forms, plans, and supplemental materials for this consolidated land use application are included with this submittal and include the information required by this section. This application does not include a request for flexibility or adjustment to building design standards for residential dwellings. Therefore, building design details are not provided herein. This requirement is met as applicable.

- (4) An applicant shall submit the required documents as prescribed by the community development director on the application checklist. Once the application is deemed complete, the applicant will provide the necessary copies as determined by the community development director for review by the planning commission. The preliminary plan shall include the following information:
- (a) Proposed land uses, building locations, and housing unit densities.
 - (b) Proposed circulation pattern indicating the status of street ownership.
 - (c) Proposed open space uses.
 - (d) Proposed grading and drainage pattern.
 - (e) Proposed method of water supply and sewerage disposal.
 - (f) Economic and supporting data to justify any proposed commercial and industrial elements in an area not so zoned.
 - (g) Relations of the proposed development to the surrounding areas and the comprehensive plan.

Response: The necessary materials for the applications discussed herein are included along with this narrative. The required information listed in this section is provided in the Preliminary Plans (Exhibit A). This requirement is met.

- (5) Prior to the public hearing before the planning commission, the community development director shall distribute copies of the request to the facilities and design review committee to review and to prepare their recommendation to the planning commission.

Response: This requirement is understood.

(B) **Approval Criteria. In order to approve a PUD, findings of fact shall be made to support the following conclusions:**

(1) **There are special physical or geographic conditions or objectives of development which warrant a departure from the standard title requirements.**

Response: Special physical conditions and development objectives exist that warrant a departure from the standard requirements in the underlying zoning districts. The subject site is bordered by the UGB to the west, south, and east. The Tualatin River and affiliated floodplain and vegetated corridor comprise the majority of the site's western boundary and limit improvements to the central and eastern portions of the site. The presence of the UGB to the south and east limits design flexibility along these boundaries; streets must be stubbed at these boundaries, and the subdivision must be designed with the understanding that further growth to the south and east may not occur for an extended period of time. The site is also bound by an existing subdivision to the north (Laurel Woods) and therefore must account for the extension of streets and utilities from this subdivision to create a cohesive neighborhood. These limitations warrant flexibility in the application of development standards in order to develop the site in an efficient and attractive manner. Nonetheless, given these physical constraints, the PUD closely respects the standard requirements applicable to subdivisions in the A-2 and R-7 zoning districts.

This PUD provides the opportunity to average allowable densities throughout the site to create a more organic and cohesive arrangement of lot sizes that will in turn promote a mix of residents who are expected to exhibit a broad range of ages, incomes, and other demographic characteristics. This criterion is met.

(2) **Resulting development will be consistent with overall planning and zoning objectives of the city.**

Response: As demonstrated by the Preliminary Plans (Exhibit A) and discussed herein, the planned PUD is consistent with the overall objectives of the Comprehensive Plan and the Master Plan for the Southeast UGB area. This criterion is met.

(3) **The area around the development can be planned to be in substantial harmony with the proposed plan.**

Response: As demonstrated by the Preliminary Plans (Exhibit A) and discussed herein, this application satisfies the minimum and maximum residential density thresholds established for development on this site while simultaneously providing parks and open space, transportation infrastructure, and other public improvements, that will ensure the long-term health, safety, and well-being of new and existing residents in the City of Cornelius. Situating parks and open space predominantly in the western portion of the site is planned to minimize impacts to the Tualatin River and affiliated floodplain and vegetated corridor while allowing residents to enjoy the natural area adjacent to the river. Streets and utilities are planned to be extended through the site to its eastern boundary, which abuts the UGB, to allow future extension of streets and utilities when adjacent property is annexed and improved. Therefore, this PUD ensures that new development on this site will minimize adverse impacts to existing adjacent properties while also

providing ideal opportunities for the future development of adjacent properties that will likely develop at some point in the future. This criterion is met.

- (4) If the applicant is proposing phasing the project, then identify the schedule for phasing. If the applicant is not proposing to phase the project, then identify the time frame for completion.

Response: This application does not include phasing of the project. The project is planned to be completed subsequent to the completion of the Laurel Woods subdivision to the north to ensure that streets and utilities are able to be extended from that PUD through the subject site. Final plat approval and preliminary grading and construction plans are planned to be obtained prior to expiration of the land use application. This criterion is met.

- (5) Provide findings that economically justify a proposed commercial or industrial development.

Response: This residential PUD does not include any commercial or industrial development. This criterion does not apply.

- (6) The streets are adequate to support the anticipated traffic and the development will not overload the streets outside the planned area.

Response: The planned subdivision includes ±27 lots intended for detached single-unit dwellings. Access to the subdivision is planned via an extension of S 29th Boulevard from the Laurel Woods subdivision through the subject site, in conjunction and subsequent to completion of street/utility improvements for the Laurel Woods subdivision. Secondary emergency access is planned to be provided via SW 345th Avenue, a County road to the east of the subject site. This access is not planned to be used for residential traffic and is sufficient to provide emergency access to first responders. Construction of the project is expected to begin subsequent to the completion of street/utility improvements as part of the Laurel Woods subdivision to ensure streets and utilities can be adequately extended through the subject site.

As demonstrated by the Preliminary Plans (Exhibit A) and the Traffic Analysis Memorandum (Exhibit F), and discussed with staff during the pre-application conference, the existing and planned streets are adequate to support the anticipated traffic generated by the subdivision, and the subdivision will not overload streets outside of the subject site. This criterion is met.

- (7) Proposed utility and drainage facilities are adequate for the population densities and type of development proposed.

Response: As demonstrated by the Preliminary Plans and Preliminary Stormwater Report (Exhibits A and G, respectively), the planned utility improvements are adequate to serve the subdivision and its affiliated improvements. This criterion is met.

(C) Other Requirements.

- (1) The planning commission shall notify the applicant whether, in its opinion, the foregoing provisions have been satisfied and if not, whether they can be satisfied with further plan revision.

- (2) Following this meeting, the applicant may proceed when approval is given by the commission.
- (3) Conditions. In addition to the requirements of this chapter, the commission may attach conditions it finds are necessary to carry out the purposes, objectives and standards of the planned unit development conditional use.
- (4) Zoning Map. Planned developments shall be established as conditional uses with other regular zones, and an approved planned unit development shall be identified on the zoning map or map amendments with the letters PD in addition to the abbreviated designation of the pre-established zoning.
- (5) Availability of Plan. A certified print of the approved development plan shall be maintained without charge in the office of the community development director.
- (6) Building Permits. Building permits in a planned unit development shall be issued only in accordance with the approved development plan. Any major changes in the approved development plan shall be submitted to the planning commission for processing as an amendment to the ordinance codified in this title. Minor amendments to the approved development plan may be processed as a Type II process. Minor amendments include, for example, those that reduce residential density; increase public amenities or public open space areas; or result in minor shifts in building heights or locations, easement configuration, or other interior site improvements. The classification of a minor versus major amendment to an approved development plan shall be at the discretion of the community development director.

Response: The above requirements are understood and can be met as applicable.

(D) Approval of Plan and Time Limitation on Development.

- (1) Before a planned unit development shall be approved by the commission, a preliminary subdivision plat shall be prepared to be considered in conjunction with the planned unit development plan. This requirement shall not apply in the event subdivision of the land would not be required under the subdivision regulations of the city.

Response: A Preliminary Plat for the planned subdivision is included with the Preliminary Plans (Exhibit A). This requirement is met.

- (2) If no construction has begun or no use established in the planned unit development within one year after approval of the final plan, the final plan shall lapse and be of no further legal effect. In its discretion and for finding of good cause, the commission may extend for one year the period for beginning of construction or the establishment of use. The applicant shall present his case for cause before the planning commission at its regularly scheduled meeting.

Response: This requirement is understood and can be met as applicable.

Chapter 18.125 AMENDMENT TO THE ZONING ORDINANCE

18.125.010 Procedure

- (A) Authorization to Initiate Amendments. An amendment to the text or the zoning map of the ordinance codified in this title may be initiated by the city council, by the planning commission, or by application of a property owner or his authorized agent. The planning commission (the commission) shall, within 40 days after a hearing, recommend to the city council (the council) approval, disapproval, or modification of the proposed amendment.

Response: This application is being initiated by the property owner (Hering Family Joint Trust). These procedures are understood.

(B) **Application Requirements.** A request for a zone change may be initiated by a property owner or his authorized agent by filing an application with the community development department on forms prescribed by the community development director or designee.

Response: This application is being initiated by the property owner (Hering Family Joint Trust) and the appropriate application form is included as Exhibit B. This requirement is met.

(C) **Approval Criteria.** The applicant shall demonstrate the request meets the following criteria:

(1) **The proposal conforms with the city’s comprehensive plan.**

Response: The subject property was added to the City’s UGB through the Comprehensive Plan Amendment adopted by Ordinance No. 2015-06 and approved to be annexed into the City by Case File No. AN-01-24. The subject property is designated for residential use by the Comprehensive Plan and was designated for R-7 and A-2 zoning by Ordinance No. 2015-06. This application includes a ZMA to apply those zoning designations and is necessary to develop the property with needed housing. This use conforms with the City’s Comprehensive Plan; therefore, this criterion is met.

(2) **The permitted uses of the proposed new zone will not materially and/or adversely affect the character of the neighborhood.**

Response: This application includes a ZMA to bring the property into the R-7 and A-2 zoning districts in accordance with the City’s Comprehensive Plan Map and Zoning Map. The subject property is located adjacent to the Laurel Woods residential subdivision to the north, and the planned subdivision is designed as an extension of that subdivision. The Laurel Woods subdivision was approved with a mix of attached and detached dwellings. The subject property is intended to be improved with needed housing, which is a permitted use in the R-7 and A-2 zoning districts and conforms with the overall character of the existing neighborhood. Therefore, the permitted uses of the planned zoning will not materially or adversely affect the character of the neighborhood. This criterion is met.

(3) **The proposal will place all property similarly situated in the area in the same zoning category or in appropriate complementary categories, without creating a “spot zone.”**

Response: The subject site is adjacent to the Laurel Woods subdivision to the north. The Laurel Woods subdivision includes properties with R-7 and A-2 zoning. The planned ZMA for the subject property will similarly apply the R-7 and A-2 zoning designations in accordance with the City’s Comprehensive Plan Map and Zoning Map and as established by Ordinance No. 2015-06. The land use and zoning designation established in Ordinance No. 2015-06 applies to a relatively large tract of contiguous land to the north and cannot be considered spot zoning. Therefore, the subject property will be placed in the same zoning category as adjacent properties that have previously been annexed into the City. This criterion is met.

(...)

-
- (E) Zoning of Annexed Areas. The provisions of this chapter regarding amendments to the ordinance codified in this title shall not apply to action authorized by this section, but the commission shall proceed promptly to recommend a comprehensive zoning plan for the area in accordance with the provisions of this chapter. In order to afford zoning protection to newly annexed areas prior to the time when a comprehensive zoning plan is adopted, interim zoning shall be established as follows:
- (1) An area annexed to the city which is not zoned shall be automatically classified as an R-7 zone.
 - (2) Zoning regulations applicable to an area annexed to the city which is zoned by the county at the time of annexation shall continue to apply in accordance with ORS 227.310 unless, at the time of annexation or at a subsequent time, the council rezones the annexed area.

Response: With the adoption of Ordinance No. 2015-06, the City of Cornelius amended its Comprehensive Plan to establish the land use and zoning regulations for the southeast UGB area. These criterion do not apply.

Chapter 18.143 TRANSPORTATION FACILITIES

18.143.020 General provisions.

- (A) All transportation facilities shall be designed and improved in accordance with the standards of this code and the adopted Cornelius public works standards. In addition, when development abuts or impacts a transportation facility under the jurisdiction of one or more other governmental agencies, the city shall condition the development to obtain permits required by the other agencies.

Response: As demonstrated by the Preliminary Plans (Exhibit A), the planned improvements include the extension of S 29th Boulevard and three new streets (S Rowan Street, S Silktree Street, and S 32nd Avenue). These improvements are planned to improve pedestrian connectivity, safety, and overall traffic flow. The planned street improvements conform with the requirements of this code and the applicable Public Works Standards. Further responses pertaining to street improvements can be found elsewhere in this narrative. This standard is met as applicable.

- (B) In order to protect the public from potentially adverse impacts of the proposal, to fulfill an identified need for public services related to the development, or both, development shall provide traffic capacity, traffic safety, and transportation improvements in proportion to the identified impacts of the development.

Response: As demonstrated by the Preliminary Plans (Exhibit A) and discussed in the Traffic Analysis Memorandum (Exhibit F), this application includes improvements commensurate with the demonstrated traffic impacts of the planned subdivision. This standard is met.

- (C) For applications that meet the threshold criteria of CMC 18.143.030(B), Analysis Threshold, this analysis or limited elements thereof may be required.

Response: As discussed in Exhibit F and confirmed by the city engineer, the planned PUD will generate trips exceeding the threshold criteria of Section 18.143.030(B). Therefore, a traffic analysis is required and included in Exhibit F. See responses to Section 18.143.030(B) below for additional findings.

- (D) The decision-making authority may impose development conditions of approval per this title. Conditions of approval may be based on the traffic impact analysis.

Exhibit B: Application Forms and Checklist (Updated November 2024)



Land Use Application

Community Development
Located at 1300 S. Kodiak Circle, Cornelius, Oregon 97113
www.ci.cornelius.or.us

OFFICIAL USE ONLY		
Date Received: _____	Date Complete: _____	↓ File Number ↓
Application Fee: _____	Receipt Number: _____	_____

APPLICATION TYPE

Type I – administrative review without public notice

- | | | |
|--|---|--|
| <input type="checkbox"/> Design Review I | <input type="checkbox"/> Lot Line Adjustment | <input type="checkbox"/> Administrative Relief |
| <input type="checkbox"/> Land Partition—Final Plat | <input type="checkbox"/> Subdivision—Final Plat | |
| <input type="checkbox"/> Other <i>please describe:</i> _____ | | |

Type II – administrative review with public notice

- | | | |
|--|--|---|
| <input type="checkbox"/> Design Review II | <input type="checkbox"/> Land Partition—Preliminary Plat | <input type="checkbox"/> Subdivision—Preliminary Plat |
| <input type="checkbox"/> Other <i>please describe:</i> _____ | | |

Type III – public hearing(s) required with public notice

- | | | |
|--|--|--|
| <input type="checkbox"/> Design Review III | <input checked="" type="checkbox"/> Conditional Use Permit | <input checked="" type="checkbox"/> Planned Unit Development |
| <input type="checkbox"/> Comprehensive Plan Amendment | <input checked="" type="checkbox"/> Zone Map Amendment | <input type="checkbox"/> Zone Text Amendment |
| <input type="checkbox"/> Annexation | <input type="checkbox"/> ROW/Easement Vacation | <input checked="" type="checkbox"/> Subdivision—Preliminary Plat |
| <input type="checkbox"/> Other <i>please describe:</i> _____ | | |

Applicant's Consultant

Melissa Slotemaker, AICP
AKS Engineering & Forestry, LLC
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
(503)-563-6151
slotemakerm@aks-eng.com

APPLICANT INFORMATION

Name: The Holt Group, inc. Signature:  _____

Mail Address: 1301 SE Tech Center Drive, Suite 150, Vancouver, WA 98683

Phone: consultant. Please contact applicant's _____ Fax: consultant. Please contact applicant's _____ E-mail: Please contact applicant's consultant.

PROPERTY OWNER INFORMATION

Name: Hering Family Joint Trust Signature:  _____

Mail Address: 34005 SW Cook Road, Hillsboro, OR, 97123

Phone: consultant. Please contact applicant's _____ Fax: consultant. Please contact applicant's _____ E-mail: Please contact applicant's consultant.

SUBJECT SITE INFORMATION

Property Address: West of SW 345th Avenue, south of S Quartz Drive, north of SW Cook Street, east of the Tualatin River

Map & Tax Lot Number(s): 1S302C, Tax Lot 400

Current Zoning: FD-20 Total Size of Site: ±7.60 acres

Existing Use: Agriculture

Proposed Use: ±27 lot residential subdivision and planned unit development

Revised April 2017

Zone Map Amendment Submittal Checklist

Community Development
Located at 1300 S. Kodiak Circle, Cornelius, Oregon 97113
www.ci.cornelius.or.us

Written Narrative Requirements

-  A. **Checklist:** Please provide one completed and signed copy of this two-page checklist.
-  B. **Description of proposal:** Please describe what the existing conditions are on-site and the changes proposed to the site. Provide findings verifying that the intended use is allowed by the City's *Development Code*.
-  C. **Approval criteria findings:** Please provide a narrative that evaluates and verifies the proposal meets the approval criteria identified below: Chapter 18.125.010(C), of the Development Code
- The proposal conforms with the City's Comprehensive Plan.*

Please note when making findings, the applicant shall address all applicable Comprehensive Plan policies.
 - The Permitted use of the proposed new zone will not materially and/or adversely affect the character of the neighborhood*
 - The proposal will place all property similarly situated in the area in the same zoning category or in appropriate complementary categories, without creating a "spot zone".*
-  D. **Additional Requirements:** Please be advised that special studies, investigations and reports may be required to ensure that the proposal does not adversely affect the surrounding community, and does not create hazardous conditions for persons or improvements on the site.

- ✓ E. **Neighborhood Review Meeting:** information required (*Dev. Code Chapter 18.10.030*)
 - ✓ 1. A copy of the notice sent to surrounding property owners.
 - ✓ 2. A copy of the mailing list used to send out meeting notices.
 - ✓ 3. An affidavit of mailing notices.
 - ✓ 4. Representative copies of written materials and plans presented at the Neighborhood Review Meeting.
 - ✓ 5. Notes of the meeting, including the meeting date, time, and location, the names and addresses of those who attended, and oral and written comments received.

Plan Requirements

- ✓ A. **Proposed Zoning Map (include the following):**
 - ✓ 1. North arrow, scale and date of plan.
 - ✓ 2. The entire lot(s), including area and property lines dimensioned.
 - ✓ 3. Identify City and Urban Growth Boundary, if within 250 ft.
 - ✓ 4. Surrounding Zoning Districts within 250 ft. of the property.
 - ✓ 5. Title block, identifying project.
 - ✓ 6. Vicinity Map
 - ✓ 7. Significant Natural Resources (i.e. wetlands, sensitive areas, water features, etc.)

I have provided the items required in this 2-page submittal checklist. I understand that any missing information, omissions or both may deem my project incomplete, which may lengthen the time to process the request.



 Signature

10/10/2024

 Date

Melissa Slotemaker, AKS Engineering &
 Forestry, LLC

 Print name

503-563-6151

 Telephone Number

Exhibit F: Traffic Analysis Memorandum

Memorandum

To: **Ritchie Tan, The Holt Group, Inc.**

From: **Melissa Webb, PE**
Ken Kim, PE

Date: **October 2, 2024**

Subject: **Laurel Garden**
Traffic Analysis Memorandum



Introduction

This memorandum reports the findings of a traffic impact analysis conducted for the proposed Laurel Garden project located at Washington County assessor's map 1S302C, tax lot 400, in Cornelius, Oregon. The proposal will include the development of 27 single-family residential homes. Access to the site will be provided via proposed roadway connection and private driveways along S 29th Boulevard.

The purpose of this memorandum is to determine whether the transportation system within the vicinity of the site is capable of efficiently supporting the existing and proposed uses and to determine any mitigation that may be necessary to do so. Detailed information on traffic counts, trip generation calculations, and level of service calculations is included as attachments to this memorandum. The analysis will consider the following:

- Estimate trip generation associated with the proposed 27 single-family detached residential homes.
- Conduct capacity and delay analysis at the two existing intersections along Tualatin Valley Highway at S 20th Avenue and S 26th Avenue.
- Conduct queuing analysis at the two existing intersections along Tualatin Valley Highway at S 20th Avenue and S 26th Avenue.

Location Description

The project site is located southeast of the intersection of S 29th Boulevard at S Quartz Drive in Cornelius, Oregon. The site consists of a single property (Tax Lot: 1S302C000400) which encompasses an approximate total area of 7.60 acres. The site is surrounded by residential uses to the north, with agriculture uses located east and south of the site. The site is currently an undeveloped lot. Figure 1 presents an aerial image of the nearby vicinity with the project site outlined in yellow. A site plan is included as an attachment to this memorandum.

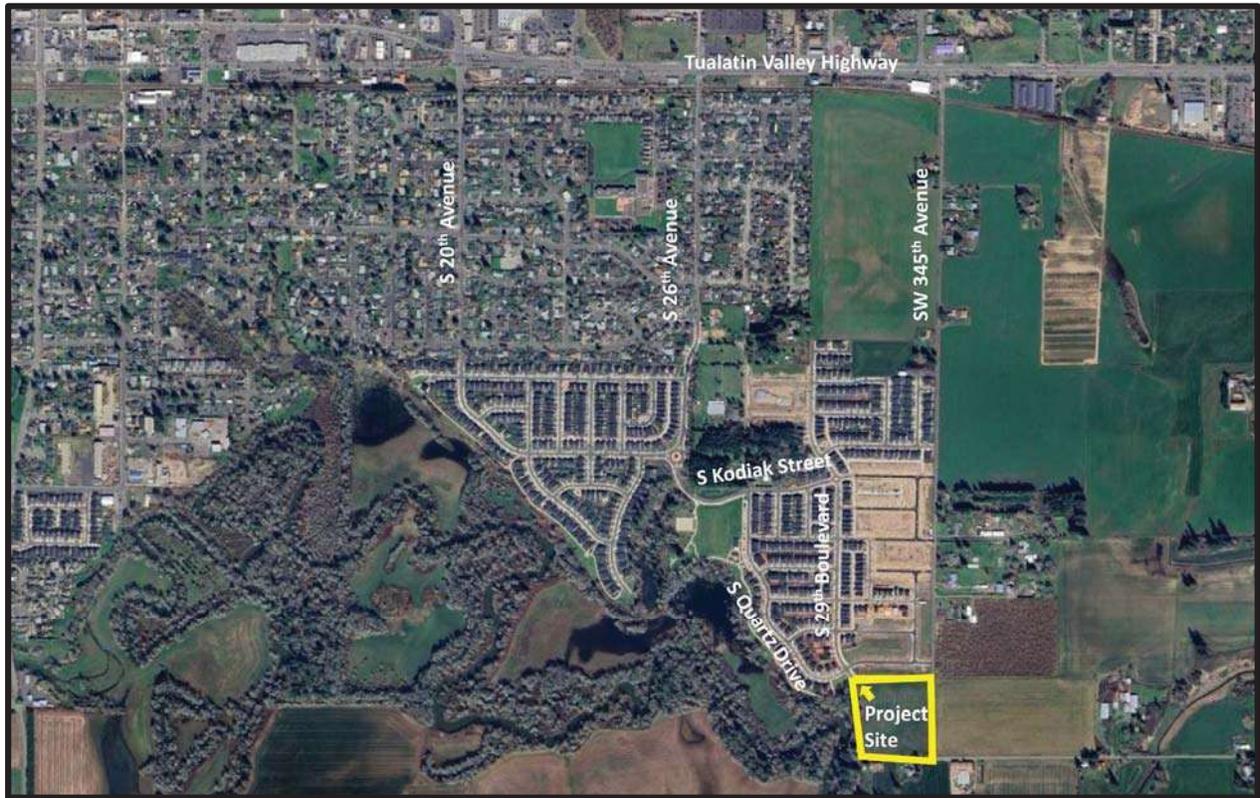


Figure 1: Aerial Photo of Site Vicinity (Image from Google Earth)

Trip Generation

To estimate the number of trips that could be generated by the proposed development, trip rates from the *Trip Generation Manual*¹ were used. Data from land use code 210, *Single-Family Detached Housing*, was used to estimate trip generation of the proposed development based on the number of dwelling units (DU).

The trip generation calculations show that the project site is projected to generate an additional 19 morning peak hour trips, 25 evening peak hour trips, and 254 average weekday trips. The trip generation estimates are summarized in Table 1. Detailed trip generation calculations are included as an attachment to this memorandum.

Table 1: Trip Generation Summary

Land Use (ITE Code)	Intensity	Morning Peak Hour			Evening Peak Hour			Weekday Trips
		In	Out	Total	In	Out	Total	
Single-Family Detached Housing (LUC 210)	27 DU	5	14	19	16	9	25	254

¹ Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.



Trip Distribution

The trip distribution for the site was estimated based on the trip distribution used for the Laurel Woods Development TIA prepared in October 2016² and existing travel patterns at the study intersections. The following trip distribution was estimated and used for analysis:

- Approximately 40 percent of trips will travel to/from the east along Tualatin Valley Highway
- Approximately 30 percent of trips will travel to/from the west along S Dogwood Street
- Approximately 15 percent of trips will travel to/from the north along S 20th Avenue
- Approximately 10 percent of trips will travel to/from the west along Tualatin Valley Highway
- Approximately 5 percent of trips will travel to/from the north along N 26th Avenue

It was assumed that the existing connections to SW 345th Avenue remain for emergency access only and no traffic is routed towards SW 345th Avenue.

Figure 2 shows the trip distribution and assignment of the proposed development for the morning and evening peak hours.

Traffic Volumes

Existing Conditions

Traffic counts were conducted at all the study intersections on Tuesday, September 10, 2024, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM. Data was used from each intersection's respective morning and evening peak hours. Traffic count data is included as an attachment to this memorandum.

The year 2024 existing traffic volumes for the morning and evening peak hours are shown in Figure 2.

Background Conditions

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. To account for general background growth through the year 2026, an annual 3 percent growth rate was applied to the year 2024 existing conditions baseline volumes for two years based on the growth rate used for the Laurel Woods Development TIA. In addition to the general growth, traffic from the remaining phases of the Laurel Woods development was added to the network volumes.

Figure 2 presents the year 2026 background volumes for the morning and evening peak hours.

Buildout Conditions

Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the background volumes to estimate the buildout volumes.

Figure 2 presents the year 2026 buildout volumes for the morning, afternoon, and evening peak hours.

² Kittelson & Associates, Inc, *Transportation Impact Analysis Laurel Woods Development, Cornelius, Oregon, October 2016.*



LEGEND

○ STUDY INTERSECTION

XX% PERCENT OF PROJECT TRIPS

⚡ TRAFFIC SIGNAL

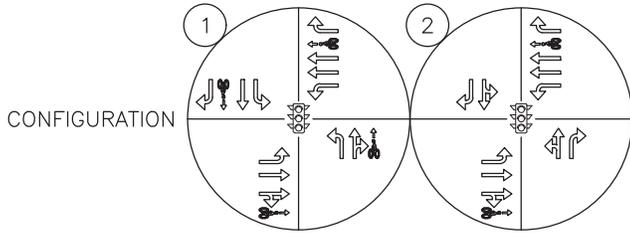
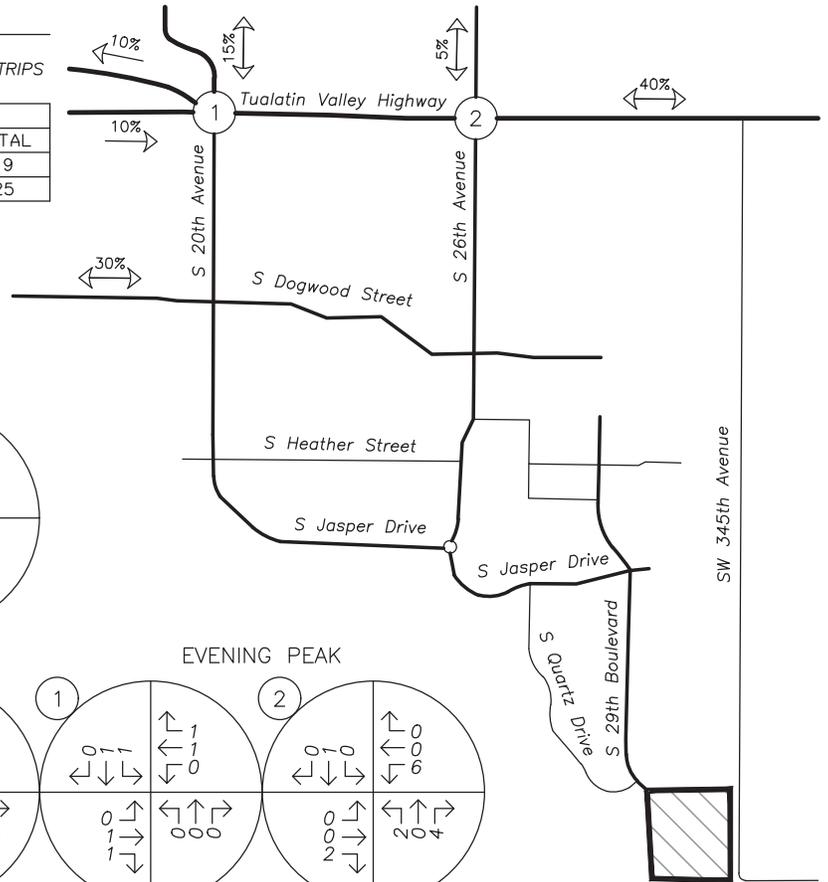
▨ PROJECT SITE

— ARTERIAL ROADWAY

— COLLECTOR ROADWAY

— LOCAL ROADWAY

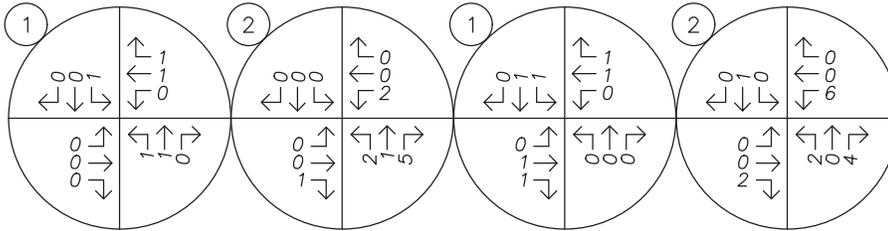
NET NEW TRIP GENERATION			
	IN	OUT	TOTAL
AM	5	14	19
PM	16	9	25



MORNING PEAK

EVENING PEAK

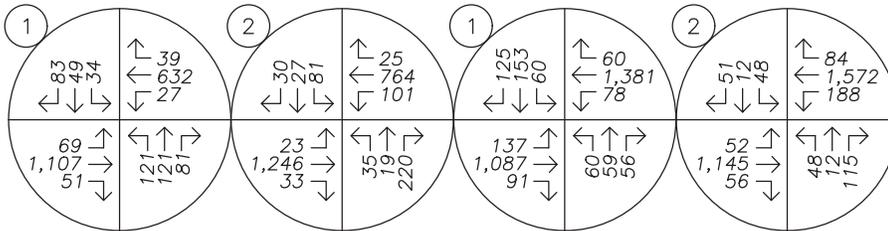
SITE TRIPS



MORNING PEAK

EVENING PEAK

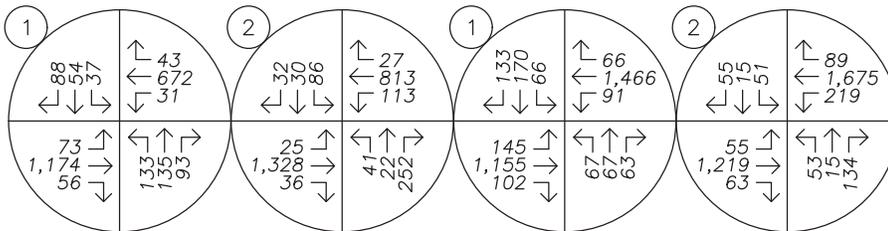
EXISTING



MORNING PEAK

EVENING PEAK

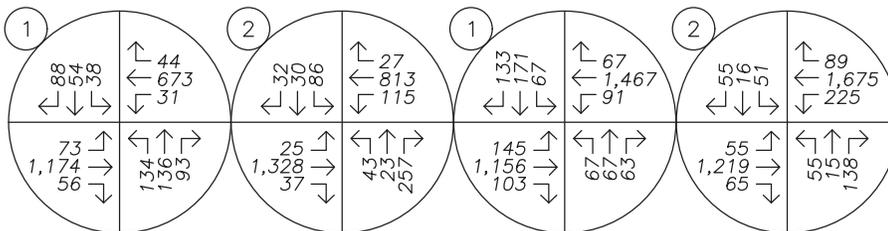
BACKGROUND



MORNING PEAK

EVENING PEAK

BUILDOUT



no scale

Operational Analysis

An operational analysis was conducted for each of the study intersections per the signalized intersection analysis methodologies in the *Highway Capacity Manual* (HCM)³. Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

Performance Standards

The study area includes intersections under the jurisdiction of the City of Cornelius and ODOT. The following performance standards apply:

- Per Cornelius Municipal Code (CMC) section 18.143.020, "City street intersections shall maintain a level of service (LOS) of "D" during the p.m. peak hour of the day. An LOS of "E" may be accepted for local street approaches or driveway access points that intersect with collector or arterial streets if these intersections are found to operate safely".
- OR 8 (Tualatin Valley Highway) within the study area is part of a Regional Center and is also designated as a Special Transportation Area. Per the Oregon Highway Plan Table 7, the performance target is 1.1 for the 1st highest hour and 0.99 for the second highest hour.

Delay & Capacity Analysis

The LOS, delay and v/c results of the capacity analysis are shown in Table 2 for the morning and evening peak hours. Detailed calculations as well as tables showing the relationship between delay and LOS are included as an attachment to this memorandum.

Table 2: Capacity Analysis Summary

Intersection & Scenario	Performance Standard	AM Peak Hour			PM Peak Hour		
		LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
1. Tualatin Valley Highway & S 20th Avenue							
2024 Existing Conditions	1.1/0.9 (ODOT)	C	21	0.58	C	26	0.69
2026 Background Conditions		C	23	0.63	C	29	0.74
2026 Buildout Conditions		C	23	0.63	C	29	0.75
2. Tualatin Valley Highway & S 26th Avenue							
2024 Existing Conditions	1.1/0.9 (ODOT)	C	23	0.73	B	15	0.71
2026 Background Conditions		C	28	0.81	B	17	0.76
2026 Buildout Conditions		C	28	0.82	B	17	0.76

Notes: Locations that do not meet standards are **BOLDED**.

³ Transportation Research Board, *Highway Capacity Manual* 7th Edition, 2022.



All study intersections are currently operating acceptably per agency standards and are projected to continue operating acceptably through the 2026 buildout year. No operational mitigation is necessary or recommended at these intersections.

95th Percentile Queueing

An analysis of projected queueing was conducted for the study area intersections. The 95th percentile queue lengths were estimated based on the same Synchro/SimTraffic simulations used for the delay calculations. The 95th percentile queue is a statistical measurement which indicates there is a 5 percent chance that the queue may exceed this length during the analysis period; however, given this is a probability, the 95th percentile queue length may theoretically never be met or observed in the field.

The 95th percentile queue lengths reported in the simulation are presented in Table 3 for the morning and evening peak hours. All queues more than 5 feet longer than a multiple of 25 were rounded up to the nearest 25 feet, equivalent to an average vehicle length. Those that were 5 feet or less than a multiple of 25 were rounded down since 5 feet is equivalent to the space between queued vehicles. The bold results indicate movements that exceed the storage length provided under existing conditions or are projected to block nearby critical system elements. Detailed queueing analysis reports are included as an attachment to this memorandum.



Table 3: 95th Percentile Queueing Analysis Summary

Intersection/Movement	Available Storage (ft)	2026 Background Queue (ft)		2026 Buildout Queue (ft)	
		Morning	Evening	Morning	Evening
1. Tualatin Valley Highway & S 20th Avenue					
EB Left	220	175	275	175	275
EB Through-Right	>1,000	350	375	350	400
WB Left	300	75	275	75	275
WB Through	780	225	625	225	725
WB Right	250	-	300	25	300
NB Left	130	175	100	175	100
NB Through-Right	250	250	150	250	150
SB Left	200	75	100	100	100
SB Through	>1,000	100	175	100	200
SB Right	160	75	125	75	125
2. Tualatin Valley Highway & S 26th Avenue					
EB Left	360	100	75	100	75
EB Through-Right	850	350	375	400	400
WB Left	300	100	200	125	250
WB Through	920	175	400	175	425
WB Right	250	25	100	25	150
NB Left-Through	225	200	125	225	125
NB Right	50	150	100	175	125
SB Left-Through	>1,000	150	100	150	100
SB Right	100	50	75	75	75

In general, changes in 95th percentile queuing between the year 2026 background and 2026 buildout conditions are anticipated to be small (one or two vehicles). Most queues can be accommodated within the available storage with four exceptions:

Tualatin Valley Highway at S 20th Avenue

The queues for the eastbound left-turn, westbound right-turn, and northbound left-turn at the intersection are expected to spill over between two and three vehicles. For the eastbound and westbound turn lanes, queues are not expected to block any critical infrastructure. For the northbound left-turn lane, there is a railroad crossing located approximately 130 feet south of the intersection (which equals the approximate queue storage available). However, south of the railroad tracks there is adequate space for vehicles to wait until it is clear to cross the tracks and then maneuver into the left-turn lane.

Tualatin Valley Highway at S 26th Avenue

The queue for the northbound right-turn at the intersection is expected to spill over between two and five vehicles. For the northbound right-turn lane, there is a railroad crossing located approximately 50 feet south of



the intersection (which equals the approximate queue storage available). However, south of the railroad tracks there is adequate space for vehicles to wait until it is clear to cross the tracks and then maneuver into the right-turn lane.

Summary

For both study intersections, Table 3 shows acceptable LOS and delay conditions, and the frequency of having queue lengths longer than the available queue would be intermittent and of short duration. Accordingly, no intersection queuing related mitigation is necessary or recommended as part of the proposed development.

Conclusions

Key findings of this study include:

- The trip generation calculations show that the proposed development is expected to generate 19 trips during the morning peak hour, 25 trips during the evening peak hour, and 254 trips during an average weekday.
- All study intersections are currently operating acceptably per agency standards and are projected to continue operating acceptably through the 2026 buildout year. No operational mitigation is necessary or recommended at these intersections.
- In general, changes in 95th percentile queuing between the year 2026 background and 2026 buildout conditions are anticipated to be small (one or two vehicles). Most queues can be accommodated within the available storage and blockages are anticipated to be intermittent and of short duration.

If you have any questions regarding the preparation of this scoping memorandum, please don't hesitate to contact us.





TRIP GENERATION CALCULATIONS
Proposed Development

Land Use: Single-Family Detached Housing
Land Use Code: 210
Land Use Subcategory: Not Close to Rail Transit
Setting/Location: General Urban/Suburban
Variable: Dwelling Units
Trip Type: Vehicle
Formula Type: Rate
Variable Quantity: 27

AM PEAK HOUR

Trip Rate: 0.70

	Enter	Exit	Total
Directional Split	25%	75%	
Trip Ends	5	14	19

PM PEAK HOUR

Trip Rate: 0.94

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	16	9	25

WEEKDAY

Trip Rate: 9.43

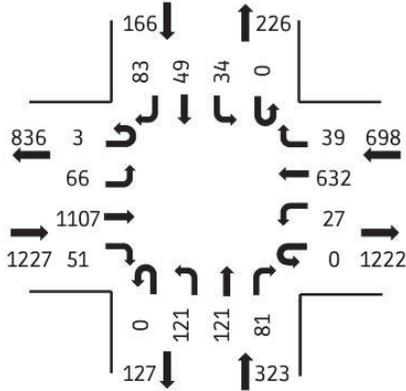
	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	127	127	254

Source: Trip Generation Manual, 11th Edition

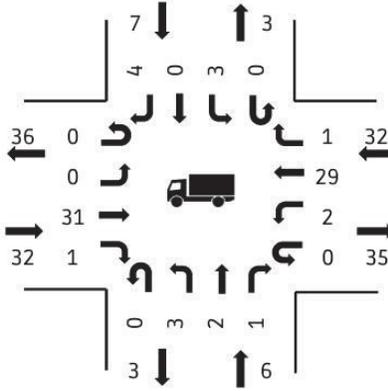


Location: S 20th Avenue & TV Hwy
 Date: 2024-09-10
 Peak Hour Start: 07:15 AM
 Peak 15 Minute Start: 07:30 AM
 Peak Hour Factor: 0.92

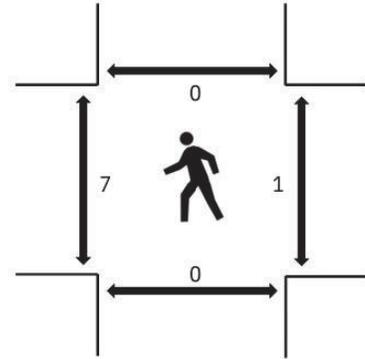
Motorized Vehicles



Heavy Vehicles



Pedestrians



(peak hour)

All Vehicle Volumes

Time	NB (S 20th Avenue)					SB (S 20th Avenue)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	5	11	13	0	0	3	3	3	0	0	6	70	0	0	0	1	25	6	0	0		
07:05:00 AM	6	15	2	0	0	2	2	3	0	0	6	93	3	0	0	0	52	1	0	0		
07:10:00 AM	6	12	3	0	0	2	1	3	0	0	4	81	6	0	0	1	45	3	0	0	498	
07:15:00 AM	9	6	6	0	0	1	6	7	0	0	8	97	5	0	0	2	56	6	0	0	561	
07:20:00 AM	8	13	8	0	0	2	0	6	0	0	10	94	3	0	0	4	33	3	0	0	560	
07:25:00 AM	5	6	6	0	0	0	9	9	0	0	3	105	6	0	0	2	40	2	0	0	586	
07:30:00 AM	4	6	6	0	0	1	4	9	0	0	2	141	6	0	0	2	41	3	0	0	602	
07:35:00 AM	11	19	5	0	0	2	6	5	0	0	4	101	3	0	0	1	66	2	0	0	643	
07:40:00 AM	12	11	5	0	0	1	5	10	0	0	5	102	5	0	0	2	44	1	0	0	653	
07:45:00 AM	19	14	8	0	0	3	4	4	0	0	7	91	4	0	0	0	53	3	0	0	638	
07:50:00 AM	18	13	13	0	0	4	3	7	0	0	5	106	7	0	0	2	54	6	0	0	651	
07:55:00 AM	13	7	10	0	0	8	5	7	0	0	4	61	3	0	0	4	65	3	0	0	638	2375
08:00:00 AM	6	13	5	0	0	2	1	5	0	0	2	70	4	0	0	2	59	3	0	0	600	2401
08:05:00 AM	12	5	2	0	0	1	2	4	0	0	5	67	3	2	0	2	65	2	0	0	534	2388
08:10:00 AM	4	8	7	0	0	9	4	10	0	0	11	72	2	1	0	4	56	5	0	0	537	2414
08:15:00 AM	3	8	6	0	0	5	6	9	0	0	5	72	10	0	0	0	54	2	0	0	545	2385
08:20:00 AM	8	2	3	0	0	3	4	4	0	0	5	83	5	0	0	2	61	4	0	0	557	2385
08:25:00 AM	2	6	4	0	0	5	1	4	0	0	7	65	4	0	0	2	53	2	0	0	519	2347
08:30:00 AM	3	2	4	0	0	3	3	8	0	0	4	62	4	1	0	5	36	3	0	0	477	2260
08:35:00 AM	5	2	2	0	0	3	1	6	0	0	8	99	8	0	0	1	71	4	0	0	503	2245
08:40:00 AM	8	4	2	0	0	7	0	7	0	0	5	60	2	0	0	1	40	1	0	0	485	2179
08:45:00 AM	4	3	3	0	0	2	1	8	0	0	7	104	3	0	0	3	75	2	0	0	562	2184
08:50:00 AM	5	4	4	0	0	3	1	4	0	0	6	118	1	0	0	0	63	3	0	0	564	2158
08:55:00 AM	5	4	3	0	0	1	0	6	0	0	11	84	4	0	0	2	36	3	0	0	586	2127

Car Volumes

Time	NB (S 20th Avenue)					SB (S 20th Avenue)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	5	10	13	0	0	3	3	2	0	0	6	66	0	0	0	1	23	6	0	0		
07:05:00 AM	6	15	2	0	0	2	2	3	0	0	6	87	3	0	0	0	44	1	0	0		
07:10:00 AM	5	12	3	0	0	2	1	3	0	0	4	79	4	0	0	1	39	3	0	0	465	
07:15:00 AM	8	6	6	0	0	1	6	7	0	0	8	94	5	0	0	2	53	6	0	0	529	
07:20:00 AM	7	13	8	0	0	2	0	5	0	0	10	92	3	0	0	3	30	3	0	0	534	
07:25:00 AM	5	6	6	0	0	0	9	9	0	0	3	101	6	0	0	2	38	2	0	0	565	
07:30:00 AM	4	6	6	0	0	1	4	9	0	0	2	139	5	0	0	2	41	3	0	0	585	
07:35:00 AM	11	19	5	0	0	2	6	5	0	0	4	98	3	0	0	1	62	2	0	0	627	
07:40:00 AM	11	11	4	0	0	1	5	8	0	0	5	98	5	0	0	2	44	1	0	0	635	
07:45:00 AM	19	12	8	0	0	2	4	4	0	0	7	88	4	0	0	0	50	3	0	0	614	
07:50:00 AM	18	13	13	0	0	4	3	6	0	0	5	104	7	0	0	2	52	6	0	0	629	
07:55:00 AM	13	7	10	0	0	6	5	7	0	0	4	59	3	0	0	4	63	3	0	0	618	2283
08:00:00 AM	6	13	5	0	0	2	1	5	0	0	2	70	4	0	0	1	53	3	0	0	582	2310
08:05:00 AM	12	5	2	0	0	1	2	4	0	0	5	64	3	2	0	2	64	2	0	0	517	2307
08:10:00 AM	4	8	7	0	0	9	4	10	0	0	11	69	2	1	0	4	53	4	0	0	519	2337
08:15:00 AM	3	8	6	0	0	4	6	8	0	0	5	70	10	0	0	0	49	2	0	0	525	2306
08:20:00 AM	8	1	3	0	0	3	4	4	0	0	5	80	4	0	0	2	59	4	0	0	534	2307
08:25:00 AM	2	5	4	0	0	3	1	4	0	0	7	63	3	0	0	2	49	2	0	0	493	2265
08:30:00 AM	3	2	4	0	0	3	3	8	0	0	4	60	4	1	0	5	35	3	0	0	457	2178
08:35:00 AM	5	2	2	0	0	2	1	6	0	0	7	96	7	0	0	1	67	4	0	0	480	2160
08:40:00 AM	7	3	2	0	0	7	0	6	0	0	5	60	1	0	0	1	36	1	0	0	464	2094
08:45:00 AM	4	3	3	0	0	2	1	7	0	0	7	100	2	0	0	3	74	2	0	0	537	2101
08:50:00 AM	5	4	4	0	0	3	1	4	0	0	6	114	1	0	0	0	62	3	0	0	544	2075
08:55:00 AM	5	4	3	0	0	1	0	6	0	0	11	83	3	0	0	2	35	3	0	0	571	2047

Truck Volumes

Time	NB (S 20th Avenue)					SB (S 20th Avenue)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	1	0	0	0	0	0	1	0	0	0	4	0	0	0	0	2	0	0	0		
07:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	8	0	0	0		
07:10:00 AM	1	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	6	0	0	0	33	
07:15:00 AM	1	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	32	
07:20:00 AM	1	0	0	0	0	0	0	1	0	0	0	2	0	0	0	1	3	0	0	0	26	
07:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	2	0	0	0	21	
07:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	17	
07:35:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	4	0	0	0	16	
07:40:00 AM	1	0	1	0	0	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	18	
07:45:00 AM	0	2	0	0	0	1	0	0	0	0	0	3	0	0	0	0	3	0	0	0	24	
07:50:00 AM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	2	0	0	0	22	
07:55:00 AM	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	2	0	0	0	20	92
08:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	0	0	0	18	91
08:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	17	81
08:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	1	0	0	18	77
08:15:00 AM	0	0	0	0	0	1	0	1	0	0	0	2	0	0	0	0	5	0	0	0	20	79
08:20:00 AM	0	1	0	0	0	0	0	0	0	0	0	3	1	0	0	0	2	0	0	0	23	78
08:25:00 AM	0	1	0	0	0	2	0	0	0	0	0	2	1	0	0	0	4	0	0	0	26	82
08:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	20	82
08:35:00 AM	0	0	0	0	0	1	0	0	0	0	1	3	1	0	0	0	4	0	0	0	23	85
08:40:00 AM	1	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	4	0	0	0	21	85
08:45:00 AM	0	0	0	0	0	0	0	1	0	0	0	4	1	0	0	0	1	0	0	0	25	83
08:50:00 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	1	0	0	0	20	83
08:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	15	80

Bike Volumes

Time	NB (S 20th Avenue)					SB (S 20th Avenue)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
07:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:20:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
07:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
07:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
07:35:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
07:40:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
07:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
07:50:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:20:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:35:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:40:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:50:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

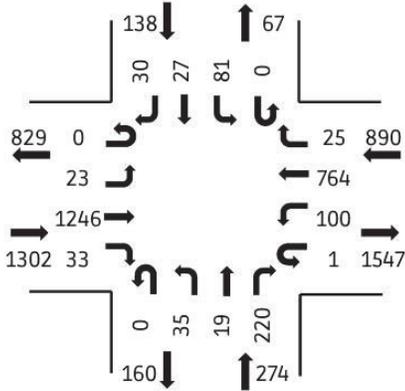
Pedestrian Volumes

Time	Pedestrians				Totals	
	NB	SB	EB	WB	15min	1hr
07:00:00 AM	0	0	1	0		
07:05:00 AM	0	0	0	0		
07:10:00 AM	0	0	0	0	1	
07:15:00 AM	0	0	0	0	0	
07:20:00 AM	0	0	0	0	0	
07:25:00 AM	0	0	4	0	4	
07:30:00 AM	0	0	0	0	4	
07:35:00 AM	0	0	0	0	4	
07:40:00 AM	0	0	0	0	0	
07:45:00 AM	0	0	0	0	0	
07:50:00 AM	0	0	0	0	0	
07:55:00 AM	0	0	0	0	0	5
08:00:00 AM	0	0	0	0	0	4
08:05:00 AM	0	0	2	1	3	7
08:10:00 AM	0	0	1	0	4	8
08:15:00 AM	0	0	0	0	4	8
08:20:00 AM	0	1	0	1	3	10
08:25:00 AM	0	0	1	1	4	8
08:30:00 AM	0	0	0	0	4	8
08:35:00 AM	0	0	0	0	2	8
08:40:00 AM	0	0	2	0	2	10
08:45:00 AM	1	0	0	1	4	12
08:50:00 AM	0	0	0	0	4	12
08:55:00 AM	0	0	0	0	2	12

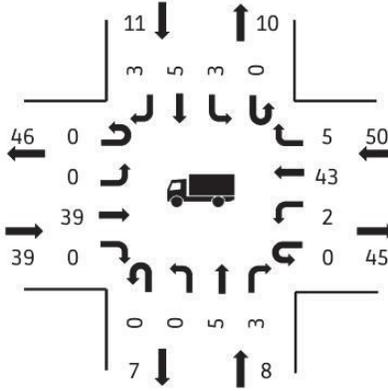


Location: S 26th Ave & TV Hwy
 Date: 2024-09-10
 Peak Hour Start: 07:05 AM
 Peak 15 Minute Start: 07:35 AM
 Peak Hour Factor: 0.86

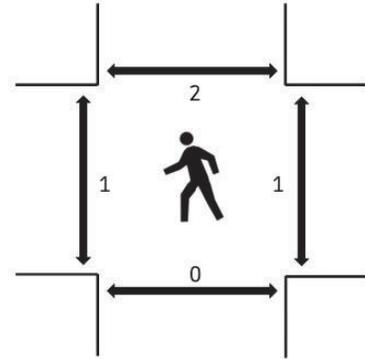
Motorized Vehicles



Heavy Vehicles



Pedestrians



(peak hour)

All Vehicle Volumes

Time	NB (S 26th Ave)					SB (S 26th Ave)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	3	1	12	0	0	5	0	2	0	0	1	88	0	0	0	6	43	3	0	0		
07:05:00 AM	2	0	14	0	0	3	2	0	0	0	1	93	3	0	0	2	60	2	0	0		
07:10:00 AM	0	0	9	0	0	6	1	3	0	0	3	93	1	0	0	7	62	5	0	0	536	
07:15:00 AM	3	0	11	0	0	14	0	2	0	0	0	71	3	0	0	7	67	2	0	0	552	
07:20:00 AM	1	0	20	0	0	5	2	5	0	0	2	121	3	0	0	8	54	1	0	0	592	
07:25:00 AM	4	1	25	0	0	4	0	2	0	0	2	123	4	0	0	7	46	0	0	0	620	
07:30:00 AM	4	2	17	0	0	4	4	2	0	0	3	119	3	0	0	13	57	1	0	0	669	
07:35:00 AM	6	0	27	0	0	11	2	2	0	0	2	125	3	0	0	10	78	2	1	0	716	
07:40:00 AM	3	2	25	0	0	7	2	2	0	0	2	109	2	0	0	13	63	1	0	0	729	
07:45:00 AM	3	3	16	0	0	12	5	2	0	0	2	114	5	0	0	12	78	1	0	0	753	
07:50:00 AM	6	5	23	0	0	6	5	1	0	0	3	106	3	0	0	8	52	3	0	0	705	
07:55:00 AM	1	4	21	0	0	6	2	4	0	0	2	102	1	0	0	9	74	4	0	0	704	2589
08:00:00 AM	2	2	12	0	0	3	2	5	0	0	1	70	2	0	0	4	73	3	0	0	630	2604
08:05:00 AM	4	3	11	0	0	4	0	2	0	0	4	62	0	0	0	9	72	0	0	0	580	2593
08:10:00 AM	3	1	15	0	0	8	1	1	0	0	2	86	3	0	0	2	65	3	0	0	540	2593
08:15:00 AM	1	0	10	0	0	6	0	0	0	0	2	86	4	0	0	8	69	4	0	0	551	2603
08:20:00 AM	1	0	11	0	0	5	1	1	0	0	2	86	1	0	0	9	71	1	0	0	569	2570
08:25:00 AM	5	0	10	0	0	2	1	0	0	0	1	71	0	0	0	8	63	3	0	0	543	2516
08:30:00 AM	2	0	14	0	0	6	0	2	0	0	2	95	3	0	0	6	62	3	0	0	548	2482
08:35:00 AM	4	0	6	0	0	2	0	2	0	0	3	95	1	0	0	6	73	2	0	0	553	2407
08:40:00 AM	5	0	12	0	0	4	1	2	0	0	5	77	0	0	0	5	57	2	0	0	559	2346
08:45:00 AM	1	0	9	0	0	4	1	2	0	0	4	92	2	0	0	2	65	1	0	0	547	2276
08:50:00 AM	3	1	4	0	0	2	0	1	0	0	2	92	1	0	0	6	71	2	0	0	538	2240
08:55:00 AM	2	0	6	0	0	1	0	3	0	0	6	94	2	0	0	12	46	2	0	0	542	2184

Car Volumes

Time	NB (S 26th Ave)					SB (S 26th Ave)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	3	1	12	0	0	4	0	1	0	0	1	86	0	0	0	6	42	3	0	0		
07:05:00 AM	2	0	14	0	0	3	2	0	0	0	1	87	3	0	0	2	52	2	0	0		
07:10:00 AM	0	0	9	0	0	6	1	3	0	0	3	92	1	0	0	7	55	5	0	0	509	
07:15:00 AM	3	0	11	0	0	13	0	2	0	0	0	68	3	0	0	7	63	1	0	0	521	
07:20:00 AM	1	0	20	0	0	5	1	3	0	0	2	118	3	0	0	8	53	1	0	0	568	
07:25:00 AM	4	0	25	0	0	4	0	2	0	0	2	119	4	0	0	7	44	0	0	0	597	
07:30:00 AM	4	1	17	0	0	4	2	2	0	0	3	117	3	0	0	12	55	0	0	0	646	
07:35:00 AM	6	0	26	0	0	11	2	1	0	0	2	123	3	0	0	9	73	2	1	0	690	
07:40:00 AM	3	2	24	0	0	7	1	2	0	0	2	105	2	0	0	13	61	1	0	0	702	
07:45:00 AM	3	3	16	0	0	11	5	2	0	0	2	110	5	0	0	12	77	1	0	0	729	
07:50:00 AM	6	3	23	0	0	6	4	1	0	0	3	101	3	0	0	8	50	2	0	0	680	
07:55:00 AM	1	4	20	0	0	5	2	4	0	0	2	100	1	0	0	9	70	3	0	0	678	2486
08:00:00 AM	2	1	12	0	0	3	2	5	0	0	1	67	2	0	0	4	68	2	0	0	600	2496
08:05:00 AM	4	2	11	0	0	4	0	2	0	0	4	60	0	0	0	9	69	0	0	0	555	2493
08:10:00 AM	3	0	14	0	0	6	1	1	0	0	2	81	3	0	0	2	60	3	0	0	510	2487
08:15:00 AM	1	0	10	0	0	6	0	0	0	0	2	82	4	0	0	6	63	3	0	0	518	2493
08:20:00 AM	1	0	10	0	0	4	1	1	0	0	2	84	1	0	0	9	68	1	0	0	535	2460
08:25:00 AM	5	0	10	0	0	2	1	0	0	0	1	67	0	0	0	8	59	3	0	0	515	2405
08:30:00 AM	2	0	14	0	0	6	0	2	0	0	2	91	3	0	0	6	59	3	0	0	526	2373
08:35:00 AM	4	0	6	0	0	2	0	2	0	0	3	92	1	0	0	6	68	2	0	0	530	2300
08:40:00 AM	5	0	12	0	0	4	1	2	0	0	5	74	0	0	0	5	53	2	0	0	537	2240
08:45:00 AM	1	0	9	0	0	4	1	1	0	0	4	90	2	0	0	2	65	1	0	0	529	2173
08:50:00 AM	3	0	4	0	0	2	0	1	0	0	2	87	1	0	0	5	70	2	0	0	520	2140
08:55:00 AM	2	0	6	0	0	1	0	3	0	0	6	93	2	0	0	11	44	1	0	0	526	2088

Truck Volumes

Time	NB (S 26th Ave)					SB (S 26th Ave)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	0	0	0	0	1	0	1	0	0	0	2	0	0	0	0	1	0	0	0		
07:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	8	0	0	0		
07:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	7	0	0	0	27	
07:15:00 AM	0	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	4	1	0	0	31	
07:20:00 AM	0	0	0	0	0	0	1	2	0	0	0	3	0	0	0	0	1	0	0	0	24	
07:25:00 AM	0	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	2	0	0	0	23	
07:30:00 AM	0	1	0	0	0	0	2	0	0	0	0	2	0	0	0	1	2	1	0	0	23	
07:35:00 AM	0	0	1	0	0	0	0	1	0	0	0	2	0	0	0	1	5	0	0	0	26	
07:40:00 AM	0	0	1	0	0	0	1	0	0	0	0	4	0	0	0	0	2	0	0	0	27	
07:45:00 AM	0	0	0	0	0	1	0	0	0	0	0	4	0	0	0	0	1	0	0	0	24	
07:50:00 AM	0	2	0	0	0	0	1	0	0	0	0	5	0	0	0	0	2	1	0	0	25	
07:55:00 AM	0	0	1	0	0	1	0	0	0	0	0	2	0	0	0	0	4	1	0	0	26	103
08:00:00 AM	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	5	1	0	0	30	108
08:05:00 AM	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	3	0	0	0	25	100
08:10:00 AM	0	1	1	0	0	2	0	0	0	0	0	5	0	0	0	0	5	0	0	0	30	106
08:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	2	6	1	0	0	33	110
08:20:00 AM	0	0	1	0	0	1	0	0	0	0	0	2	0	0	0	0	3	0	0	0	34	110
08:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	28	111
08:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	3	0	0	0	22	109
08:35:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	5	0	0	0	23	107
08:40:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	4	0	0	0	22	106
08:45:00 AM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	18	103
08:50:00 AM	0	1	0	0	0	0	0	0	0	0	0	5	0	0	0	1	1	0	0	0	18	100
08:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	1	0	0	16	96

Bike Volumes

Time	NB (S 26th Ave)					SB (S 26th Ave)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
07:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0		
07:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
07:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:20:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	
07:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
07:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
07:35:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	
07:40:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
07:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
07:50:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4
08:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
08:05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
08:10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:20:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:25:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	3
08:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
08:35:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	3
08:40:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
08:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
08:50:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:55:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

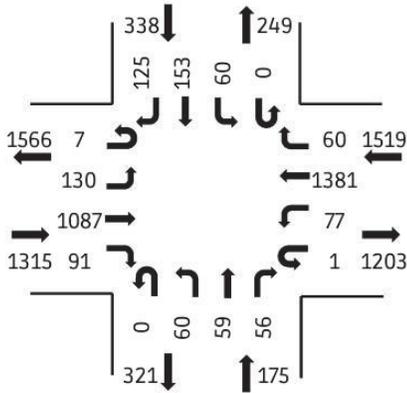
Pedestrian Volumes

Time	Pedestrians				Totals	
	NB	SB	EB	WB	15min	1hr
07:00:00 AM	0	0	0	0		
07:05:00 AM	0	0	0	0		
07:10:00 AM	0	0	0	0	0	
07:15:00 AM	0	0	0	0	0	
07:20:00 AM	0	0	0	1	1	
07:25:00 AM	0	0	0	0	1	
07:30:00 AM	0	0	0	0	1	
07:35:00 AM	0	2	0	0	2	
07:40:00 AM	0	0	0	0	2	
07:45:00 AM	0	0	0	0	2	
07:50:00 AM	0	0	0	0	0	
07:55:00 AM	0	0	0	0	0	3
08:00:00 AM	0	0	1	0	1	4
08:05:00 AM	0	0	0	0	1	4
08:10:00 AM	0	2	0	0	3	6
08:15:00 AM	0	0	0	1	3	7
08:20:00 AM	1	0	0	1	5	8
08:25:00 AM	0	0	0	1	4	9
08:30:00 AM	0	0	0	0	3	9
08:35:00 AM	0	0	0	0	1	7
08:40:00 AM	0	0	0	0	0	7
08:45:00 AM	0	0	0	0	0	7
08:50:00 AM	0	0	0	0	0	7
08:55:00 AM	0	0	0	0	0	7

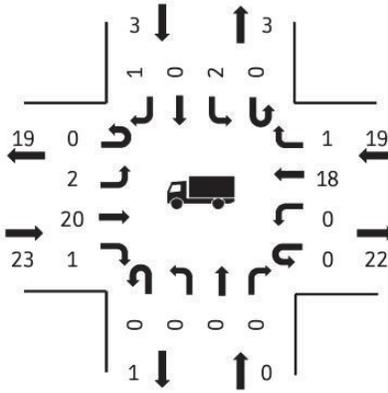


Location: S 20th Avenue & TV Hwy
 Date: 2024-09-10
 Peak Hour Start: 04:15 PM
 Peak 15 Minute Start: 04:35 PM
 Peak Hour Factor: 0.95

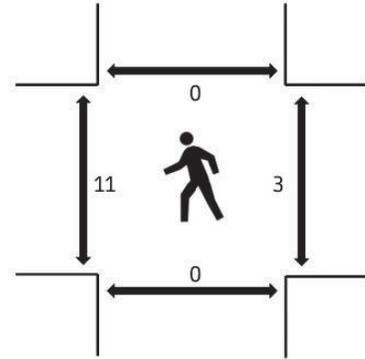
Motorized Vehicles



Heavy Vehicles



Pedestrians



(peak hour)

All Vehicle Volumes

Time	NB (S 20th Avenue)					SB (S 20th Avenue)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	7	2	4	0	0	8	10	10	0	0	5	70	10	0	0	7	75	4	1	0		
04:05:00 PM	6	8	3	0	0	8	6	10	0	0	3	93	17	0	0	6	83	10	1	0		
04:10:00 PM	6	3	1	0	0	3	8	5	0	0	9	101	17	0	0	3	116	6	0	0	745	
04:15:00 PM	5	6	2	0	0	5	10	16	0	0	13	73	7	2	0	4	120	6	0	0	801	
04:20:00 PM	6	2	3	0	0	7	9	9	0	0	20	94	5	1	0	9	97	3	0	0	812	
04:25:00 PM	4	2	5	0	0	5	13	13	0	0	10	80	7	0	0	4	131	4	1	0	813	
04:30:00 PM	4	3	4	0	0	2	26	8	0	0	11	85	7	0	0	6	104	3	0	0	807	
04:35:00 PM	4	5	4	0	0	8	17	10	0	0	8	110	9	1	0	5	109	9	0	0	841	
04:40:00 PM	7	9	1	0	0	7	14	9	0	0	14	123	8	0	0	6	107	2	0	0	869	
04:45:00 PM	7	6	9	0	0	4	10	3	0	0	10	87	10	0	0	3	122	6	0	0	883	
04:50:00 PM	5	9	7	0	0	1	9	14	0	0	8	79	8	0	0	5	112	9	0	0	850	
04:55:00 PM	4	3	4	0	0	8	16	10	0	0	12	95	8	0	0	10	124	4	0	0	841	3268
05:00:00 PM	5	8	4	0	0	6	5	12	0	0	7	80	7	0	0	9	109	2	0	0	818	3309
05:05:00 PM	6	4	5	0	0	4	12	12	0	0	9	78	8	2	0	10	109	4	0	0	815	3318
05:10:00 PM	3	2	8	0	0	3	12	9	0	0	8	103	7	1	0	6	137	8	0	0	824	3347
05:15:00 PM	4	4	7	0	0	5	13	8	0	0	3	69	10	0	0	4	132	9	0	0	838	3346
05:20:00 PM	7	3	5	0	0	6	12	10	0	0	13	82	11	1	0	6	93	2	0	0	826	3332
05:25:00 PM	4	6	5	0	0	3	7	7	0	0	15	91	4	0	0	8	117	5	0	0	791	3325
05:30:00 PM	4	5	4	0	0	9	7	9	0	0	4	100	6	0	0	10	120	4	0	0	805	3344
05:35:00 PM	3	9	10	0	0	1	9	8	0	0	10	76	5	0	0	5	114	3	0	0	807	3298
05:40:00 PM	9	6	5	0	0	1	9	16	0	0	3	99	12	0	0	8	86	6	0	0	795	3251
05:45:00 PM	11	5	3	0	0	2	14	9	0	0	8	86	4	0	0	5	122	2	0	0	784	3245
05:50:00 PM	5	8	4	0	0	9	11	9	0	0	10	66	9	0	0	7	82	3	0	0	754	3202
05:55:00 PM	4	3	4	0	0	3	5	10	0	0	4	90	11	0	0	6	99	6	0	0	739	3149

Car Volumes

Time	NB (S 20th Avenue)					SB (S 20th Avenue)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	7	2	4	0	0	8	9	10	0	0	5	68	10	0	0	7	74	4	1	0		
04:05:00 PM	5	8	3	0	0	8	6	10	0	0	3	91	16	0	0	6	82	10	1	0		
04:10:00 PM	6	3	1	0	0	3	8	5	0	0	9	99	17	0	0	3	112	6	0	0	730	
04:15:00 PM	5	6	2	0	0	5	10	16	0	0	13	71	7	2	0	4	117	5	0	0	784	
04:20:00 PM	6	2	3	0	0	7	9	9	0	0	20	91	5	1	0	9	97	3	0	0	797	
04:25:00 PM	4	2	5	0	0	4	13	12	0	0	9	79	7	0	0	4	131	4	1	0	800	
04:30:00 PM	4	3	4	0	0	1	26	8	0	0	11	83	7	0	0	6	103	3	0	0	796	
04:35:00 PM	4	5	4	0	0	8	17	10	0	0	8	109	9	1	0	5	106	9	0	0	829	
04:40:00 PM	7	9	1	0	0	7	14	9	0	0	13	122	8	0	0	6	103	2	0	0	855	
04:45:00 PM	7	6	9	0	0	4	10	3	0	0	10	85	10	0	0	3	121	6	0	0	870	
04:50:00 PM	5	9	7	0	0	1	9	14	0	0	8	79	8	0	0	5	111	9	0	0	840	
04:55:00 PM	4	3	4	0	0	8	16	10	0	0	12	91	8	0	0	10	124	4	0	0	833	3218
05:00:00 PM	5	8	4	0	0	6	5	12	0	0	7	79	7	0	0	9	107	2	0	0	810	3260
05:05:00 PM	6	4	5	0	0	4	12	12	0	0	9	76	7	2	0	10	108	4	0	0	804	3270
05:10:00 PM	3	2	8	0	0	3	12	9	0	0	8	102	7	1	0	6	135	8	0	0	814	3302
05:15:00 PM	4	4	7	0	0	5	13	8	0	0	3	68	10	0	0	4	132	9	0	0	830	3306
05:20:00 PM	7	3	5	0	0	6	12	10	0	0	13	81	11	1	0	6	93	2	0	0	821	3294
05:25:00 PM	4	6	5	0	0	3	7	7	0	0	15	91	4	0	0	8	115	5	0	0	787	3289
05:30:00 PM	3	5	4	0	0	9	7	9	0	0	4	99	6	0	0	10	119	4	0	0	799	3309
05:35:00 PM	3	9	10	0	0	1	9	8	0	0	10	75	5	0	0	5	112	3	0	0	799	3264
05:40:00 PM	9	6	5	0	0	1	9	16	0	0	3	98	12	0	0	8	85	6	0	0	787	3221
05:45:00 PM	11	5	3	0	0	2	14	9	0	0	8	85	4	0	0	5	121	2	0	0	777	3216
05:50:00 PM	5	8	4	0	0	9	11	9	0	0	10	66	9	0	0	7	80	3	0	0	748	3172
05:55:00 PM	4	3	4	0	0	3	5	10	0	0	4	90	11	0	0	6	98	6	0	0	734	3122

Truck Volumes

Time	NB (S 20th Avenue)					SB (S 20th Avenue)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	1	0	0	0		
04:05:00 PM	1	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0	0	0		
04:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	4	0	0	0	15	
04:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	3	1	0	0	17	
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	15	
04:25:00 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	13	
04:30:00 PM	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	1	0	0	0	11	
04:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	0	0	0	12	
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	4	0	0	0	14	
04:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	13	
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	10	
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	8	50
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	8	49
05:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0	0	0	11	48
05:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	10	45
05:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	8	40
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	5	38
05:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	36
05:30:00 PM	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	6	35
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	8	34
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	8	30
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	7	29
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6	30
05:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	27

Bike Volumes

Time	NB (S 20th Avenue)					SB (S 20th Avenue)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:05:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
04:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:25:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
04:30:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
04:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
04:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:50:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4
05:00:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5
05:05:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5
05:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5
05:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
05:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:45:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4
05:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4

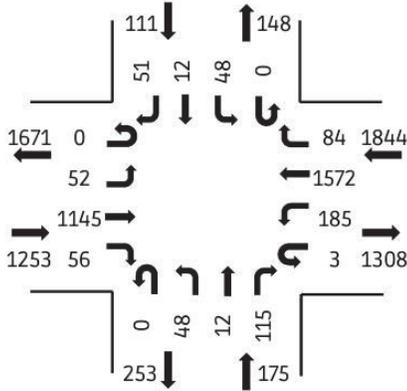
Pedestrian Volumes

Time	Pedestrians				Totals	
	NB	SB	EB	WB	15min	1hr
04:00:00 PM	0	0	0	0		
04:05:00 PM	0	0	0	0		
04:10:00 PM	0	0	0	1	1	
04:15:00 PM	0	0	0	1	2	
04:20:00 PM	0	0	2	1	5	
04:25:00 PM	0	0	0	0	4	
04:30:00 PM	0	0	2	0	5	
04:35:00 PM	0	0	3	0	5	
04:40:00 PM	0	0	0	0	5	
04:45:00 PM	0	0	0	0	3	
04:50:00 PM	0	0	1	1	2	
04:55:00 PM	0	0	0	0	2	12
05:00:00 PM	0	0	2	0	4	14
05:05:00 PM	0	0	1	0	3	15
05:10:00 PM	0	0	0	0	3	14
05:15:00 PM	0	0	0	0	1	13
05:20:00 PM	0	0	4	0	4	14
05:25:00 PM	0	0	0	0	4	14
05:30:00 PM	0	0	0	0	4	12
05:35:00 PM	0	0	0	0	0	9
05:40:00 PM	0	0	0	2	2	11
05:45:00 PM	1	1	0	0	4	13
05:50:00 PM	0	0	2	0	6	13
05:55:00 PM	1	0	0	0	5	14

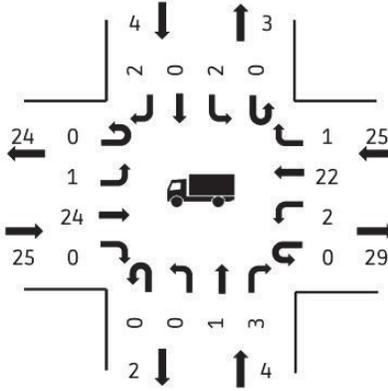


Location: S 26th Ave & TV Hwy
 Date: 2024-09-10
 Peak Hour Start: 04:15 PM
 Peak 15 Minute Start: 04:35 PM
 Peak Hour Factor: 0.95

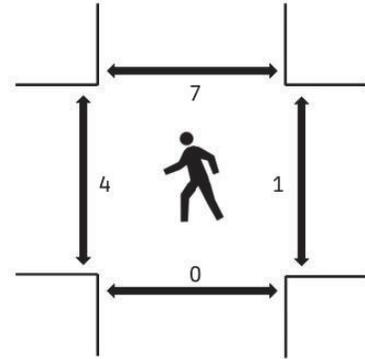
Motorized Vehicles



Heavy Vehicles



Pedestrians



(peak hour)

All Vehicle Volumes

Time	NB (S 26th Ave)					SB (S 26th Ave)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	2	1	4	0	0	1	1	4	0	0	6	101	6	0	0	14	110	4	0	0		
04:05:00 PM	3	0	14	0	0	4	1	7	0	0	7	93	2	0	0	15	85	9	0	0		
04:10:00 PM	1	1	11	0	0	3	0	0	0	0	3	83	3	0	0	13	122	1	0	0	735	
04:15:00 PM	6	2	11	0	0	3	1	3	0	0	4	89	3	0	0	11	134	16	0	0	764	
04:20:00 PM	1	2	5	0	0	2	0	4	0	0	4	97	1	0	0	20	137	3	0	0	800	
04:25:00 PM	3	0	10	0	0	3	0	4	0	0	3	81	3	0	0	10	133	3	0	0	812	
04:30:00 PM	4	0	10	0	0	2	0	6	0	0	1	104	6	0	0	14	122	4	1	0	803	
04:35:00 PM	1	1	12	0	0	5	3	3	0	0	6	115	4	0	0	20	128	13	0	0	838	
04:40:00 PM	5	0	18	0	0	6	1	5	0	0	4	97	2	0	0	20	102	8	0	0	853	
04:45:00 PM	3	0	11	0	0	1	0	3	0	0	6	111	6	0	0	16	145	5	0	0	886	
04:50:00 PM	5	1	15	0	0	4	3	4	0	0	3	94	7	0	0	14	149	9	0	0	883	
04:55:00 PM	8	1	4	0	0	5	2	4	0	0	5	91	7	0	0	13	118	4	1	0	878	3278
05:00:00 PM	1	1	5	0	0	5	0	6	0	0	5	89	3	0	0	10	112	4	0	0	812	3265
05:05:00 PM	5	0	7	0	0	5	1	5	0	0	6	79	7	0	0	25	142	8	0	0	794	3315
05:10:00 PM	6	4	7	0	0	7	1	4	0	0	5	98	7	0	0	12	150	7	1	0	840	3383
05:15:00 PM	3	1	7	0	0	8	1	6	0	0	4	87	6	0	0	19	117	6	0	0	864	3365
05:20:00 PM	6	0	7	0	0	5	2	1	0	0	2	81	6	0	0	17	148	1	0	0	850	3365
05:25:00 PM	5	0	12	0	0	5	0	4	0	0	5	75	6	0	0	11	109	7	0	0	780	3351
05:30:00 PM	1	1	7	0	0	1	1	3	0	0	3	100	15	0	0	12	129	8	0	0	796	3358
05:35:00 PM	5	1	10	0	0	4	1	4	0	0	8	106	4	0	0	14	108	7	0	0	792	3319
05:40:00 PM	7	2	13	0	0	7	2	0	0	0	2	85	6	0	0	15	125	12	0	0	829	3327
05:45:00 PM	6	1	9	0	0	5	1	4	0	0	2	90	1	0	0	12	103	12	0	0	794	3266
05:50:00 PM	3	1	8	0	0	6	0	5	0	0	4	82	10	0	0	10	108	9	0	0	768	3204
05:55:00 PM	3	1	10	0	0	8	1	12	0	0	0	86	6	0	0	17	81	6	0	0	723	3172

Car Volumes

Time	NB (S 26th Ave)					SB (S 26th Ave)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	2	1	3	0	0	1	0	4	0	0	6	99	6	0	0	14	109	4	0	0		
04:05:00 PM	2	0	11	0	0	4	0	7	0	0	7	92	2	0	0	15	82	9	0	0		
04:10:00 PM	1	1	11	0	0	3	0	0	0	0	2	82	3	0	0	13	121	1	0	0	718	
04:15:00 PM	6	2	10	0	0	3	1	3	0	0	4	87	3	0	0	11	133	16	0	0	748	
04:20:00 PM	1	2	4	0	0	1	0	4	0	0	4	95	1	0	0	20	133	3	0	0	785	
04:25:00 PM	3	0	10	0	0	3	0	4	0	0	3	78	3	0	0	10	132	3	0	0	796	
04:30:00 PM	4	0	10	0	0	2	0	6	0	0	1	101	6	0	0	13	119	4	1	0	784	
04:35:00 PM	1	0	12	0	0	5	3	3	0	0	6	114	4	0	0	20	125	12	0	0	821	
04:40:00 PM	5	0	18	0	0	6	1	4	0	0	4	96	2	0	0	20	101	8	0	0	837	
04:45:00 PM	3	0	11	0	0	1	0	3	0	0	6	108	6	0	0	16	144	5	0	0	873	
04:50:00 PM	5	1	15	0	0	3	3	4	0	0	3	93	7	0	0	14	148	9	0	0	873	
04:55:00 PM	8	1	4	0	0	5	2	4	0	0	5	87	7	0	0	13	117	4	1	0	866	3217
05:00:00 PM	1	1	5	0	0	5	0	6	0	0	5	88	3	0	0	10	108	4	0	0	799	3204
05:05:00 PM	5	0	7	0	0	5	1	5	0	0	5	78	7	0	0	24	142	8	0	0	781	3260
05:10:00 PM	6	4	6	0	0	7	1	3	0	0	5	96	7	0	0	12	148	7	1	0	826	3325
05:15:00 PM	3	1	7	0	0	8	1	6	0	0	4	86	6	0	0	19	117	6	0	0	854	3310
05:20:00 PM	6	0	7	0	0	5	2	1	0	0	2	81	6	0	0	17	146	1	0	0	841	3316
05:25:00 PM	5	0	12	0	0	5	0	4	0	0	5	74	6	0	0	11	109	7	0	0	776	3305
05:30:00 PM	1	1	7	0	0	1	1	3	0	0	3	100	15	0	0	12	128	8	0	0	792	3318
05:35:00 PM	5	0	10	0	0	4	1	4	0	0	8	103	4	0	0	14	105	6	0	0	782	3277
05:40:00 PM	7	2	13	0	0	7	2	0	0	0	2	83	6	0	0	15	124	12	0	0	817	3285
05:45:00 PM	6	1	9	0	0	5	1	4	0	0	2	90	1	0	0	12	103	11	0	0	782	3227
05:50:00 PM	3	1	8	0	0	6	0	5	0	0	4	81	10	0	0	10	106	8	0	0	760	3164
05:55:00 PM	3	1	10	0	0	8	1	12	0	0	0	86	6	0	0	17	80	6	0	0	717	3136

Truck Volumes

Time	NB (S 26th Ave)					SB (S 26th Ave)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	0	1	0	0	0	1	0	0	0	0	2	0	0	0	0	1	0	0	0		
04:05:00 PM	1	0	3	0	0	0	1	0	0	0	0	1	0	0	0	0	3	0	0	0		
04:10:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	17	
04:15:00 PM	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	16	
04:20:00 PM	0	0	1	0	0	1	0	0	0	0	0	2	0	0	0	0	4	0	0	0	15	
04:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	16	
04:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	3	0	0	0	19	
04:35:00 PM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	1	0	0	17	
04:40:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	16	
04:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	13	
04:50:00 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	10	
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	1	0	0	0	12	61
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4	0	0	0	13	61
05:05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	13	55
05:10:00 PM	0	0	1	0	0	0	0	1	0	0	0	2	0	0	0	0	2	0	0	0	14	58
05:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	10	55
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	9	49
05:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4	46
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4	40
05:35:00 PM	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	1	0	0	10	42
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	12	42
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	12	39
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	1	0	0	8	40
05:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	6	36

Bike Volumes

Time	NB (S 26th Ave)					SB (S 26th Ave)					EB (TV Hwy)					WB (TV Hwy)					Totals	
	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	Left	Thru	Right	U-turn	RTOR	15min	1hr
04:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0		
04:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
04:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
04:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	
04:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	
04:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	
04:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
04:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	3	
04:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	
04:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	7
05:00:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	3	9
05:05:00 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	1	0	0	6	12
05:10:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	7	13
05:15:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	13
05:20:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13
05:25:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	0	0	0	4	16
05:30:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	16
05:35:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	15
05:40:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15
05:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	14
05:50:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	3	15
05:55:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	15

Pedestrian Volumes

Time	Pedestrians				Totals	
	NB	SB	EB	WB	15min	1hr
04:00:00 PM	0	0	0	0		
04:05:00 PM	0	0	0	1		
04:10:00 PM	0	0	0	0	1	
04:15:00 PM	0	0	0	0	1	
04:20:00 PM	0	1	0	0	1	
04:25:00 PM	0	1	0	0	2	
04:30:00 PM	0	0	0	0	2	
04:35:00 PM	0	0	0	0	1	
04:40:00 PM	0	1	2	0	3	
04:45:00 PM	0	0	0	0	3	
04:50:00 PM	0	1	0	0	4	
04:55:00 PM	0	0	0	0	1	7
05:00:00 PM	0	2	2	1	6	12
05:05:00 PM	0	0	0	0	5	11
05:10:00 PM	0	1	0	0	6	12
05:15:00 PM	0	1	0	2	4	15
05:20:00 PM	0	1	0	0	5	15
05:25:00 PM	0	0	1	0	5	15
05:30:00 PM	0	0	0	0	2	15
05:35:00 PM	0	0	0	0	1	15
05:40:00 PM	0	0	2	0	2	14
05:45:00 PM	0	0	0	0	2	14
05:50:00 PM	0	0	1	1	4	15
05:55:00 PM	0	0	0	0	2	15



LEVEL OF SERVICE

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

Level of service A: Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.

Level of service B: Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.

Level of service C: Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.

Level of service D: Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.

Level of service E: Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.

Level of service F: Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.



*LEVEL OF SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS*

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

*LEVEL OF SERVICE CRITERIA
FOR UNSIGNALIZED INTERSECTIONS*

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

HCM Signalized Intersection Capacity Analysis

1: S 20th Avenue & Tualatin Valley Hwy

09/25/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	1107	51	27	632	39	121	121	81	34	49	83
Future Volume (vph)	69	1107	51	27	632	39	121	121	81	34	49	83
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	0.99		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.99	1.00		0.99	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1614	3207		1583	3167	1417	1629	1601		1592	1683	1401
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.72	1.00		0.36	1.00	1.00
Satd. Flow (perm)	1614	3207		1583	3167	1417	1238	1601		615	1683	1401
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	1203	55	29	687	42	132	132	88	37	53	90
RTOR Reduction (vph)	0	2	0	0	0	16	0	25	0	0	0	73
Lane Group Flow (vph)	75	1256	0	29	687	26	132	195	0	37	53	17
Confl. Peds. (#/hr)							1		7	7		7
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8				4
Permitted Phases						6	8			4		4
Actuated Green, G (s)	8.4	78.0		4.8	74.4	74.4	22.2	22.2		22.2	22.2	22.2
Effective Green, g (s)	9.4	79.0		5.8	75.4	75.4	23.2	23.2		23.2	23.2	23.2
Actuated g/C Ratio	0.08	0.66		0.05	0.63	0.63	0.19	0.19		0.19	0.19	0.19
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	126	2111		76	1989	890	239	309		118	325	270
v/s Ratio Prot	c0.05	c0.39		0.02	0.22			c0.12				0.03
v/s Ratio Perm						0.02	0.11			0.06		0.01
v/c Ratio	0.59	0.59		0.38	0.34	0.02	0.55	0.63		0.31	0.16	0.06
Uniform Delay, d1	53.4	11.5		55.3	10.5	8.4	43.7	44.4		41.5	40.3	39.5
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.1	1.2		2.3	0.4	0.0	2.2	3.6		1.1	0.1	0.0
Delay (s)	59.6	12.7		57.6	11.0	8.5	45.9	48.1		42.6	40.4	39.6
Level of Service	E	B		E	B	A	D	D		D	D	D
Approach Delay (s/veh)		15.3			12.7			47.2			40.4	
Approach LOS		B			B			D			D	

Intersection Summary

HCM 2000 Control Delay (s/veh)	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Signalized Intersection Summary

1: S 20th Avenue & Tualatin Valley Hwy

09/25/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1107	51	27	632	39	121	121	81	34	49	83
Future Volume (veh/h)	69	1107	51	27	632	39	121	121	81	34	49	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1709	1709	1709	1682	1682	1682	1723	1723	1723	1695	1695	1695
Adj Flow Rate, veh/h	75	1203	53	29	687	0	132	132	63	37	53	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	5	5	5	2	2	2	4	4	4
Cap, veh/h	113	2044	90	80	1998		297	225	108	172	348	288
Arrive On Green	0.07	0.65	0.64	0.05	0.63	0.00	0.21	0.21	0.20	0.21	0.21	0.21
Sat Flow, veh/h	1628	3168	139	1602	3195	1425	1319	1098	524	1162	1695	1402
Grp Volume(v), veh/h	75	616	640	29	687	0	132	0	195	37	53	17
Grp Sat Flow(s),veh/h/ln	1628	1624	1684	1602	1598	1425	1319	0	1622	1162	1695	1402
Q Serve(g_s), s	5.4	26.0	26.1	2.1	12.3	0.0	10.9	0.0	13.1	3.6	3.1	1.2
Cycle Q Clear(g_c), s	5.4	26.0	26.1	2.1	12.3	0.0	14.0	0.0	13.1	16.6	3.1	1.2
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	113	1047	1086	80	1998		297	0	333	172	348	288
V/C Ratio(X)	0.66	0.59	0.59	0.36	0.34		0.44	0.00	0.59	0.21	0.15	0.06
Avail Cap(c_a), veh/h	163	1047	1086	120	1998		488	0	568	340	593	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	12.2	12.2	55.2	10.7	0.0	44.9	0.0	43.2	50.6	39.1	38.4
Incr Delay (d2), s/veh	4.9	2.4	2.3	1.9	0.4	0.0	0.8	0.0	1.2	0.5	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	9.1	9.5	0.9	4.1	0.0	3.7	0.0	5.4	1.1	1.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	59.3	14.6	14.6	57.1	11.2	0.0	45.7	0.0	44.5	51.1	39.3	38.4
LnGrp LOS	E	B	B	E	B		D		D	D	D	D
Approach Vol, veh/h		1331			716			327			107	
Approach Delay, s/veh		17.1			13.0			44.9			43.2	
Approach LOS		B			B			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	81.4		28.6	12.3	79.0		28.6				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	56.0		41.0	11.0	53.0		41.0				
Max Q Clear Time (g_c+I1), s	4.1	28.1		18.6	7.4	14.3		16.0				
Green Ext Time (p_c), s	0.0	11.2		0.3	0.0	6.0		1.4				

Intersection Summary

HCM 7th Control Delay, s/veh	20.7
HCM 7th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

2: S 26th Avenue & Tualatin Valley Hwy

09/25/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	1246	33	101	764	25	35	19	220	81	27	30
Future Volume (vph)	23	1246	33	101	764	25	35	19	220	81	27	30
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.97		1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		0.99	1.00		0.99	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96	1.00		0.96	1.00
Satd. Flow (prot)	1614	3214		1568	3137	1374		1645	1426		1561	1360
Flt Permitted	0.30	1.00		0.09	1.00	1.00		0.74	1.00		0.73	1.00
Satd. Flow (perm)	514	3214		153	3137	1374		1263	1426		1196	1360
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	27	1449	38	117	888	29	41	22	256	94	31	35
RTOR Reduction (vph)	0	3	0	0	0	11	0	0	185	0	0	30
Lane Group Flow (vph)	27	1484	0	117	888	18	0	63	71	0	125	5
Confl. Peds. (#/hr)			2	2			1		1	1		1
Confl. Bikes (#/hr)			2			1						
Heavy Vehicles (%)	3%	3%	3%	6%	6%	6%	3%	3%	3%	8%	8%	8%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	42.2	39.0		48.6	42.2	42.2		9.6	9.6		9.6	9.6
Effective Green, g (s)	44.2	40.0		50.6	43.2	43.2		10.6	10.6		10.6	10.6
Actuated g/C Ratio	0.63	0.57		0.72	0.62	0.62		0.15	0.15		0.15	0.15
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5		2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	390	1836		260	1935	847		191	215		181	205
v/s Ratio Prot	0.00	c0.46		c0.05	0.28			0.05	0.05		c0.10	0.00
v/s Ratio Perm	0.04			0.28		0.01		0.05	0.05		c0.10	0.00
v/c Ratio	0.06	0.80		0.45	0.45	0.02		0.32	0.33		0.69	0.02
Uniform Delay, d1	4.8	11.9		8.5	7.1	5.1		26.5	26.5		28.1	25.3
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	3.9		0.9	0.7	0.0		0.7	0.6		9.9	0.0
Delay (s)	4.9	15.9		9.4	7.9	5.2		27.2	27.1		38.1	25.3
Level of Service	A	B		A	A	A		C	C		D	C
Approach Delay (s/veh)		15.7			8.0			27.2			35.3	
Approach LOS		B			A			C			D	

Intersection Summary

HCM 2000 Control Delay (s/veh)	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Signalized Intersection Summary

2: S 26th Avenue & Tualatin Valley Hwy

09/25/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	1246	33	101	764	25	35	19	220	81	27	30
Future Volume (veh/h)	23	1246	33	101	764	25	35	19	220	81	27	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1709	1709	1709	1668	1668	1668	1709	1709	1709	1641	1641	1641
Adj Flow Rate, veh/h	27	1449	35	117	888	19	41	22	71	94	31	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	6	6	6	3	3	3	8	8	8
Cap, veh/h	482	1796	43	355	1935	844	85	29	227	90	15	218
Arrive On Green	0.06	0.55	0.54	0.12	0.61	0.61	0.14	0.16	0.16	0.14	0.16	0.16
Sat Flow, veh/h	1628	3238	78	1589	3169	1382	0	182	1446	0	93	1388
Grp Volume(v), veh/h	27	726	758	117	888	19	63	0	71	125	0	5
Grp Sat Flow(s),veh/h/ln	1628	1624	1693	1589	1585	1382	182	0	1446	93	0	1388
Q Serve(g_s), s	0.5	25.2	25.3	1.7	10.6	0.4	0.0	0.0	3.0	0.0	0.0	0.2
Cycle Q Clear(g_c), s	0.5	25.2	25.3	1.7	10.6	0.4	10.0	0.0	3.0	10.0	0.0	0.2
Prop In Lane	1.00		0.05	1.00		1.00	0.65		1.00	0.75		1.00
Lane Grp Cap(c), veh/h	482	900	939	355	1935	844	111	0	227	103	0	218
V/C Ratio(X)	0.06	0.81	0.81	0.33	0.46	0.02	0.57	0.00	0.31	1.21	0.00	0.02
Avail Cap(c_a), veh/h	592	900	939	373	1935	844	111	0	227	103	0	218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.6	12.6	12.6	11.5	7.4	5.4	30.5	0.0	26.1	33.2	0.0	25.0
Incr Delay (d2), s/veh	0.0	6.1	6.0	0.4	0.8	0.0	5.7	0.0	0.6	154.9	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	8.5	8.9	0.8	2.8	0.1	1.2	0.0	1.1	6.2	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.6	18.7	18.6	11.9	8.2	5.4	36.2	0.0	26.7	188.1	0.0	25.0
LnGrp LOS	A	B	B	B	A	A	D		C	F		C
Approach Vol, veh/h	1511		1024				134		130			
Approach Delay, s/veh	18.4		8.5				31.2		181.8			
Approach LOS	B		A				C		F			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	12.2	42.8	15.0		8.3	46.7	15.0					
Change Period (Y+Rc), s	5.0	5.0	5.0		5.0	5.0	5.0					
Max Green Setting (Gmax), s	8.0	37.0	10.0		8.0	37.0	10.0					
Max Q Clear Time (g_c+I1), s	3.7	27.3	12.0		2.5	12.6	12.0					
Green Ext Time (p_c), s	0.1	6.8	0.0		0.0	7.5	0.0					

Intersection Summary		
HCM 7th Control Delay, s/veh		23.0
HCM 7th LOS		C

Notes
User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

1: S 20th Avenue & Tualatin Valley Hwy

09/25/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	1174	56	31	672	43	133	135	93	37	54	88
Future Volume (vph)	73	1174	56	31	672	43	133	135	93	37	54	88
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	0.99		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.99	1.00		0.99	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1614	3206		1583	3167	1417	1629	1599		1592	1683	1401
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.71	1.00		0.33	1.00	1.00
Satd. Flow (perm)	1614	3206		1583	3167	1417	1232	1599		556	1683	1401
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	1276	61	34	730	47	145	147	101	40	59	96
RTOR Reduction (vph)	0	2	0	0	0	18	0	25	0	0	0	76
Lane Group Flow (vph)	79	1335	0	34	730	29	145	223	0	40	59	20
Confl. Peds. (#/hr)							1		7	7		7
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8				4
Permitted Phases						6	8			4		4
Actuated Green, G (s)	8.8	76.3		4.9	72.4	72.4	23.8	23.8		23.8	23.8	23.8
Effective Green, g (s)	9.8	77.3		5.9	73.4	73.4	24.8	24.8		24.8	24.8	24.8
Actuated g/C Ratio	0.08	0.64		0.05	0.61	0.61	0.21	0.21		0.21	0.21	0.21
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	131	2065		77	1937	866	254	330		114	347	289
v/s Ratio Prot	c0.05	c0.42		0.02	0.23			c0.14				0.04
v/s Ratio Perm						0.02	0.12			0.07		0.01
v/c Ratio	0.60	0.64		0.44	0.37	0.03	0.57	0.67		0.35	0.17	0.06
Uniform Delay, d1	53.2	13.0		55.4	11.7	9.2	42.8	43.8		40.7	39.1	38.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.4	1.5		2.9	0.5	0.0	2.5	4.8		1.3	0.1	0.0
Delay (s)	59.6	14.5		58.3	12.3	9.3	45.3	48.7		42.0	39.3	38.3
Level of Service	E	B		E	B	A	D	D		D	D	D
Approach Delay (s/veh)		17.1			14.0			47.5			39.4	
Approach LOS		B			B			D			D	

Intersection Summary

HCM 2000 Control Delay (s/veh)	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Signalized Intersection Summary

1: S 20th Avenue & Tualatin Valley Hwy

09/25/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	1174	56	31	672	43	133	135	93	37	54	88
Future Volume (veh/h)	73	1174	56	31	672	43	133	135	93	37	54	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1709	1709	1709	1682	1682	1682	1723	1723	1723	1695	1695	1695
Adj Flow Rate, veh/h	79	1276	59	34	730	0	145	147	76	40	59	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	5	5	5	2	2	2	4	4	4
Cap, veh/h	114	1977	91	86	1946		312	235	122	169	374	310
Arrive On Green	0.07	0.63	0.62	0.05	0.61	0.00	0.22	0.22	0.21	0.22	0.22	0.22
Sat Flow, veh/h	1628	3160	146	1602	3195	1425	1309	1066	551	1134	1695	1403
Grp Volume(v), veh/h	79	655	680	34	730	0	145	0	223	40	59	20
Grp Sat Flow(s),veh/h/ln	1628	1624	1683	1602	1598	1425	1309	0	1617	1134	1695	1403
Q Serve(g_s), s	5.7	30.4	30.5	2.5	13.9	0.0	12.1	0.0	15.0	4.0	3.4	1.4
Cycle Q Clear(g_c), s	5.7	30.4	30.5	2.5	13.9	0.0	15.4	0.0	15.0	18.9	3.4	1.4
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	114	1016	1053	86	1946		312	0	357	169	374	310
V/C Ratio(X)	0.69	0.64	0.65	0.40	0.38		0.46	0.00	0.62	0.24	0.16	0.06
Avail Cap(c_a), veh/h	176	1016	1053	120	1946		481	0	566	315	593	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	14.1	14.1	54.9	11.9	0.0	44.0	0.0	42.4	50.8	37.7	37.0
Incr Delay (d2), s/veh	5.4	3.2	3.1	2.0	0.5	0.0	0.8	0.0	1.3	0.5	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	10.9	11.4	1.0	4.7	0.0	4.0	0.0	6.2	1.2	1.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.0	17.2	17.2	56.9	12.4	0.0	44.8	0.0	43.8	51.4	37.9	37.0
LnGrp LOS	E	B	B	E	B		D		D	D	D	D
Approach Vol, veh/h	1414				764		368				119	
Approach Delay, s/veh	19.6				14.4		44.2				42.3	
Approach LOS	B				B		D				D	
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	10.4	79.1	30.5		12.4	77.1	30.5					
Change Period (Y+Rc), s	5.0	5.0	5.0		5.0	5.0	5.0					
Max Green Setting (Gmax), s	8.0	56.0	41.0		12.0	52.0	41.0					
Max Q Clear Time (g_c+I1), s	4.5	32.5	20.9		7.7	15.9	17.4					
Green Ext Time (p_c), s	0.0	11.2	0.4		0.1	6.4	1.6					

Intersection Summary

HCM 7th Control Delay, s/veh	22.5
HCM 7th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

2: S 26th Avenue & Tualatin Valley Hwy

09/25/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1328	36	113	813	27	41	22	252	86	30	32
Future Volume (vph)	25	1328	36	113	813	27	41	22	252	86	30	32
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.97		1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		0.99	1.00		0.99	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96	1.00		0.96	1.00
Satd. Flow (prot)	1614	3213		1568	3137	1374		1645	1426		1562	1360
Flt Permitted	0.27	1.00		0.09	1.00	1.00		0.68	1.00		0.73	1.00
Satd. Flow (perm)	475	3213		153	3137	1374		1169	1426		1189	1360
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	29	1544	42	131	945	31	48	26	293	100	35	37
RTOR Reduction (vph)	0	3	0	0	0	12	0	0	181	0	0	31
Lane Group Flow (vph)	29	1583	0	131	945	19	0	74	112	0	135	6
Confl. Peds. (#/hr)			2	2			1		1	1		1
Confl. Bikes (#/hr)			2			1						
Heavy Vehicles (%)	3%	3%	3%	6%	6%	6%	3%	3%	3%	8%	8%	8%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	42.2	39.0		48.6	42.2	42.2		9.6	9.6		9.6	9.6
Effective Green, g (s)	44.2	40.0		50.6	43.2	43.2		10.6	10.6		10.6	10.6
Actuated g/C Ratio	0.63	0.57		0.72	0.62	0.62		0.15	0.15		0.15	0.15
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5		2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	368	1836		260	1935	847		177	215		180	205
v/s Ratio Prot	0.00	c0.49		c0.05	0.30							
v/s Ratio Perm	0.04			0.31		0.01		0.06	0.08		c0.11	0.00
v/c Ratio	0.07	0.86		0.50	0.48	0.02		0.41	0.52		0.75	0.02
Uniform Delay, d1	4.9	12.6		9.9	7.3	5.2		26.9	27.3		28.4	25.3
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	5.6		1.1	0.8	0.0		1.1	1.7		15.3	0.0
Delay (s)	4.9	18.3		11.0	8.2	5.2		28.0	29.1		43.7	25.3
Level of Service	A	B		B	A	A		C	C		D	C
Approach Delay (s/veh)		18.0			8.4			28.8			39.7	
Approach LOS		B			A			C			D	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	17.2	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.80	B
Actuated Cycle Length (s)	70.0	Sum of lost time (s)
Intersection Capacity Utilization	76.0%	12.0
Analysis Period (min)	15	ICU Level of Service
		D
c Critical Lane Group		

HCM 7th Signalized Intersection Summary
 2: S 26th Avenue & Tualatin Valley Hwy

09/25/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	1328	36	113	813	27	41	22	252	86	30	32
Future Volume (veh/h)	25	1328	36	113	813	27	41	22	252	86	30	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1709	1709	1709	1668	1668	1668	1709	1709	1709	1641	1641	1641
Adj Flow Rate, veh/h	29	1544	39	131	945	19	48	26	112	100	35	6
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	6	6	6	3	3	3	8	8	8
Cap, veh/h	461	1785	45	337	1927	840	85	29	227	90	11	218
Arrive On Green	0.06	0.55	0.54	0.12	0.61	0.61	0.14	0.16	0.16	0.14	0.16	0.16
Sat Flow, veh/h	1628	3234	82	1589	3169	1382	0	184	1446	0	68	1388
Grp Volume(v), veh/h	29	774	809	131	945	19	74	0	112	135	0	6
Grp Sat Flow(s),veh/h/ln	1628	1624	1692	1589	1585	1382	184	0	1446	68	0	1388
Q Serve(g_s), s	0.5	28.6	28.8	1.9	11.7	0.4	0.0	0.0	5.0	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.5	28.6	28.8	1.9	11.7	0.4	10.0	0.0	5.0	10.0	0.0	0.3
Prop In Lane	1.00		0.05	1.00		1.00	0.65		1.00	0.74		1.00
Lane Grp Cap(c), veh/h	461	896	934	337	1927	840	111	0	227	99	0	218
V/C Ratio(X)	0.06	0.86	0.87	0.39	0.49	0.02	0.67	0.00	0.49	1.36	0.00	0.03
Avail Cap(c_a), veh/h	567	896	934	351	1927	840	111	0	227	99	0	218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.7	13.4	13.5	13.6	7.7	5.5	31.0	0.0	27.0	33.5	0.0	25.0
Incr Delay (d2), s/veh	0.0	8.3	8.2	0.5	0.9	0.0	13.1	0.0	1.2	213.9	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	10.0	10.5	1.1	3.1	0.1	1.7	0.0	1.7	7.6	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.8	21.7	21.7	14.1	8.6	5.5	44.1	0.0	28.2	247.4	0.0	25.0
LnGrp LOS	A	C	C	B	A	A	D		C	F		C
Approach Vol, veh/h		1612			1095			186				141
Approach Delay, s/veh		21.4			9.2			34.5				238.0
Approach LOS		C			A			C				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.4	42.6		15.0	8.4	46.6		15.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	37.0		10.0	8.0	37.0		10.0				
Max Q Clear Time (g_c+I1), s	3.9	30.8		12.0	2.5	13.7		12.0				
Green Ext Time (p_c), s	0.1	4.9		0.0	0.0	7.9		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh		27.9
HCM 7th LOS		C

Notes
 User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

1: S 20th Avenue & Tualatin Valley Hwy

09/26/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	1174	56	31	673	44	134	136	93	38	54	88
Future Volume (vph)	73	1174	56	31	673	44	134	136	93	38	54	88
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	0.99		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.99	1.00		0.99	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1614	3206		1583	3167	1417	1629	1599		1592	1683	1401
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.71	1.00		0.33	1.00	1.00
Satd. Flow (perm)	1614	3206		1583	3167	1417	1232	1599		555	1683	1401
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	1276	61	34	732	48	146	148	101	41	59	96
RTOR Reduction (vph)	0	2	0	0	0	19	0	25	0	0	0	76
Lane Group Flow (vph)	79	1335	0	34	732	29	146	224	0	41	59	20
Confl. Peds. (#/hr)							1		7	7		7
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8				4
Permitted Phases						6	8			4		4
Actuated Green, G (s)	8.8	76.2		4.9	72.3	72.3	23.9	23.9		23.9	23.9	23.9
Effective Green, g (s)	9.8	77.2		5.9	73.3	73.3	24.9	24.9		24.9	24.9	24.9
Actuated g/C Ratio	0.08	0.64		0.05	0.61	0.61	0.21	0.21		0.21	0.21	0.21
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	131	2062		77	1934	865	255	331		115	349	290
v/s Ratio Prot	c0.05	c0.42		0.02	0.23			c0.14				0.04
v/s Ratio Perm						0.02	0.12			0.07		0.01
v/c Ratio	0.60	0.64		0.44	0.37	0.03	0.57	0.67		0.35	0.16	0.06
Uniform Delay, d1	53.2	13.0		55.4	11.8	9.2	42.7	43.8		40.6	39.0	38.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.4	1.5		2.9	0.5	0.0	2.5	4.9		1.3	0.1	0.0
Delay (s)	59.6	14.6		58.3	12.3	9.3	45.3	48.7		42.0	39.2	38.3
Level of Service	E	B		E	B	A	D	D		D	D	D
Approach Delay (s/veh)		17.1			14.1			47.5			39.3	
Approach LOS		B			B			D			D	

Intersection Summary

HCM 2000 Control Delay (s/veh)	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Signalized Intersection Summary

1: S 20th Avenue & Tualatin Valley Hwy

09/26/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	1174	56	31	673	44	134	136	93	38	54	88
Future Volume (veh/h)	73	1174	56	31	673	44	134	136	93	38	54	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1709	1709	1709	1682	1682	1682	1723	1723	1723	1695	1695	1695
Adj Flow Rate, veh/h	79	1276	59	34	732	0	146	148	76	41	59	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	5	5	5	2	2	2	4	4	4
Cap, veh/h	114	1974	91	86	1943		314	237	122	169	376	311
Arrive On Green	0.07	0.62	0.62	0.05	0.61	0.00	0.22	0.22	0.21	0.22	0.22	0.22
Sat Flow, veh/h	1628	3160	146	1602	3195	1425	1309	1069	549	1133	1695	1403
Grp Volume(v), veh/h	79	655	680	34	732	0	146	0	224	41	59	20
Grp Sat Flow(s),veh/h/ln	1628	1624	1683	1602	1598	1425	1309	0	1617	1133	1695	1403
Q Serve(g_s), s	5.7	30.4	30.6	2.5	14.0	0.0	12.1	0.0	15.0	4.1	3.4	1.4
Cycle Q Clear(g_c), s	5.7	30.4	30.6	2.5	14.0	0.0	15.5	0.0	15.0	19.1	3.4	1.4
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	114	1014	1051	86	1943		314	0	359	169	376	311
V/C Ratio(X)	0.69	0.65	0.65	0.40	0.38		0.47	0.00	0.62	0.24	0.16	0.06
Avail Cap(c_a), veh/h	176	1014	1051	120	1943		482	0	566	315	593	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	14.2	14.2	54.9	12.0	0.0	43.9	0.0	42.3	50.8	37.6	36.9
Incr Delay (d2), s/veh	5.4	3.2	3.1	2.0	0.5	0.0	0.8	0.0	1.3	0.5	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	11.0	11.4	1.0	4.8	0.0	4.0	0.0	6.2	1.2	1.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.0	17.3	17.3	56.9	12.5	0.0	44.7	0.0	43.7	51.4	37.8	36.9
LnGrp LOS	E	B	B	E	B		D		D	D	D	D
Approach Vol, veh/h		1414			766			370			120	
Approach Delay, s/veh		19.7			14.4			44.1			42.3	
Approach LOS		B			B			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	79.0		30.6	12.4	77.0		30.6				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	56.0		41.0	12.0	52.0		41.0				
Max Q Clear Time (g_c+I1), s	4.5	32.6		21.1	7.7	16.0		17.5				
Green Ext Time (p_c), s	0.0	11.2		0.4	0.1	6.5		1.6				

Intersection Summary

HCM 7th Control Delay, s/veh	22.6
HCM 7th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

2: S 26th Avenue & Tualatin Valley Hwy

09/26/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1328	37	115	813	27	43	23	257	86	30	32
Future Volume (vph)	25	1328	37	115	813	27	43	23	257	86	30	32
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.97		1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		0.99	1.00		0.99	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96	1.00		0.96	1.00
Satd. Flow (prot)	1614	3213		1568	3137	1374		1645	1426		1562	1360
Flt Permitted	0.27	1.00		0.09	1.00	1.00		0.67	1.00		0.73	1.00
Satd. Flow (perm)	475	3213		153	3137	1374		1155	1426		1186	1360
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	29	1544	43	134	945	31	50	27	299	100	35	37
RTOR Reduction (vph)	0	3	0	0	0	12	0	0	181	0	0	31
Lane Group Flow (vph)	29	1584	0	134	945	19	0	77	118	0	135	6
Confl. Peds. (#/hr)			2	2			1		1	1		1
Confl. Bikes (#/hr)			2			1						
Heavy Vehicles (%)	3%	3%	3%	6%	6%	6%	3%	3%	3%	8%	8%	8%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	42.2	39.0		48.6	42.2	42.2		9.6	9.6		9.6	9.6
Effective Green, g (s)	44.2	40.0		50.6	43.2	43.2		10.6	10.6		10.6	10.6
Actuated g/C Ratio	0.63	0.57		0.72	0.62	0.62		0.15	0.15		0.15	0.15
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5		2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	368	1836		260	1935	847		174	215		179	205
v/s Ratio Prot	0.00	c0.49		c0.05	0.30							
v/s Ratio Perm	0.04			0.32		0.01		0.07	0.08		c0.11	0.00
v/c Ratio	0.07	0.86		0.51	0.48	0.02		0.44	0.55		0.75	0.02
Uniform Delay, d1	4.9	12.6		10.0	7.3	5.2		27.0	27.4		28.4	25.3
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	5.6		1.2	0.8	0.0		1.3	2.4		15.6	0.0
Delay (s)	4.9	18.3		11.3	8.2	5.2		28.3	29.9		44.1	25.3
Level of Service	A	B		B	A	A		C	C		D	C
Approach Delay (s/veh)		18.0			8.5			29.5			40.0	
Approach LOS		B			A			C			D	

Intersection Summary

HCM 2000 Control Delay (s/veh)	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Signalized Intersection Summary

2: S 26th Avenue & Tualatin Valley Hwy

09/26/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	1328	37	115	813	27	43	23	257	86	30	32
Future Volume (veh/h)	25	1328	37	115	813	27	43	23	257	86	30	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1709	1709	1709	1668	1668	1668	1709	1709	1709	1641	1641	1641
Adj Flow Rate, veh/h	29	1544	40	134	945	19	50	27	118	100	35	6
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	6	6	6	3	3	3	8	8	8
Cap, veh/h	461	1782	46	337	1927	840	85	29	227	90	11	218
Arrive On Green	0.06	0.55	0.54	0.12	0.61	0.61	0.14	0.16	0.16	0.14	0.16	0.16
Sat Flow, veh/h	1628	3232	84	1589	3169	1382	0	184	1446	0	68	1388
Grp Volume(v), veh/h	29	774	810	134	945	19	77	0	118	135	0	6
Grp Sat Flow(s),veh/h/ln	1628	1624	1692	1589	1585	1382	184	0	1446	68	0	1388
Q Serve(g_s), s	0.5	28.6	28.9	1.9	11.7	0.4	0.0	0.0	5.2	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.5	28.6	28.9	1.9	11.7	0.4	10.0	0.0	5.2	10.0	0.0	0.3
Prop In Lane	1.00		0.05	1.00		1.00	0.65		1.00	0.74		1.00
Lane Grp Cap(c), veh/h	461	895	933	337	1927	840	111	0	227	99	0	218
V/C Ratio(X)	0.06	0.86	0.87	0.40	0.49	0.02	0.69	0.00	0.52	1.36	0.00	0.03
Avail Cap(c_a), veh/h	567	895	933	351	1927	840	111	0	227	99	0	218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.7	13.5	13.5	13.6	7.7	5.5	31.2	0.0	27.1	33.5	0.0	25.0
Incr Delay (d2), s/veh	0.0	8.4	8.3	0.6	0.9	0.0	15.9	0.0	1.6	213.9	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	10.1	10.5	1.1	3.1	0.1	1.8	0.0	1.9	7.6	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.8	21.8	21.8	14.2	8.6	5.5	47.1	0.0	28.7	247.4	0.0	25.0
LnGrp LOS	A	C	C	B	A	A	D		C	F		C
Approach Vol, veh/h		1613			1098			195			141	
Approach Delay, s/veh		21.5			9.2			36.0			238.0	
Approach LOS		C			A			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.4	42.6		15.0	8.4	46.6		15.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	37.0		10.0	8.0	37.0		10.0				
Max Q Clear Time (g_c+I1), s	3.9	30.9		12.0	2.5	13.7		12.0				
Green Ext Time (p_c), s	0.1	4.9		0.0	0.0	7.9		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh		28.0
HCM 7th LOS		C

Notes
User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

1: S 20th Avenue & Tualatin Valley Hwy

09/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	1087	91	78	1381	60	60	59	56	60	153	125
Future Volume (vph)	137	1087	91	78	1381	60	60	59	56	60	153	125
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	0.98		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.99	1.00		0.99	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1630	3222		1646	3292	1473	1659	1599		1632	1733	1441
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.47	1.00		0.57	1.00	1.00
Satd. Flow (perm)	1630	3222		1646	3292	1473	830	1599		991	1733	1441
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	144	1144	96	82	1454	63	63	62	59	63	161	132
RTOR Reduction (vph)	0	4	0	0	0	26	0	36	0	0	0	109
Lane Group Flow (vph)	144	1236	0	82	1454	37	63	85	0	63	161	23
Confl. Peds. (#/hr)							3		11	11		11
Confl. Bikes (#/hr)									5			
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases						6	8			4		4
Actuated Green, G (s)	15.5	75.2		9.9	69.6	69.6	19.9	19.9		19.9	19.9	19.9
Effective Green, g (s)	16.5	76.2		10.9	70.6	70.6	20.9	20.9		20.9	20.9	20.9
Actuated g/C Ratio	0.14	0.64		0.09	0.59	0.59	0.17	0.17		0.17	0.17	0.17
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	224	2045		149	1936	866	144	278		172	301	250
v/s Ratio Prot	c0.09	0.38		0.05	c0.44			0.05			c0.09	
v/s Ratio Perm						0.03	0.08			0.06		0.02
v/c Ratio	0.64	0.60		0.55	0.75	0.04	0.43	0.30		0.36	0.53	0.09
Uniform Delay, d1	48.9	12.9		52.2	18.2	10.4	44.2	43.2		43.7	45.1	41.5
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.4	1.3		3.4	2.7	0.0	1.5	0.4		0.9	1.4	0.1
Delay (s)	54.4	14.3		55.6	20.9	10.5	45.8	43.6		44.6	46.5	41.7
Level of Service	D	B		E	C	B	D	D		D	D	D
Approach Delay (s/veh)		18.4			22.3			44.4			44.4	
Approach LOS		B			C			D			D	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			24.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			86.2%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Signalized Intersection Summary

1: S 20th Avenue & Tualatin Valley Hwy

09/25/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	1087	91	78	1381	60	60	59	56	60	153	125
Future Volume (veh/h)	137	1087	91	78	1381	60	60	59	56	60	153	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.97	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1736	1736	1736	1750	1750	1750	1736	1736	1736
Adj Flow Rate, veh/h	144	1144	92	82	1454	0	63	62	23	63	161	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	1	1	1	0	0	0	1	1	1
Cap, veh/h	150	1906	153	117	1980		214	251	93	276	361	301
Arrive On Green	0.09	0.62	0.61	0.07	0.60	0.00	0.21	0.21	0.20	0.21	0.21	0.21
Sat Flow, veh/h	1641	3068	247	1654	3299	1471	1207	1204	447	1306	1736	1448
Grp Volume(v), veh/h	144	610	626	82	1454	0	63	0	85	63	161	23
Grp Sat Flow(s),veh/h/ln	1641	1637	1678	1654	1650	1471	1207	0	1651	1306	1736	1448
Q Serve(g_s), s	10.5	27.0	27.1	5.8	37.8	0.0	5.8	0.0	5.2	5.1	9.7	1.5
Cycle Q Clear(g_c), s	10.5	27.0	27.1	5.8	37.8	0.0	15.5	0.0	5.2	10.2	9.7	1.5
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	150	1017	1043	117	1980		214	0	344	276	361	301
V/C Ratio(X)	0.96	0.60	0.60	0.70	0.73		0.30	0.00	0.25	0.23	0.45	0.08
Avail Cap(c_a), veh/h	150	1017	1043	124	1980		385	0	578	461	608	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.64	0.64	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.3	13.7	13.8	54.5	17.1	0.0	48.2	0.0	39.8	43.9	41.5	38.2
Incr Delay (d2), s/veh	60.3	2.6	2.6	9.3	1.6	0.0	0.6	0.0	0.3	0.3	0.6	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	9.7	10.1	2.7	13.4	0.0	1.8	0.0	2.2	1.7	4.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	114.6	16.3	16.4	63.9	18.7	0.0	48.8	0.0	40.1	44.3	42.1	38.3
LnGrp LOS	F	B	B	E	B		D		D	D	D	D
Approach Vol, veh/h		1380			1536			148			247	
Approach Delay, s/veh		26.6			21.1			43.8			42.3	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.5	78.5		29.0	15.0	76.0		29.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	56.0		41.0	10.0	54.0		41.0				
Max Q Clear Time (g_c+I1), s	7.8	29.1		12.2	12.5	39.8		17.5				
Green Ext Time (p_c), s	0.0	10.8		0.9	0.0	9.4		0.6				

Intersection Summary

HCM 7th Control Delay, s/veh	26.0
HCM 7th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

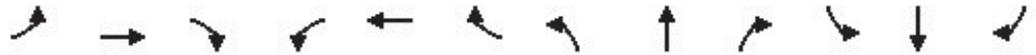
HCM Signalized Intersection Capacity Analysis
 2: S 26th Avenue & Tualatin Valley Hwy

09/25/2024

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	52	1145	56	188	1572	84	48	12	115	48	12	51	
Future Volume (vph)	52	1145	56	188	1572	84	48	12	115	48	12	51	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.97		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96	1.00		0.96	1.00	
Satd. Flow (prot)	1630	3231		1646	3292	1440		1649	1437		1615	1406	
Flt Permitted	0.09	1.00		0.13	1.00	1.00		0.72	1.00		0.72	1.00	
Satd. Flow (perm)	167	3231		241	3292	1440		1246	1437		1220	1406	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Adj. Flow (vph)	55	1205	59	198	1655	88	51	13	121	51	13	54	
RTOR Reduction (vph)	0	5	0	0	0	32	0	0	108	0	0	48	
Lane Group Flow (vph)	55	1259	0	198	1655	56	0	64	13	0	64	6	
Confl. Peds. (#/hr)			7	7			1		4	4		4	
Confl. Bikes (#/hr)			8			4						1	
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	4%	4%	4%	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	5	2		1	6			8			4		
Permitted Phases	2			6		6	8		8	4		4	
Actuated Green, G (s)	45.0	40.2		52.2	43.8	43.8		6.4	6.4		6.4	6.4	
Effective Green, g (s)	47.0	41.2		54.2	44.8	44.8		7.4	7.4		7.4	7.4	
Actuated g/C Ratio	0.67	0.59		0.77	0.64	0.64		0.11	0.11		0.11	0.11	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	233	1901		375	2106	921		131	151		128	148	
v/s Ratio Prot	0.02	0.39		c0.07	c0.50								
v/s Ratio Perm	0.14			0.34		0.04		0.05	0.01		c0.05	0.00	
v/c Ratio	0.23	0.66		0.52	0.78	0.06		0.48	0.08		0.50	0.03	
Uniform Delay, d1	6.2	9.7		6.0	9.1	4.7		29.5	28.2		29.5	28.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.8		1.0	3.0	0.1		2.0	0.1		2.2	0.0	
Delay (s)	6.5	11.5		7.0	12.1	4.8		31.5	28.4		31.7	28.1	
Level of Service	A	B		A	B	A		C	C		C	C	
Approach Delay (s/veh)		11.3			11.3			29.5			30.1		
Approach LOS		B			B			C			C		
Intersection Summary													
HCM 2000 Control Delay (s/veh)			12.9									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.74										
Actuated Cycle Length (s)			70.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			76.3%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

HCM 7th Signalized Intersection Summary
 2: S 26th Avenue & Tualatin Valley Hwy

09/25/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	1145	56	188	1572	84	48	12	115	48	12	51
Future Volume (veh/h)	52	1145	56	188	1572	84	48	12	115	48	12	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.99		0.99	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1736	1736	1736	1723	1723	1723	1695	1695	1695
Adj Flow Rate, veh/h	55	1205	54	198	1655	56	51	13	13	51	13	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	4	4	4
Cap, veh/h	312	1828	82	451	2015	873	92	14	186	92	14	181
Arrive On Green	0.09	0.57	0.56	0.13	0.61	0.61	0.11	0.13	0.13	0.11	0.13	0.13
Sat Flow, veh/h	1641	3185	143	1654	3299	1430	0	110	1446	0	108	1404
Grp Volume(v), veh/h	55	619	640	198	1655	56	64	0	13	64	0	6
Grp Sat Flow(s),veh/h/ln	1641	1637	1692	1654	1650	1430	110	0	1446	108	0	1404
Q Serve(g_s), s	0.8	18.1	18.2	2.8	27.4	1.1	0.0	0.0	0.6	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.8	18.1	18.2	2.8	27.4	1.1	8.0	0.0	0.6	8.0	0.0	0.3
Prop In Lane	1.00		0.08	1.00		1.00	0.80		1.00	0.80		1.00
Lane Grp Cap(c), veh/h	312	939	971	451	2015	873	105	0	186	105	0	181
V/C Ratio(X)	0.18	0.66	0.66	0.44	0.82	0.06	0.61	0.00	0.07	0.61	0.00	0.03
Avail Cap(c_a), veh/h	376	939	971	479	2015	873	105	0	186	105	0	181
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.6	10.2	10.3	7.9	10.6	5.5	32.9	0.0	26.8	33.0	0.0	26.7
Incr Delay (d2), s/veh	0.2	2.8	2.7	0.5	3.9	0.1	8.8	0.0	0.1	8.9	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.6	5.9	0.7	8.2	0.3	1.3	0.0	0.2	1.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.7	13.0	13.0	8.4	14.6	5.7	41.7	0.0	26.9	41.9	0.0	26.7
LnGrp LOS	A	B	B	A	B	A	D		C	D		C
Approach Vol, veh/h		1314			1909			77				70
Approach Delay, s/veh		12.9			13.7			39.2				40.6
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.8	44.2		13.0	10.3	46.7		13.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	9.0	38.0		8.0	8.0	39.0		8.0				
Max Q Clear Time (g_c+I1), s	4.8	20.2		10.0	2.8	29.4		10.0				
Green Ext Time (p_c), s	0.2	8.9		0.0	0.0	7.6		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh		14.5
HCM 7th LOS		B

Notes
 User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

1: S 20th Avenue & Tualatin Valley Hwy

09/25/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	1155	102	91	1466	66	67	67	63	66	170	133
Future Volume (vph)	145	1155	102	91	1466	66	67	67	63	66	170	133
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	0.98		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.99	1.00		0.99	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1630	3220		1646	3292	1473	1659	1601		1632	1733	1441
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.44	1.00		0.54	1.00	1.00
Satd. Flow (perm)	1630	3220		1646	3292	1473	772	1601		934	1733	1441
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	153	1216	107	96	1543	69	71	71	66	69	179	140
RTOR Reduction (vph)	0	4	0	0	0	28	0	35	0	0	0	115
Lane Group Flow (vph)	153	1319	0	96	1543	41	71	102	0	69	179	25
Confl. Peds. (#/hr)							3		11	11		11
Confl. Bikes (#/hr)									5			
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases						6	8			4		4
Actuated Green, G (s)	17.0	73.4		10.8	67.2	67.2	20.8	20.8		20.8	20.8	20.8
Effective Green, g (s)	18.0	74.4		11.8	68.2	68.2	21.8	21.8		21.8	21.8	21.8
Actuated g/C Ratio	0.15	0.62		0.10	0.57	0.57	0.18	0.18		0.18	0.18	0.18
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	244	1996		161	1870	837	140	290		169	314	261
v/s Ratio Prot	c0.09	0.41		0.06	c0.47			0.06			c0.10	
v/s Ratio Perm						0.03	0.09			0.07		0.02
v/c Ratio	0.62	0.66		0.59	0.82	0.04	0.50	0.35		0.40	0.57	0.09
Uniform Delay, d1	47.8	14.6		51.8	21.0	11.5	44.2	42.9		43.3	44.8	40.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.3	1.7		4.8	4.3	0.1	2.0	0.5		1.1	2.0	0.1
Delay (s)	52.1	16.4		56.7	25.3	11.6	46.3	43.4		44.5	46.8	41.0
Level of Service	D	B		E	C	B	D	D		D	D	D
Approach Delay (s/veh)		20.1			26.5			44.4			44.3	
Approach LOS		C			C			D			D	

Intersection Summary

HCM 2000 Control Delay (s/veh)	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Signalized Intersection Summary

1: S 20th Avenue & Tualatin Valley Hwy

09/25/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	1155	102	91	1466	66	67	67	63	66	170	133
Future Volume (veh/h)	145	1155	102	91	1466	66	67	67	63	66	170	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.97	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1736	1736	1736	1750	1750	1750	1736	1736	1736
Adj Flow Rate, veh/h	153	1216	103	96	1543	0	71	71	31	69	179	25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	1	1	1	0	0	0	1	1	1
Cap, veh/h	150	1837	155	130	1942		214	251	110	276	382	319
Arrive On Green	0.09	0.60	0.59	0.08	0.59	0.00	0.22	0.22	0.21	0.22	0.22	0.22
Sat Flow, veh/h	1641	3055	258	1654	3299	1471	1186	1142	499	1288	1736	1449
Grp Volume(v), veh/h	153	650	669	96	1543	0	71	0	102	69	179	25
Grp Sat Flow(s),veh/h/ln	1641	1637	1676	1654	1650	1471	1186	0	1641	1288	1736	1449
Q Serve(g_s), s	11.0	31.6	31.8	6.8	43.4	0.0	6.6	0.0	6.2	5.7	10.8	1.6
Cycle Q Clear(g_c), s	11.0	31.6	31.8	6.8	43.4	0.0	17.4	0.0	6.2	11.9	10.8	1.6
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	150	984	1008	130	1942		214	0	361	276	382	319
V/C Ratio(X)	1.02	0.66	0.66	0.74	0.79		0.33	0.00	0.28	0.25	0.47	0.08
Avail Cap(c_a), veh/h	150	984	1008	138	1942		369	0	574	444	608	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.57	0.57	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	15.8	15.9	54.1	19.1	0.0	48.3	0.0	39.1	43.9	40.7	37.2
Incr Delay (d2), s/veh	78.0	3.5	3.4	10.0	2.0	0.0	0.7	0.0	0.3	0.3	0.7	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	11.7	12.1	3.1	15.6	0.0	2.0	0.0	2.6	1.8	4.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	132.5	19.3	19.4	64.0	21.1	0.0	49.0	0.0	39.4	44.2	41.4	37.2
LnGrp LOS	F	B	B	E	C		D		D	D	D	D
Approach Vol, veh/h		1472			1639			173			273	
Approach Delay, s/veh		31.1			23.6			43.3			41.7	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.5	76.2		30.4	15.0	74.6		30.4				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	9.0	55.0		41.0	10.0	54.0		41.0				
Max Q Clear Time (g_c+I1), s	8.8	33.8		13.9	13.0	45.4		19.4				
Green Ext Time (p_c), s	0.0	10.5		1.0	0.0	6.6		0.7				

Intersection Summary

HCM 7th Control Delay, s/veh	29.1
HCM 7th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

2: S 26th Avenue & Tualatin Valley Hwy

09/25/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	1219	63	219	1675	89	53	15	134	51	15	55
Future Volume (vph)	55	1219	63	219	1675	89	53	15	134	51	15	55
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.97		1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00		0.99	1.00		0.99	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96	1.00		0.96	1.00
Satd. Flow (prot)	1630	3230		1646	3292	1440		1651	1437		1617	1406
Flt Permitted	0.09	1.00		0.12	1.00	1.00		0.72	1.00		0.72	1.00
Satd. Flow (perm)	165	3230		212	3292	1440		1247	1437		1222	1406
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	58	1283	66	231	1763	94	56	16	141	54	16	58
RTOR Reduction (vph)	0	5	0	0	0	34	0	0	126	0	0	52
Lane Group Flow (vph)	58	1344	0	231	1763	60	0	72	15	0	70	6
Confl. Peds. (#/hr)			7	7			1		4	4		4
Confl. Bikes (#/hr)			8			4						1
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	45.4	40.6		51.8	43.8	43.8		6.4	6.4		6.4	6.4
Effective Green, g (s)	47.4	41.6		53.8	44.8	44.8		7.4	7.4		7.4	7.4
Actuated g/C Ratio	0.68	0.59		0.77	0.64	0.64		0.11	0.11		0.11	0.11
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5		2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	233	1919		347	2106	921		131	151		129	148
v/s Ratio Prot	0.02	0.42		c0.09	c0.54							
v/s Ratio Perm	0.15			0.43		0.04		c0.06	0.01		0.06	0.00
v/c Ratio	0.24	0.70		0.66	0.83	0.06		0.54	0.09		0.54	0.04
Uniform Delay, d1	7.1	9.8		9.5	9.7	4.7		29.7	28.2		29.6	28.1
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	2.1		4.2	4.1	0.1		3.6	0.2		3.6	0.0
Delay (s)	7.5	12.0		13.8	13.9	4.8		33.4	28.4		33.3	28.1
Level of Service	A	B		B	B	A		C	C		C	C
Approach Delay (s/veh)		11.8			13.5			30.1			31.0	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			14.4			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			70.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			79.8%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Signalized Intersection Summary

2: S 26th Avenue & Tualatin Valley Hwy

09/25/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1219	63	219	1675	89	53	15	134	51	15	55
Future Volume (veh/h)	55	1219	63	219	1675	89	53	15	134	51	15	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.99		0.99	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1723	1723	1723	1736	1736	1736	1723	1723	1723	1695	1695	1695
Adj Flow Rate, veh/h	58	1283	61	231	1763	60	56	16	15	54	16	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	4	4	4
Cap, veh/h	294	1819	86	429	2007	870	91	16	186	91	16	181
Arrive On Green	0.09	0.57	0.56	0.13	0.61	0.61	0.11	0.13	0.13	0.11	0.13	0.13
Sat Flow, veh/h	1641	3176	151	1654	3299	1430	0	123	1446	0	125	1404
Grp Volume(v), veh/h	58	660	684	231	1763	60	72	0	15	70	0	6
Grp Sat Flow(s),veh/h/ln	1641	1637	1690	1654	1650	1430	123	0	1446	125	0	1404
Q Serve(g_s), s	0.9	20.2	20.4	3.3	31.5	1.2	0.0	0.0	0.6	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.9	20.2	20.4	3.3	31.5	1.2	8.0	0.0	0.6	8.0	0.0	0.3
Prop In Lane	1.00		0.09	1.00		1.00	0.78		1.00	0.77		1.00
Lane Grp Cap(c), veh/h	294	937	968	429	2007	870	105	0	186	105	0	181
V/C Ratio(X)	0.20	0.70	0.71	0.54	0.88	0.07	0.68	0.00	0.08	0.66	0.00	0.03
Avail Cap(c_a), veh/h	354	937	968	431	2007	870	105	0	186	105	0	181
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	10.7	10.8	10.3	11.5	5.6	32.9	0.0	26.9	32.9	0.0	26.7
Incr Delay (d2), s/veh	0.2	3.2	3.1	1.1	5.8	0.2	15.5	0.0	0.1	13.5	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.3	6.6	1.4	9.8	0.3	1.7	0.0	0.2	1.6	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.0	13.9	13.9	11.4	17.4	5.8	48.4	0.0	27.0	46.4	0.0	26.7
LnGrp LOS	B	B	B	B	B	A	D		C	D		C
Approach Vol, veh/h	1402			2054			87			76		
Approach Delay, s/veh	13.8			16.4			44.7			44.8		
Approach LOS	B			B			D			D		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	12.9	44.1	13.0		10.4	46.6	13.0					
Change Period (Y+Rc), s	5.0	5.0	5.0		5.0	5.0	5.0					
Max Green Setting (Gmax), s	8.0	39.0	8.0		8.0	39.0	8.0					
Max Q Clear Time (g_c+I1), s	5.3	22.4	10.0		2.9	33.5	10.0					
Green Ext Time (p_c), s	0.2	9.3	0.0		0.0	4.8	0.0					

Intersection Summary		
HCM 7th Control Delay, s/veh	16.7	
HCM 7th LOS	B	

Notes
 User approved pedestrian interval to be less than phase max green.

HCM Signalized Intersection Capacity Analysis

1: S 20th Avenue & Tualatin Valley Hwy

09/26/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	1156	103	91	1467	67	67	67	63	67	171	133
Future Volume (vph)	145	1156	103	91	1467	67	67	67	63	67	171	133
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	0.98		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.99	1.00		0.99	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1630	3220		1646	3292	1473	1659	1601		1632	1733	1441
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.44	1.00		0.54	1.00	1.00
Satd. Flow (perm)	1630	3220		1646	3292	1473	770	1601		936	1733	1441
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	153	1217	108	96	1544	71	71	71	66	71	180	140
RTOR Reduction (vph)	0	4	0	0	0	28	0	35	0	0	0	114
Lane Group Flow (vph)	153	1321	0	96	1544	43	71	102	0	71	180	26
Confl. Peds. (#/hr)							3		11	11		11
Confl. Bikes (#/hr)									5			
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases						6	8			4		4
Actuated Green, G (s)	17.0	73.3		10.8	67.1	67.1	20.9	20.9		20.9	20.9	20.9
Effective Green, g (s)	18.0	74.3		11.8	68.1	68.1	21.9	21.9		21.9	21.9	21.9
Actuated g/C Ratio	0.15	0.62		0.10	0.57	0.57	0.18	0.18		0.18	0.18	0.18
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	244	1993		161	1868	835	140	292		170	316	262
v/s Ratio Prot	c0.09	0.41		0.06	c0.47			0.06			c0.10	
v/s Ratio Perm						0.03	0.09			0.08		0.02
v/c Ratio	0.62	0.66		0.59	0.82	0.05	0.50	0.34		0.41	0.56	0.09
Uniform Delay, d1	47.8	14.7		51.8	21.1	11.5	44.1	42.8		43.4	44.7	40.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.3	1.7		4.8	4.3	0.1	2.0	0.5		1.2	1.9	0.1
Delay (s)	52.1	16.5		56.7	25.4	11.6	46.2	43.3		44.6	46.6	40.9
Level of Service	D	B		E	C	B	D	D		D	D	D
Approach Delay (s/veh)		20.2			26.6			44.3			44.2	
Approach LOS		C			C			D			D	

Intersection Summary

HCM 2000 Control Delay (s/veh)	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Signalized Intersection Summary

1: S 20th Avenue & Tualatin Valley Hwy

09/26/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	1156	103	91	1467	67	67	67	63	67	171	133
Future Volume (veh/h)	145	1156	103	91	1467	67	67	67	63	67	171	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.97	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1736	1736	1736	1750	1750	1750	1736	1736	1736
Adj Flow Rate, veh/h	153	1217	104	96	1544	0	71	71	31	71	180	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	1	1	1	0	0	0	1	1	1
Cap, veh/h	150	1834	156	130	1940		214	251	110	277	382	319
Arrive On Green	0.09	0.60	0.59	0.08	0.59	0.00	0.22	0.22	0.21	0.22	0.22	0.22
Sat Flow, veh/h	1641	3052	260	1654	3299	1471	1184	1142	499	1288	1736	1449
Grp Volume(v), veh/h	153	652	669	96	1544	0	71	0	102	71	180	26
Grp Sat Flow(s),veh/h/ln	1641	1637	1676	1654	1650	1471	1184	0	1641	1288	1736	1449
Q Serve(g_s), s	11.0	31.7	31.9	6.8	43.5	0.0	6.7	0.0	6.2	5.8	10.8	1.7
Cycle Q Clear(g_c), s	11.0	31.7	31.9	6.8	43.5	0.0	17.5	0.0	6.2	12.0	10.8	1.7
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	150	983	1007	130	1940		214	0	361	277	382	319
V/C Ratio(X)	1.02	0.66	0.66	0.74	0.80		0.33	0.00	0.28	0.26	0.47	0.08
Avail Cap(c_a), veh/h	150	983	1007	138	1940		368	0	574	444	608	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.57	0.57	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	15.9	16.0	54.1	19.1	0.0	48.3	0.0	39.0	43.9	40.7	37.1
Incr Delay (d2), s/veh	78.0	3.5	3.5	10.0	2.0	0.0	0.7	0.0	0.3	0.4	0.7	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	11.7	12.1	3.1	15.6	0.0	2.0	0.0	2.6	1.9	4.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	132.5	19.4	19.4	64.0	21.2	0.0	49.0	0.0	39.3	44.3	41.4	37.2
LnGrp LOS	F	B	B	E	C		D		D	D	D	D
Approach Vol, veh/h		1474			1640			173			277	
Approach Delay, s/veh		31.2			23.7			43.3			41.7	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.5	76.1		30.4	15.0	74.6		30.4				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	9.0	55.0		41.0	10.0	54.0		41.0				
Max Q Clear Time (g_c+I1), s	8.8	33.9		14.0	13.0	45.5		19.5				
Green Ext Time (p_c), s	0.0	10.5		1.1	0.0	6.5		0.7				

Intersection Summary

HCM 7th Control Delay, s/veh	29.1
HCM 7th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis

2: S 26th Avenue & Tualatin Valley Hwy

09/26/2024



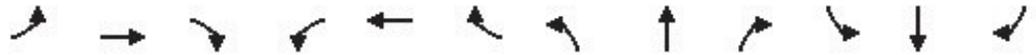
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	1219	65	225	1675	89	55	15	138	51	16	55
Future Volume (vph)	55	1219	65	225	1675	89	55	15	138	51	16	55
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.97		1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00		0.99	1.00		0.99	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96	1.00		0.96	1.00
Satd. Flow (prot)	1630	3229		1646	3292	1440		1650	1437		1618	1406
Flt Permitted	0.09	1.00		0.11	1.00	1.00		0.72	1.00		0.72	1.00
Satd. Flow (perm)	168	3229		202	3292	1440		1244	1437		1225	1406
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	58	1283	68	237	1763	94	58	16	145	54	17	58
RTOR Reduction (vph)	0	5	0	0	0	34	0	0	130	0	0	52
Lane Group Flow (vph)	58	1346	0	237	1763	60	0	74	15	0	71	6
Confl. Peds. (#/hr)			7	7			1		4	4		4
Confl. Bikes (#/hr)			8			4						1
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	44.7	39.9		52.5	43.8	43.8		6.4	6.4		6.4	6.4
Effective Green, g (s)	46.7	40.9		54.5	44.8	44.8		7.4	7.4		7.4	7.4
Actuated g/C Ratio	0.67	0.58		0.78	0.64	0.64		0.11	0.11		0.11	0.11
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0		5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5		2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	233	1886		357	2106	921		131	151		129	148
v/s Ratio Prot	0.02	0.42		c0.09	c0.54							
v/s Ratio Perm	0.15			0.42		0.04		c0.06	0.01		0.06	0.00
v/c Ratio	0.24	0.71		0.66	0.83	0.06		0.56	0.10		0.55	0.04
Uniform Delay, d1	7.1	10.3		11.0	9.7	4.7		29.7	28.2		29.7	28.1
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	2.3		4.1	4.1	0.1		4.4	0.2		4.0	0.0
Delay (s)	7.5	12.7		15.1	13.9	4.8		34.2	28.5		33.7	28.1
Level of Service	A	B		B	B	A		C	C		C	C
Approach Delay (s/veh)		12.4			13.6			30.4			31.2	
Approach LOS		B			B			C			C	

Intersection Summary

HCM 2000 Control Delay (s/veh)	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Signalized Intersection Summary
 2: S 26th Avenue & Tualatin Valley Hwy

09/26/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1219	65	225	1675	89	55	15	138	51	16	55
Future Volume (veh/h)	55	1219	65	225	1675	89	55	15	138	51	16	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.99		0.99	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1736	1736	1736	1723	1723	1723	1695	1695	1695
Adj Flow Rate, veh/h	58	1283	63	237	1763	60	58	16	14	54	17	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	4	4	4
Cap, veh/h	294	1815	89	428	2007	870	92	15	186	91	17	181
Arrive On Green	0.09	0.57	0.56	0.13	0.61	0.61	0.11	0.13	0.13	0.11	0.13	0.13
Sat Flow, veh/h	1641	3170	155	1654	3299	1430	0	119	1446	0	133	1404
Grp Volume(v), veh/h	58	661	685	237	1763	60	74	0	14	71	0	6
Grp Sat Flow(s),veh/h/ln	1641	1637	1689	1654	1650	1430	119	0	1446	133	0	1404
Q Serve(g_s), s	0.9	20.3	20.4	3.4	31.5	1.2	0.0	0.0	0.6	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.9	20.3	20.4	3.4	31.5	1.2	8.0	0.0	0.6	8.0	0.0	0.3
Prop In Lane	1.00		0.09	1.00		1.00	0.78		1.00	0.76		1.00
Lane Grp Cap(c), veh/h	294	937	967	428	2007	870	105	0	186	106	0	181
V/C Ratio(X)	0.20	0.71	0.71	0.55	0.88	0.07	0.70	0.00	0.08	0.67	0.00	0.03
Avail Cap(c_a), veh/h	354	937	967	454	2007	870	105	0	186	106	0	181
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	10.7	10.8	10.5	11.5	5.6	33.0	0.0	26.8	32.8	0.0	26.7
Incr Delay (d2), s/veh	0.2	3.2	3.1	1.0	5.8	0.2	17.9	0.0	0.1	14.2	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.4	6.6	1.5	9.8	0.3	1.8	0.0	0.2	1.6	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.0	13.9	13.9	11.5	17.4	5.8	50.9	0.0	27.0	47.0	0.0	26.7
LnGrp LOS	B	B	B	B	B	A	D		C	D		C
Approach Vol, veh/h	1404		2060				88		77			
Approach Delay, s/veh	13.8		16.4				47.1		45.4			
Approach LOS	B		B				D		D			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	12.9	44.1	13.0		10.4	46.6	13.0					
Change Period (Y+Rc), s	5.0	5.0	5.0		5.0	5.0	5.0					
Max Green Setting (Gmax), s	9.0	38.0	8.0		8.0	39.0	8.0					
Max Q Clear Time (g_c+I1), s	5.4	22.4	10.0		2.9	33.5	10.0					
Green Ext Time (p_c), s	0.3	8.9	0.0		0.0	4.8	0.0					

Intersection Summary		
HCM 7th Control Delay, s/veh	16.8	
HCM 7th LOS	B	

Notes
 User approved pedestrian interval to be less than phase max green.

1. Tuatatin Valley Hwy & S 20th Avenue

Right Turns on Red
 APM Section 13.4.2: RTOR
 Equation: $vRTOR = sRTOR * (r/C)$

AM Peak Hour														
	sRTOR			r			vRTOR			C				
	EBR	WBR	NBR	EBR	WBR	NBR	EBR	WBR	NBR	SBR	EBR	WBR	NBR	SBR
2023 Existing														
2026 Background														
2026 Buildout														
PM Peak Hour														
	sRTOR			r			vRTOR			C				
	EBR	WBR	NBR	EBR	WBR	NBR	EBR	WBR	NBR	SBR	EBR	WBR	NBR	SBR
2023 Existing														
2026 Background														
2026 Buildout														

Intersection v/c
 APM Section 13.4.4: Critical Intersection v/c ratio
 Method:
 Determine Critical Movements in HCM 2000 reports
 HCM 6th reports, determine adjusted and sat flow rates
 Adjust Flow/Sat Flow
 Sum up Crit Movement Flow Rates
 Xc of intersection = $\text{sum}(\text{crit.move. Flow rates} * (C/(C-L)))$

AM Peak Hour															
	Adjust Flow			Saturated Flow			Adj/Sat Flows				C			Xc	
	EBT	WBL	NBT	EBT	WBL	NBT	EBT	WBL	NBT	Sum	L	L	Xc		
2023 Existing	1256	29	195	3307	1602	1622	0	0.3798	0.018102	0.120222	0	0.518125	120	12	0.58
2026 Background	1335	34	223	3306	1602	1617	1	0.403811	0.021223	0.13791	0	0.562944	120	12	0.63
2026 Buildout	1335	34	224	3306	1602	1617	1	0.403811	0.021223	0.138528	0	0.563563	120	12	0.63
PM Peak Hour															
	Adjust Flow			Saturated Flow			Adj/Sat Flows				C			Xc	
	EBL	WBT	SBT	EBL	WBT	SBT	EBL	WBT	SBT	Sum	L	L	Xc		
2023 Existing	144	1454	161	1641	3299	1736	0	0.087751	0.44074	0.092742	0	0.621233	120	12	0.69
2026 Background	153	1543	173	1641	3299	1641	1	0.093236	0.467717	0.105424	0	0.666377	120	12	0.74
2027 Buildout	153	1544	180	1641	3299	1641	1	0.093236	0.468021	0.109689	0	0.670946	120	12	0.75

2. Tuatatin Valley Hwy & S 26th Avenue

Right Turns on Red
 APM Section 13.4.2: RTOR
 Equation: $vRTOR = sRTOR * (r/C)$

AM Peak Hour														
	sRTOR			r			vRTOR			C				
	EBR	WBR	NBR	EBR	WBR	NBR	EBR	WBR	NBR	EBR	WBR	NBR	SBR	SBR
2023 Existing														
2026 Background														
2026 Buildout														
PM Peak Hour														
	sRTOR			r			vRTOR			C				
	EBR	WBR	NBR	EBR	WBR	NBR	EBR	WBR	NBR	EBR	WBR	NBR	SBR	SBR
2023 Existing														
2026 Background														
2026 Buildout														

Intersection v/c

APM Section 13.4.4: Critical Intersection v/c ratio
 Determine Critical Movements in HCM 2000 reports
 HCM 6th reports, determine adjusted and sat flow rates
 Adjust Flow/Sat Flow
 Sum up Crit Movement Flow Rates
 Xc of intersection = $\text{sum}(\text{crit.move. Flow rates} * (C/(C-L)))$

AM Peak Hour															
	Adjust Flow			Saturated Flow			Adj/Sat Flows				Xc				
	EBT	WBL	NB	EBT	WBL	NB	EBT	WBL	NB	EBT	WBL	NB	Sum	L	Xc
2023 Existing	1484	117	134	3316	1589	1628	1	0.447527	0.073631	0.08231	0	0.603468	70	12	0.73
2026 Background	1583	131	186	3316	1589	1630	1	0.477382	0.082442	0.11411	0	0.673935	70	12	0.81
2026 Buildout	1584	134	195	3316	1589	1630	1	0.477684	0.08433	0.119632	0	0.681646	70	12	0.82
PM Peak Hour															
	Adjust Flow			Saturated Flow			Adj/Sat Flows				Xc				
	EBL	WBT	NB	EBL	WBT	NB	EBL	WBT	NB	EBL	WBT	NB	Sum	L	Xc
2023 Existing	55	1655	77	1641	3299	1554	1	0.033516	0.501667	0.04955	0	0.584733	70	12	0.71
2026 Background	58	1763	87	1641	3299	1569	1	0.035344	0.534404	0.055449	0	0.625198	70	12	0.76
2027 Buildout	58	1763	88	1641	3299	1565	1	0.035344	0.534404	0.05623	0	0.625979	70	12	0.76

Intersection: 1: S 20th Avenue & Tualatin Valley Hwy

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	L	TR	L	T	R
Maximum Queue (ft)	281	441	386	82	241	251	218	279	83	113	99
Average Queue (ft)	66	225	179	29	108	118	94	139	31	46	39
95th Queue (ft)	175	394	340	67	198	211	170	233	70	92	76
Link Distance (ft)		437	437		1767	1767		686		876	
Upstream Blk Time (%)		1	0								
Queuing Penalty (veh)		0	0								
Storage Bay Dist (ft)	225			300			130		200		160
Storage Blk Time (%)		9			0	0	4	14			
Queuing Penalty (veh)		7			0	0	10	19			

Intersection: 2: S 26th Avenue & Tualatin Valley Hwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	131	451	455	109	205	175	31	235	148	168	66
Average Queue (ft)	17	168	175	50	90	62	5	75	93	73	17
95th Queue (ft)	83	335	345	90	173	140	22	181	153	138	46
Link Distance (ft)		1767	1767		600	600		621		377	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	360			300			250		50		100
Storage Blk Time (%)		1						14	36	5	0
Queuing Penalty (veh)		0						37	23	2	0

Network Summary

Network wide Queuing Penalty: 97

Intersection: 1: S 20th Avenue & Tualatin Valley Hwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	T	R
Maximum Queue (ft)	324	434	379	94	237	238	11	217	324	96	95	81
Average Queue (ft)	69	204	166	32	106	115	0	96	142	37	39	36
95th Queue (ft)	177	363	332	75	197	207	8	165	251	80	80	68
Link Distance (ft)		437	437		1767	1767			686		876	
Upstream Blk Time (%)		0	0									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)	225			300			250	130		200		160
Storage Blk Time (%)		7			0	0		3	12			
Queuing Penalty (veh)		5			0	0		7	16			

Intersection: 2: S 26th Avenue & Tualatin Valley Hwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	129	489	494	141	202	183	34	291	150	172	87
Average Queue (ft)	14	182	197	56	81	56	4	83	95	69	18
95th Queue (ft)	79	380	395	112	165	134	19	208	155	136	55
Link Distance (ft)		1767	1767		600	600		621		377	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	360			300			250		50		100
Storage Blk Time (%)		1				0		17	33	4	0
Queuing Penalty (veh)		0				0		45	23	1	0

Network Summary

Network wide Queuing Penalty: 98

Intersection: 1: S 20th Avenue & Tualatin Valley Hwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	T	R
Maximum Queue (ft)	324	441	405	352	706	706	350	103	185	121	201	149
Average Queue (ft)	131	266	230	103	365	377	65	49	73	49	104	72
95th Queue (ft)	271	413	367	262	616	624	289	93	138	99	176	129
Link Distance (ft)		437	437		1767	1767			686		876	
Upstream Blk Time (%)		1	0									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)	225			300			250	130		200		160
Storage Blk Time (%)	1	11			15	25		0	2		2	0
Queuing Penalty (veh)	4	17			14	16		0	1		4	0

Intersection: 2: S 26th Avenue & Tualatin Valley Hwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	88	426	416	317	503	451	225	148	134	128	77
Average Queue (ft)	33	186	202	96	194	175	18	54	54	48	26
95th Queue (ft)	68	345	359	203	382	355	100	114	101	103	60
Link Distance (ft)		1767	1767		600	600		621		377	
Upstream Blk Time (%)					0						
Queuing Penalty (veh)					0						
Storage Bay Dist (ft)	360			300			250		50		100
Storage Blk Time (%)		1			3	3		18	12	2	0
Queuing Penalty (veh)		0			6	3		24	8	1	0

Network Summary

Network wide Queuing Penalty: 99

Intersection: 1: S 20th Avenue & Tualatin Valley Hwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	T	R
Maximum Queue (ft)	294	446	415	378	720	743	350	115	200	120	233	172
Average Queue (ft)	120	267	234	102	345	356	60	51	84	48	111	64
95th Queue (ft)	258	431	397	264	699	707	277	99	160	94	193	124
Link Distance (ft)		437	437		1767	1767			686		876	
Upstream Blk Time (%)		2	1									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)	225			300			250	130		200		160
Storage Blk Time (%)	0	12		0	12	20		0	4		4	0
Queuing Penalty (veh)	3	18		0	11	14		0	2		8	1

Intersection: 2: S 26th Avenue & Tualatin Valley Hwy

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	101	523	464	353	508	447	350	158	137	116	76
Average Queue (ft)	34	188	198	107	209	190	27	54	60	46	24
95th Queue (ft)	73	393	389	249	413	380	147	115	111	93	54
Link Distance (ft)		1767	1767		600	600		621		377	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	360			300			250		50		100
Storage Blk Time (%)		1			4	4		17	15	1	0
Queuing Penalty (veh)		1			8	3		23	11	1	0

Network Summary

Network wide Queuing Penalty: 104

Exhibit H: Neighborhood Meeting Materials

August 12th, 2024



**Ref: Neighborhood Meeting
Laurel Garden Subdivision, Planned Unit Development, and Zone Change**

Dear Neighbor/Property Owner:

AKS Engineering & Forestry, LLC is holding a neighborhood meeting regarding a ±7.60-acre property located west of SW 345th Avenue and south of S Quartz Avenue and the Laurel Woods subdivision within the City of Cornelius and along its city limits. The property is described as Washington County Assessor's Map 1S302C, Tax Lot 400, and has Low-Density Residential (R-7) and Multi-Unit Residential (A-2) zoning designations per the City Comprehensive Plan and Zone Map. The project involves a subdivision to create ±27 lots for single-detached homes and affiliated improvements including open space, trails, public streets, and utilities, among other infrastructure improvements. The project also includes a planned unit development (PUD) to allow for flexibility to certain code standards in order to allow the property to better conform to the character of the area and address unique site constraints. The City designated zoning districts will also be applied to this application.

Prior to applying to the City of Cornelius, we would like to take the opportunity to discuss the project in more detail with you. The purpose of this meeting is to provide a forum for surrounding property owners/residents to review and discuss the project before the application is submitted to the City. We will attempt to answer questions relevant to meeting development standards consistent with the City of Cornelius' Municipal code.

Pursuant to Cornelius Municipal Code Chapter 18.10.030, you are invited to attend a meeting on:

**September 3rd, 2024, at 6:00 pm
Cornelius Public Library, Walters Community Room
1370 N Adair St
Cornelius, OR 97113**

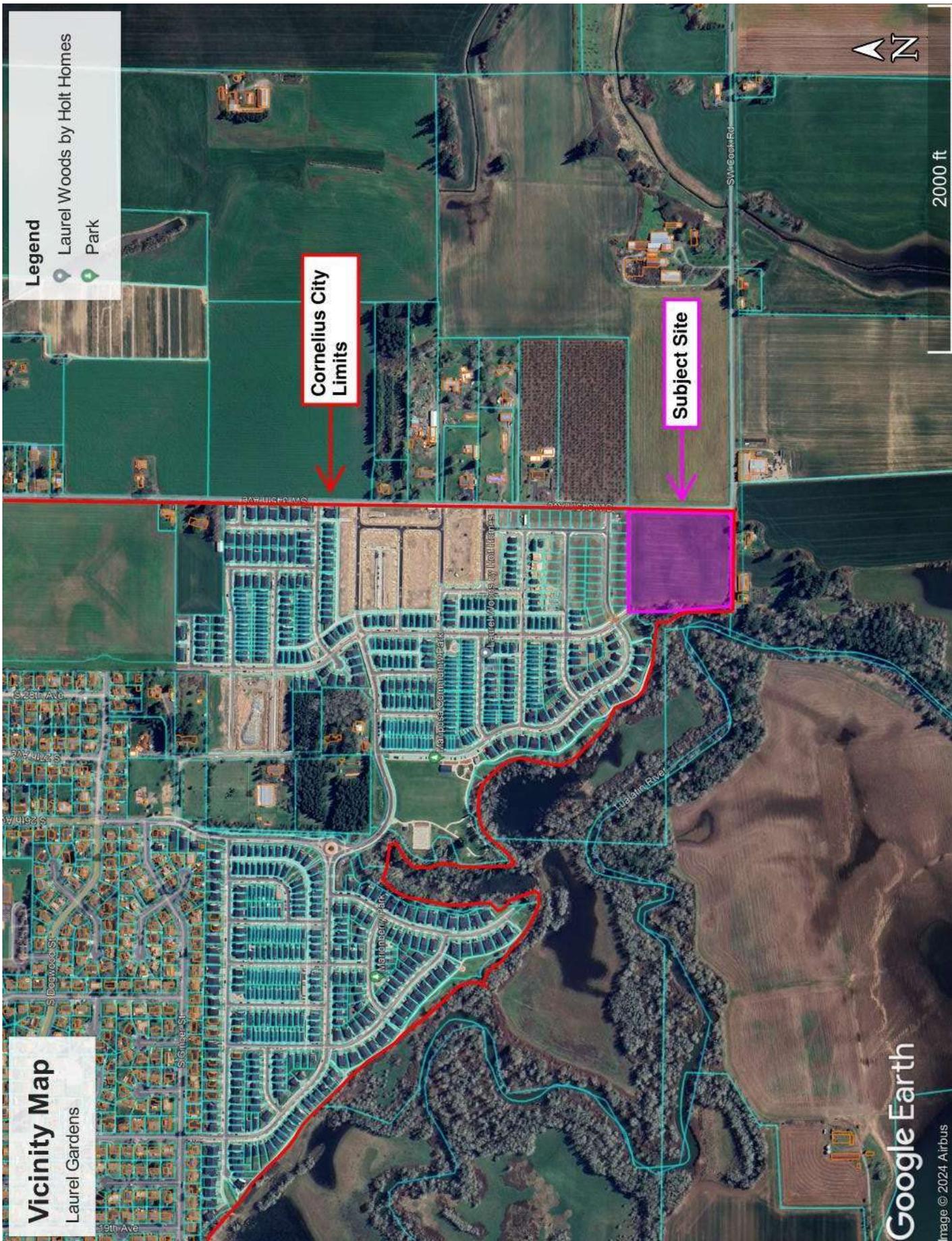
Please note this meeting will be an informational meeting based on preliminary plans. These plans may be altered prior to submittal of the application to the City. Depending upon the type of land use action required, you may receive official notice from the City of Cornelius inviting you to participate with written comments and/or providing you an opportunity to attend a public hearing.

I look forward to discussing this project with you. If you have questions, but will be unable to attend, please feel free to call me at 503-563-6151 or email me at vermilyas@aks-eng.com.

Sincerely,
AKS ENGINEERING & FORESTRY, LLC

A handwritten signature in black ink that reads 'Sean Vermilya'.

Sean Vermilya
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
503-563-6151 | vermilyas@aks-eng.com





AKS ENGINEERING & FORESTRY, LLC
 12965 SW Herman Road, Suite 100, Tualatin, OR 97062
 P: (503) 563-6151 F: (503) 563-6152

ENGINEERING & FORESTRY

OFFICES IN: TUALATIN, OR - VANCOUVER, WA - SALEM-KEIZER, OR

Project Name	Site Address/ Location
Meeting Date	Meeting Location
Meeting Time	Meeting Location Address

PLEASE PRINT CLEARLY

Printed Name	Full Mailing Address & Email Address	City, State	Zip Code	Phone #
Dick Heringer	1570 S.W. 345	Hillsboro	97123	503-648-5653
William Hering	20303 SW Tremont Way	Beaverton, OR	97007	503-407-0722
Karen Palenik	33430 SW TV Hwy	Hillsboro	97123	503-313-2498
Anderson, Holly	33442 SW TV Hwy	Hillsboro	97123	503-648-9139
Cheryl + Robert Brimer	1360 SW 345th Ave	Hillsboro	97123	971- 601-246-6356



COMMUNITY OPEN SPACE
 SHARED COMMUNITY OPEN SPACES
 FEATURE ACTIVE AND PASSIVE RECREATIONAL
 OPPORTUNITIES INCLUDING EXTENDING PEDESTRIAN
 TRAIL CORRIDORS, PLAY AREAS, SEATING, AND VARD GAMES.

RESERVED CORRIDOR
 ENHANCEMENT PLANTINGS
 PER CLEAN WATER SERVICES
 SERVICE PROVIDER LETTER (SPL)

POTENTIAL PLANELEMENTS LOCATIONS, AND DETAILS AS SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE



September 11, 2024

Neighborhood Meeting Summary: Laurel Gardens Planned Development, Subdivision, and Zone Change

Meeting Date: September 3, 2024

Time: 6:00 PM

Location: Walters Community Room, Cornelius Public Library

The following serves as a summary of the Neighborhood Meeting process. On August 12, 2024, property owners within 250 feet of the proposed development site were sent notification of the proposed Planned Development, Subdivision, and Zone Change application. This notification included the project location, project details, and the neighborhood meeting date, time, and location.

On September 3, 2024, meeting presenters included Sean Vermilya and Paul Sellke of AKS Engineering & Forestry and Joe Schiewe of Holt Homes. The meeting began with a brief introduction by Sean Vermilya summarizing the project and the application. Information about the City's review process and opportunities for public input were provided. Following the introduction, attendees were then given the opportunity to ask questions. The following topics were discussed:

- Height requirements for dwellings along the boundary of the Laurel Woods subdivision and the proposed subdivision.
- Maintenance responsibility for the ditch and landscaping along SW 345th Avenue adjacent to the existing and proposed subdivisions.
- Fencing in the existing and proposed subdivisions.
- Retention of existing water rights to the Tualatin River for adjacent rural properties outside of the City limits and UGB.
- Potential improvements related to water infrastructure that serves nearby rural properties.
- Future expansion of the urban area to the east of the subject site.
- Potential use of street stubs by adjacent rural property owners as turnarounds for larger vehicles (e.g., fifth-wheel trailers and recreational vehicles).
- City-owned property along SW 345th Avenue to the north of the subject site and whether the City will be building a school there in the future.
- Planned park locations within the existing and proposed subdivisions.
- Homeowner's associations in the existing and proposed subdivisions.
- The number and price of new homes within the existing and proposed subdivisions.
- Access to the site from SW 345th Avenue during construction and the use of topsoil strippings.

The meeting concluded at approximately 7:00 pm.

Sincerely,

AKS ENGINEERING & FORESTRY, LLC

Sean Vermilya

12965 SW Herman Road, Suite 100 | Tualatin, OR 97062

P: 503.563.6151 | vermilyas@aks-eng.com

Attachment 2: Notices: DLCD PAPA
Notices, Newspaper Notice, Mailed Notice

From: [DLCD Plan Amendments](#)
To: [Barbara Fryer](#)
Subject: Confirmation of PAPA Online submittal to DLCD
Date: Friday, December 20, 2024 9:21:33 AM

Cornelius

Your notice of a proposed change to a comprehensive plan or land use regulation has been received by the Oregon Department of Land Conservation and Development.

Local File #: ZC-01-24

DLCD File #: [003-24](#)

Proposal Received: 12/20/2024

First Evidentiary Hearing: 1/28/2025

Final Hearing Date: 3/3/2025

Submitted by: barbarafrayer

If you have any questions about this notice, please reply or send an email to plan.amendments@dlcd.oregon.gov.



Confirmation of PAPA Online submittal to DLCD

From DLCD Plan Amendments <plan.amendments@dlcd.oregon.gov>

Date Tue 2025-01-28 2:34 PM

To Barbara Fryer <Barbara.Fryer@corneliusor.gov>

Cornelius

Your notice of a revised proposal for a change to a comprehensive plan or land use regulation has been received by the Oregon Department of Land Conservation and Development.

Local File #: ZC-01-24

DLCD File #: [003-24](#)

Original Proposal Received: 12/20/2024

Date of Revision: 1/28/2025

First Evidentiary Hearing: 1/28/2025

Final Hearing Date: 3/3/2025

Submitted by: barbarafryer

If you have any questions about this notice, please reply or send an email to plan.amendments@dlcd.oregon.gov.



OUR NEWSPAPERS

To view public notice archives, click here. ([https://www.publicnoticeoregon.com/\(S\(2duotxwoggr1skwwoenscgr\)\)/default](https://www.publicnoticeoregon.com/(S(2duotxwoggr1skwwoenscgr))/default)).

LEGALS (/AdHunter2/Default/Home/Search?majorClass=1200)
OPC Legals 2 (/AdHunter2/Default/Home/Search?minorClass=1202)
Auction Notices (/AdHunter2/Default/Home/Search?minorClass=1213)
Personal Property 2 (/AdHunter2/Default/Home/Search?minorClass=1218)
Probate (/AdHunter2/Default/Home/Search?minorClass=1222)
Judicial (Sheriff Sales) (/AdHunter2/Default/Home/Search?minorClass=1225)
Non-Judicial (Trustee Sales) (/AdHunter2/Default/Home/Search?minorClass=1228)
Miscellaneous 2 (/AdHunter2/Default/Home/Search?minorClass=1243)

[Home \(/AdHunter2/\)](#) / [LEGALS \(/AdHunter2/Default/Home/Search?majorClass=1200\)](#) / [Miscellaneous 2 \(/AdHunter2/Default/Home/Search?minorClass=1243\)](#) / [NOTICE OF PUBLIC HEARING NOTICE IS H \(/AdHunter2/Default/Home/Ad/347062\)](#)

NOTICE OF PUBLIC HEARING NOTICE IS H

Ad Text

NOTICE OF PUBLIC HEARING
 NOTICE IS HEREBY GIVEN that a Public Hearing will be held before the City of Cornelius Planning Commission on Tuesday, January 28, 2025 at 7:00 pm. The meeting will be held in-person at Cornelius City Hall, 1355 N Barlow Street, in the City Council Chambers and remotely via the Zoom platform, located at the end of this notice.
 Case File No. ZC-01-24, CUP/PUD-04-24, SUB-01-24
 APPLICANT: Melissa Slotemaker, AKS Engineering, Applicant's Representative The Holt Group, INC, Applicant
 OWNER: Hering Family Joint Trust
 LOCATION: Northwest corner of S 345th Boulevard and Cook Street.
 PROPOSAL: A Type III Zone Change (ZC-01-24), Type III Conditional Use Permit/Planned Unit Development (CUP/PUD-04-24), and Subdivision (SUB-01-24) application to a city zoning to a recently annexed property and develop a 27-unit subdivision on 7.60 (<http://7.60>) acres of land currently zoned FD-20 in Washington County. The new development will include three open space areas, roads and dwellings. The application for the Planned Unit Development conditional use is to allow for density averaging and other design elements allowed through a CUP/PUD.
 LEGAL: T 01 S, R 03 W, Map 02C, Tax lot 00400; T 01 S, R03 W, Map 03DD, Tax lots 13300 and 13400
 ZONING: Current Zoning is FD-20 in Washington County, proposed zoning is low density residential (R-7) and multi-unit residential (A-2) in compliance with the Comprehensive Plan.
REVIEW
 CRITERIA: Cornelius Municipal Code Chapters 17.05.040 (<http://17.05.040>) (Subdivisions), 18.10 (<http://18.10>) & 18.15 (<http://18.15>) (Application & Review Procedures), 18.20 (<http://18.20>) (Low-Density Residential, R-7), 18.35 (<http://18.35>) (Multi-Unit Residential, A-2), 18.95 (<http://18.95>) (Natural Resources Overlay), 18.110 (<http://18.110>) (Planned Unit Development Conditional Use), 18.125 (<http://18.125>) (Amendments to the Zoning Ordinance), 18.145 (<http://18.145>) (Off-Street Parking and Loading) and 18.155 (<http://18.155>) (Solar Access for New Development)
 Order of Planning Commission Proceeding: At the public hearing, the Planning Commission Chair will open the public hearing, a staff report will be presented, the applicant will be given the opportunity to make a presentation, interested persons will be called on to speak for or against the proposal, Commissioners will ask questions, the applicant will be given the opportunity to rebut testimony, staff will be given the opportunity to provide closing remarks, and the public hearing will be closed. At that point, all testimony is complete and the Planning Commission will deliberate on the facts and findings in the staff report and testimony. The Planning Commission will make a decision. The Planning Commission may set a maximum time allowance of 3 or 5 minutes per testifier.
 Written Testimony: To submit written testimony prior to the hearing please send it as 'testimony' via email to Community.Development@corneliusor.gov (<mailto:Community.Development@corneliusor.gov>). Testimony received prior to 8:00 am on the day of the hearing will be posted to the agenda packet online. Testimony received after 8:00 am on the day of the hearing will be forwarded to the Planning Commission and will be made part of the record. To accept the testimony, include your name, address and the Case File No. ZC-01-24, CUP/PUD-04-24, SUB-01-24 when providing testimony so that the City can send the Notice of Decision to you along with appeal rights.
 In-Person Testimony: To testify in-person fill out a yellow comment card. Be sure to note your name, address, and the Case File No. ZC-01-24, CUP/PUD-04-24, SUB-01-24. The Planning Commission Chair will call on participants who have submitted a yellow card in the order received.

Virtual Testimony: To testify virtually, pre-register by providing your name, address, Zoom account name, and Case File No. ZC-01-24, CUP/PUD-04-24, SUB-01-24 by email to Community.Development@corneliusor.gov (mailto:Community.Development@corneliusor.gov) prior to 5:00 pm on the day of the hearing. Your information will not be shared at hearing. At the hearing, the Planning Commission Chair will call on participants who pre-registered. If unable to pre-register prior to the hearing, email Community.Development@corneliusor.gov (<http://Community.Development@corneliusor.gov>) during the hearing to request to speak; include your name, address, Zoom account name, and the Case File No. ZC-01-24, CUP/PUD 24, SUB-01-24 in your email. Virtual participants will not be able to share their screen during the meeting; presentation materials should be submitted to Community.Development@corneliusor.gov (mailto:Community.Development@corneliusor.gov) as written testimony by 5:00 pm on the day of the hearing.

Testimony Guidelines: Testimony should avoid repetition of issues and should be based on the application criteria. Oregon Revised Statutes (ORS) 197.797 (<http://197.797>) provides that under certain circumstances, the record may remain open, or a continuance may be granted, upon the request of a participant. Telephone conversations are not accepted as testimony.

Pursuant to ORS 197.797 (<http://197.797>), failure to raise an issue at the final evidentiary hearing or by the close of the record (in-person, virtually, or by letter), or failure to pro statements or evidence sufficient to afford the decision maker an opportunity to respond to the issue, precludes appeal to the Land Use Board of Appeals based on that issue. For more information on the application, contact: Barbara Fryer, Community Development Director, at 503 357- 3011 or by email at barbara.fryer@corneliusor.gov (mailto:barbara.fryer@corneliusor.gov).

Join us
In-Person at the City Council Chambers at 1355 N Barlow Street;
Virtually at Zoom.us/Join (<http://Zoom.us/Join>) Meeting ID: 883 0240 3397 and Passcode: 462062.
You can also call in to listen to the meeting by dialing 1-253-215-8782.
Published January 2, 2025
 FGNT347062

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Details

Posted: 1/1/2025

Publication: News Times

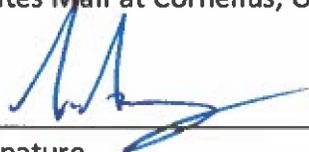
STATE OF OREGON)
)
COUNTY OF WASHINGTON)

AFFIDAVIT OF MAILING

I, Tim Franz, being first duly sworn, depose and say:

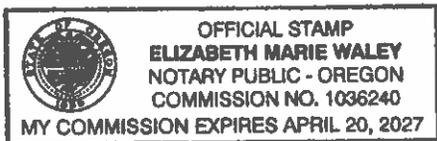
That I served upon the persons shown on Exhibit A, attached hereto and by this reference incorporated herein, a copy of a Notice of Public Hearing, marked Exhibit B, attached hereto and by this reference incorporated herein, by mailing to them a true and correct copy of the original hereof. I further certify that said envelopes were prepared to receive postage by city staff and to be placed in the United States Mail at Cornelius, Oregon.

Dated this 26th day of December, 2024



Signature

SUBSCRIBED AND SWORN TO before me this 26th day of December, 2024.





Notary Public for Oregon

My commission expires: April 20, 2027

Exhibit A (1)

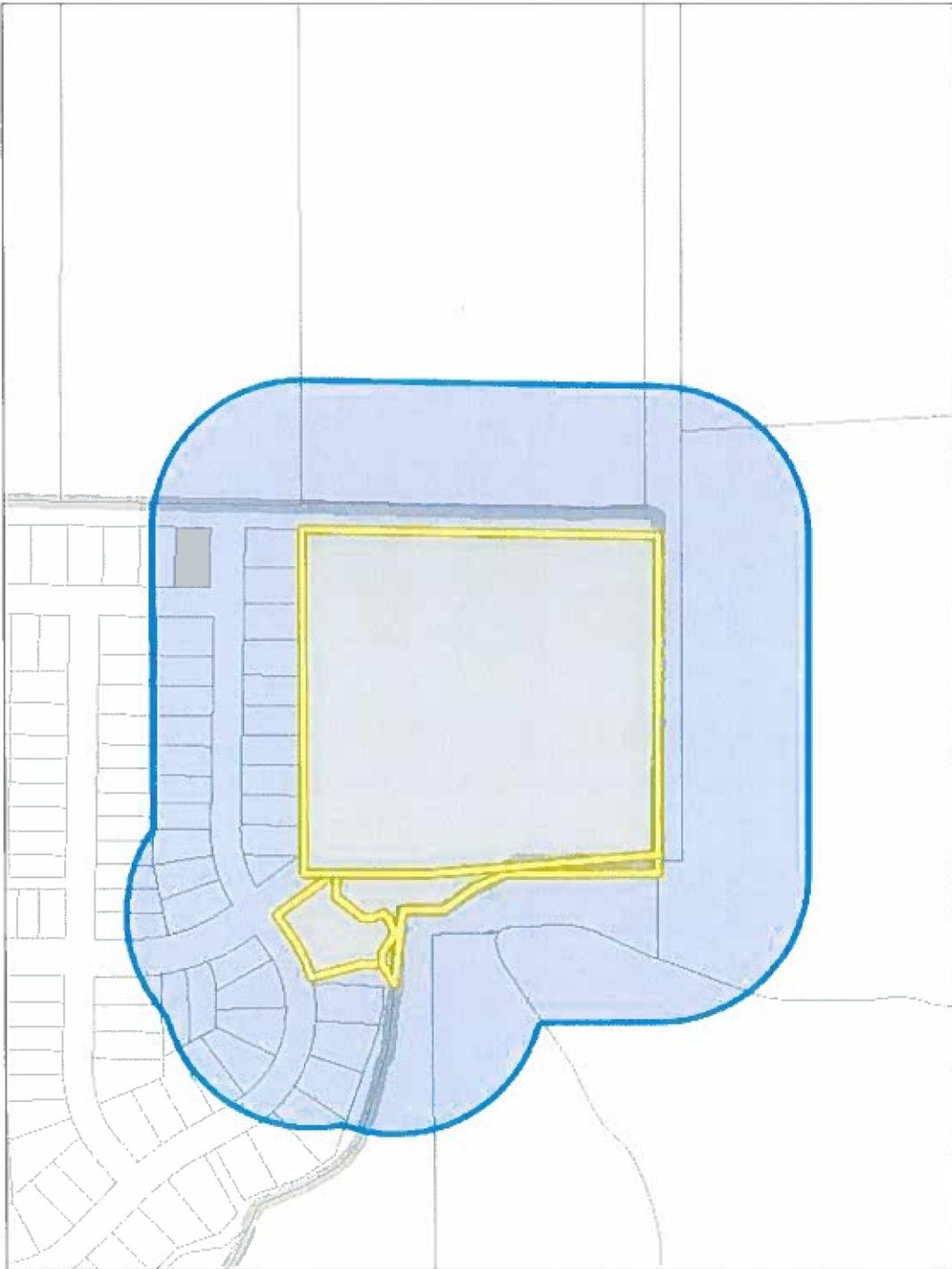
Company Name	Department	Name	Address Line 1	City	State	ZIP Code
City of Cornelius			1355 N Barlow St	Cornelius	OR	97113
City of Forest Grove		Attn: Kate McGuire, Senior Planner	PO Box 326	Forest Grove	OR	97116
City of Hillsboro			150 E Main St	Hillsboro	OR	97123
Clean Water Services		Attn: Jackie Humphreys	2550 SW Hillsboro Hwy.	Hillsboro	OR	97124
Comcast Cable Communications	Development Services Department		11308 SW 68th Parkway	Tigard	OR	97223
Cornelius Rural Fire Protection Dist.			1355 N Barlow St	Cornelius	OR	97113
CPO 12C		c/o Joseph Auth	325 NW 334th Ave.	Hillsboro	OR	97124
CPO Coordinators		Carol Renaud	155 N 1st Ave, Suite 370 M-S 20	Hillsboro	OR	97124
Department of Economic Development			775 Summer St, NE	Salem	OR	97301
Dept of Land Conservation and Development		Attn: Laura Kelly	635 Capitol Street NE, Suite 150	Salem	OR	97301
Dept of Land Use & Transportation		Attn: Scott Young	155 N 1st Ave. Ste #350-15	Hillsboro	OR	97124
DEQ	County Surveyors Office		700 NE Multnomah St. Ste. 600	Portland	OR	97232
District 18 Watermaster			1400 SW Walnut St. #240, MS 49	Hillsboro	OR	97124
Evergreen Disposal & Recycling		Attn: Dawn Lucinio	PO Box 5069	Aloha	OR	97006
Forest Grove School District			1728 Main St	Forest Grove	OR	97116
Hillsboro School District		Attn: Saideh Haghighi Khochkhou	4901 SE Witch Hazel RD	Hillsboro	OR	97123
Home Builders Association		Attn: Preston Korst	15555 SW Bangy Road Suite 301	Lake Oswego	OR	97035
MCI Metro Access Transmission Services Corp			2250 NE Alocek Dr	Hillsboro	OR	97124
METRO Parks		Attn: Will Duyck, President of the Board	600 NE Grand Ave	Portland	OR	97232
METRO Regional Services	Compliance Coordinator		600 NE Grand Ave.	Portland	OR	97232
Metro Regional Services	Senior Transportation Planner	Attn: Ally Holmqvist	600 NE Grand Ave.	Portland	OR	97232
Metro Regional Services		Attn: Glen Hamburg	600 NE Grand Ave.	Portland	OR	97232
NW Natural Gas Company		Attn: Ileene Hyatt	250 SW Taylor St.	Portland	OR	97204
ODOT Rail Division			555 13th St. NE Suite 3	Salem	OR	97301
ODOT Region 1	Development Review Program		123 NW Flanders	Portland	OR	97209
Oregon State Dept of Fish & Wildlife			4034 Fairview Industrial Dr SE	Salem	OR	97302
Oregon State Division of State Lands			775 Summer Street NE	Salem	OR	97301
Port of Portland			P.O. Box 3529	Portland	OR	97208
Portland & Western Railroad, Inc.			1200 Howard Dr SE	Albany	OR	97321
Portland General Electric		Attn: Grant Howell	121 SW Salmon St	Portland	OR	97204
Portland General Electric			121 SW Salmon St	Portland	OR	97204
Tri-Met			4012 SE 17th Ave	Portland	OR	97202
Tualatin Soil and Water Conservation District			7175 NE Evergreen Pkwy, #400	Hillsboro	OR	97124
Tualatin Valley Irrigation Dist			2330 Elm St	Forest Grove	OR	97116
US Army Corps of Engineers			P.O. Box 2946	Portland	OR	97208
USPS			1330 SW Walnut Street	Hillsboro	OR	97123
Washington County	Mosquito Control	Attn: Post Master	155 N 1st Ave, Ste. 170 MS-5	Hillsboro	OR	97123
Washington County	Assessment and Taxation Dept.	Attn: Kenny Carver	155 N 1st Ave	Hillsboro	OR	97124
Washington County	Enhanced Sheriff's Patrol Dist.		215 SW Adams Ave., MS-32	Hillsboro	OR	97123
Washington County	Health & Human Services		155 N 1st Ave, Ste. 170 MS-23	Hillsboro	OR	97124
Washington County	Housing Authority		161 NW Adams Ave, Suite 2000 MS 63	Hillsboro	OR	97124
Washington County Land Use & Transportation	Planning Division	Attn: Paul Schaeffer, Senior Planner	155 N 1st Ave. Ste#350 MS 14	Hillsboro	OR	97124
Washington County Land Use & Transportation	Planning & Development Services	Attn: Principal Planner	155 N 1st Ave. Ste. 350, MS 14	Hillsboro	OR	97124
Washington Service Center	NW Regional Education Services District		5825 NE Ray Cir	Hillsboro	OR	97124
WCCCA 9-1-1	Data Services	Attn: Ian Crawford	5900 NE Pinefarm Ct	Hillsboro	OR	97124
Ziply Fiber			4155 SW Cedar Hills Blvd	Beaverton	OR	97005

Exhibit A (2)

TLNO	OWNERNAME	OWNERADDR	OWNERADDR2	OWNERADDR3	OWNERCITY	OWNERSTATE	OWNERZIP
153100000890	BUCHANAN, JOHN C ESTATE OF	GREENDALE, JOHN CHARLES BUCHANAN	910 NE QUEENS LN		HILLSBORO	OR	97124
153100000100	COLUMBIA LAND TRUST	850 OFFICERS' ROW			VANCOUVER	WA	98661
153030013100							
153030021200							
153030013300							
153030013400	CORNELIUS, CITY OF	BY CITY RECORDER	1355 N BARLOW ST		CORNELIUS	OR	97113
153030009700	CRAMER, ZACHARY JOSEPH & MEAGHAN ALYCE	2897 S PALMETTO ST			CORNELIUS	OR	97113
153030011000	DAHAL, EKRAJ	KARKI, ALINA	1715 S 29TH BLVD		CORNELIUS	OR	97113
153110001101	DUYCK, WILLIAM E & BARBARA L	3050 SW 331ST AVE			HILLSBORO	OR	97123
153110001100	FOUR BOYS LLC	40840 NW OSTERMAN RD			FOREST GROVE	OR	97116
153030011200	GILBERT, MICHAEL	MARSDEN, RACHEL	2911 S PALMETTO ST		CORNELIUS	OR	97113
153030000100	HEAVEN, LAURA VANESSA	CHRONISTER, ZACHARY JAMES	2877 S QUARTZ DR		CORNELIUS	OR	97113
153020000291	HERINCKX FAMILY JOINT TRUST	BY HERINCKX, RICHARD F TR	1570 SW 345TH AVE		HILLSBORO	OR	97123
153020000400							
153020000500	HERING FAMILY JOINT TRUST	BY HERING, DAVID D & KELLY M TRS	34005 SW COOK RD		HILLSBORO	OR	97123
153030010700	HICKS, CHARLES LLOYD & JANA E M	2888 S QUARTZ DR			CORNELIUS	OR	97113
153030000500	HURST, CHRISTINA DAWN & SEAN R	1747 S QUARTZ DR			CORNELIUS	OR	97113
153030010500	JAYARATHNE, DINUSHA & SUSANTHA	1740 S QUARTZ DR			CORNELIUS	OR	97113
153030017400	JONES, NINA N.	2983 S PALMETTO ST			CORNELIUS	OR	97113
153030018000	KODE, KARAN	JAKKA, SAI GIREESHMA	3177 S PALMETTO ST		CORNELIUS	OR	97113
153030017300							
153030017500							
153030017600							
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153030019700							
153030019800							
153030019900							
153030020000							
153030020100							
153030020200							
153030020300	LAURELWOOD DEVELOPMENT LLC	BY HOLT HOMES	1301 TECH CENTER DR STE 150		VANCOUVER	WA	98683
153030011300	MAGUIRE, JENNIFER	2923 S PALMETTO ST			CORNELIUS	OR	97113
153030000501	METRO	600 NE GRAND AVE			PORTLAND	OR	97232
153030010900	MONTANO, JESSE EDWARD & HEATHER NOEL	1725 S 29TH BLVD			CORNELIUS	OR	97113
153030000300	NORRIS, AMBER TELFER & DANIEL DEE JR	2865 S QUARTZ DR			CORNELIUS	OR	97113
153030010400	PANDEY, SHOBHIT ARVIND	BANSAL, GOMTI VINOD	1730 S QUARTZ DR		CORNELIUS	OR	97113
153030000400	RAJEEV-ANIL LIVING TRUST	BY RAJEEV, RENUJU &	ANIL, AMRUTHA TRS	1755 S QUARTZ DR	CORNELIUS	OR	97113
153030011100	SAVILLE, RACHEL ELAINE	HOLDMAN, ELLIOT ROBERT	2901 S PALMETTO ST		CORNELIUS	OR	97113
153030010600	SCHURING, CLIFFORD & SUSAN	2876 S QUARTZ DR			CORNELIUS	OR	97113
153030000200	SELDEN-ANDRADE, RENEE LYNN	ANDRADE-TAFOLLA, ISIDRO	2875 S QUARTZ DR		CORNELIUS	OR	97113
153030009800	SMART, JEFFERY K & PAGE K	2885 S PALMETTO ST			CORNELIUS	OR	97113
153030010800	TIGULLA, LOKESH	2896 S QUARTZ DR			CORNELIUS	OR	97113
153030017700	VANNORSTRAND, JASON R & SHONA E	3091 S PALMETTO ST			CORNELIUS	OR	97113

Washington County, OR

- Arterials
- Tax Lots
- Washington County Boundary
- Regional Urban Growth Boundary
- Non-Regional Urban Growth Boundaries



12/13/2024

Notes
Notice Area For Laurel Garden



1: 4,514
1 inch = 376 feet



The information on this map was derived from digital databases on Washington County's Geographic Information System (GIS). Care was taken in the creation of this map; however, Washington County cannot accept any responsibility for errors, omissions, or positional accuracy. Therefore, there are no warranties which accompany this production. Notification of any errors will be appreciated.

WGS_1984_Web_Mercator_Auxiliary_Sphere
© Latitude Geographics Group Ltd.

Cornelius
Oregon's Family Town

Date: 12/26/2024

NOTICE IS HEREBY GIVEN that a Public Hearing will be held before the City of Cornelius Planning Commission on Tuesday, **January 28, 2025 at 7:00 pm.** The meeting will be held in-person at Cornelius City Hall, 1355 N Barlow Street, in the City Council Chambers and remotely via the Zoom platform, as noted on page 3.

Case File No. ZC-01-24, CUP/PUD-04-24, SUB-01-24

APPLICANT: Melissa Slotemaker, AKS Engineering, Applicant's Representative
The Holt Group, INC, Applicant

OWNER: Hering Family Joint Trust

LOCATION: Northwest corner of S 345th Boulevard and Cook Street, no site address

PROPOSAL: A Type III Zone Change (ZC-01-24), Type III Conditional Use Permit/Planned Unit Development (CUP/PUD-04-24), and Subdivision (SUB-01-24) application to apply city zoning to a recently annexed property and develop a 27-unit subdivision on 7.60 acres of land currently zoned FD-20 in Washington County. The new development will include three open space areas, roads and dwellings. The application for the Conditional Use/Planned Unit Development is to allow for density averaging and other design elements allowed through a CUP/PUD.

LEGAL: T 01 S, R 03 W, Map 02C, Tax lot 00400; T 01 S, R03 W, Map 03DD, Tax lots 13300 and 13400

ZONING: Current Zoning is FD-20 in Washington County, proposed zoning is low density residential (R-7) and multi-unit residential (A-2) in compliance with the Comprehensive Plan.

REVIEW

CRITERIA: Cornelius Municipal Code Chapters 17.05.040 (Subdivisions), 18.10 & 18.15 (Application & Review Procedures), 18.20 (Low-Density Residential, R-7), 18.35 (Multi-Unit Residential, A-2), 18.95 (Natural Resources Overlay), 18.110 (Planned Unit Development Conditional Use), 18.125 (Amendments to the Zoning Ordinance), 18.145 (Off-Street Parking and Loading) and 18.155 (Solar Access for New Development)

Order of Planning Commission Proceedings: At the public hearing, the Planning Commission Chair will open the public hearing, a staff report will be presented, the applicant will be given the opportunity to make a presentation, interested persons will be called on to speak for or against the proposal, Commissioners will ask questions, the applicant will be given the opportunity to rebut testimony, staff will be given the opportunity to provide closing remarks, and the public hearing will be closed. At that point, all testimony is complete and the Planning Commission will deliberate on the facts and findings in the staff report and testimony. The Planning Commission will make a decision. The Planning Commission may set a maximum time allowance of 3 or 5 minutes per testifier.

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In-Person Testimony: To testify in-person fill out a yellow comment card. Be sure to note your name, address, and the Case File No. **ZC-01-24, CUP/PUD-04-24, SUB-01-24**. The Planning Commission Chair will call on participants who have submitted a yellow card in the order received.

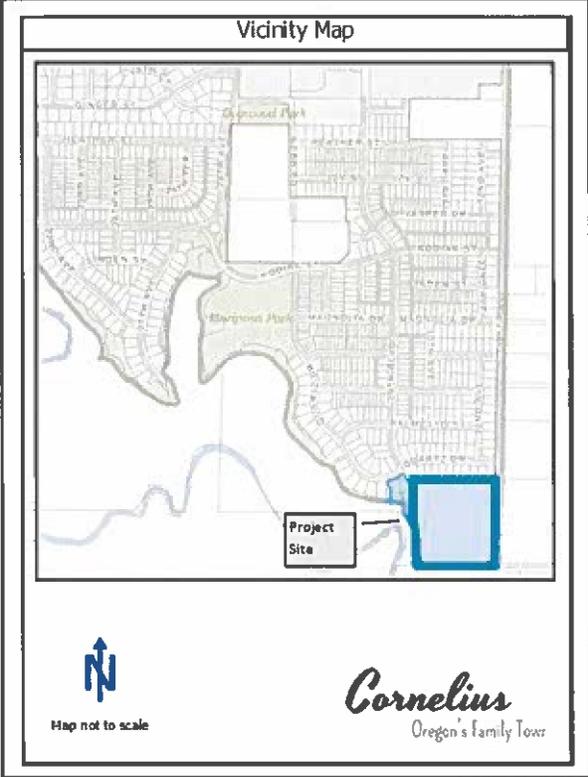
Virtual Testimony: To testify virtually, pre-register by providing your name, address, Zoom account name, and Case File No. **ZC-01-24, CUP/PUD-04-24, SUB-01-24** by email to Community.Development@corneliusor.gov prior to 5:00 pm on the day of the hearing. Your information will not be shared at the hearing. At the hearing, the Planning Commission Chair will call on participants who pre-registered. If unable to pre-register prior to the hearing, email Community.Development@corneliusor.gov during the hearing to request to speak; include your name, address, Zoom account name, and the Case File No. **ZC-01-24, CUP/PUD-04-24, SUB-01-24** in your email. Virtual participants will not be able to share their screen during the meeting; presentation materials should be submitted to Community.Development@corneliusor.gov as written testimony by 5:00 pm on the day of the hearing.

Testimony Guidelines: Testimony should avoid repetition of issues and should be based on the application criteria. Oregon Revised Statutes (ORS) 197.797 provides that under certain circumstances, the record may remain open, or a continuance may be granted, upon the request of a participant. Telephone conversations are not accepted as testimony.

Pursuant to ORS 197.797, failure to raise an issue at the final evidentiary hearing or by the close of the record (in-person, virtually, or by letter), or failure to provide statements or evidence sufficient to afford the decision maker an opportunity to respond to the issue, precludes appeal to the Land Use Board of Appeals based on that issue.

For more information on the application, contact: Barbara Fryer, Community Development Director, at 503 357- 3011 or by email at barbara.fryer@corneliusor.gov.

Join us
In-Person at the City Council Chambers at 1355 N Barlow Street;
Virtually at [Zoom.us/Join](https://zoom.us/join) Meeting ID: 883 0240 3397 and Passcode: 462062.
You can also call in to listen to the meeting by dialing 1-253-215-8782.



Attachment 3: Internal Comments

Memo

Subject: Engineering Comments for Land Use Approval of **Laurel Gardens**

Date: January 23, 2025

By: Terry, Keyes, P.E., City Engineer

These comments are based on existing conditions on the site and the preliminary plans submitted for land use approval.

The comments are designed to help in creating final engineering construction plans. While the comments should not be interpreted as the final engineering comments on the development, these comments attempt to cover all major public infrastructure, erosion control, and stormwater runoff requirements related to development of this site.

The preliminary plans meet all the infrastructure requirements outlined below. Any exceptions that need to be addressed in the final engineering plans or before the infrastructure is accepted by the city are stated in **red**.

General

The proposal involves a 7.6-acre site at the NW corner of Cook Street and 345th Avenue, just south of Laurel Woods. The Tualatin River runs along the western edge of the site and the site is bordered on the west, south, and east by the UGB.

Streets

345th Avenue

This is a rural county road that will not be impacted by the project, except for two emergency access points where S. 29th Blvd and S Rowen Street meet 345th. The applicant's preliminary plans show the access points to 345th properly blocked.

S. 29th Blvd.

This is a city collector street. The preliminary plans continue the design of S. 29th Blvd north of the parcel in the Laurel Woods Subdivision. The street has the following configuration:

- 2 - 10-foot travel lanes
- 2 - 6-foot parkway strips separating sidewalk from street, except at parking bays
- 6-foot sidewalk on west side of street
- 12-foot multi-use path on east and north side of street

The sidewalk and parkway strip on the south and west side of S. 29th Blvd. ends at the southern boundary of the parcel. From that point to 345th, the street is constructed as a 3/4 street in accordance with city requirements.

While a drive-able AC pavement section connects S. 29th to 345th, the end of S.29th is gated so that only emergency vehicles can access 345th from S. 29th.

Where parking is provided on S. 29th Blvd, the parking area is shown on the preliminary plans to be constructed as a parking bay in accordance with city's Public Works Standards. The ROW along S. 29th is wide enough to allow installation of all the public infrastructure improvements, including street trees.

While driveways directly onto collector streets are strongly discouraged, Lot 16 does directly access S. 29th. This access is necessary because the isolated location of Lot 16 provides no other opportunities for access.

While the City's Transportation System Plan (TSP) calls for a public pathway along the vegetated corridor of the Tualatin River, the pathway is unlikely to extend south of the parcel for decades due to the area to the south being classified as *rural reserve*. Therefore, rather than building a *path to nowhere*, the preliminary plans show the path ending at the SW corner of the city open space identified as Tract A. This is acceptable and appropriate.

In addition, if the path ever extends to the south, the sidewalk on the west side of S. 29th needs to be widened to 10 feet. The preliminary plans allow for this.

Rowen St., Silktree St., and S. 32nd Ave.

These are local streets which have the following configuration in Cornelius:

- 2 - 10-foot travel lanes
- 2 - 6-foot parkway strips separating sidewalk from street, except at parking bays
- 5-foot sidewalks on both sides of street

Where parking is provided on these streets, the parking areas are shown as parking bays in accordance with the city's Public Works Standards. The ROW widths shown provide sufficient space to accommodate the infrastructure improvements and street trees.

While a drive-able AC pavement section will connect Rowen Street to 345th, the east end of this street is gated so that only emergency vehicles can access 345th.

The plans also show a few sidewalk easements at intersections. These are required so the ADA ramps can be constructed to meet ADA standards.

Other Transportation Issues and Questions

A traffic study is provided for this project, primarily because S. 29th Blvd. does not yet connect to Baseline (Hwy 8). The traffic study showed the traffic impacts to the neighborhoods to the northwest are minimal and the collector streets between this project and Hwy 8 will not be overburdened due to the additional traffic generated by Laurel Gardens.

Water

A 12-inch public water main currently exists at the south end of S. 29th Blvd. This water main is extended into the site and ends at 345th in the preliminary plans.

The project also loops the water system from the east end of Rowen Street to S. Quartz Drive at 345th. This looping is necessary to ensure system reliability and provide two water system feeds into Laurel Gardens.

Fire hydrant locations shown on the preliminary plans appear well positioned and acceptable. Engineering with coordinate with the Fire Department during engineering plan review to ensure the hydrant locations are acceptable.

Sanitary Sewer

The plans show the 8-inch public sanitary sewer that currently ends at the south end of S. 29th Blvd., extending into the project to serve the 27 proposed lots with gravity service. The downstream sanitary system has sufficient capacity to accommodate this project.

Stormwater

Stormwater treatment for the site will occur in the existing stormwater facility at the SW corner of S. 29th Blvd. and S. Quartz Drive. This facility, which was constructed to treat runoff from parts of the Laurel Woods development, has sufficient capacity to treat runoff from Laurel Gardens.

Normally a project like this is required to construct a facility to meet the *hydromodification* (detention) requirements of Clean Water Services. However, since the site discharges directly into the Tualatin River, the site is covered by the *Tualatin River Adjustment* clause in the Clean Water Services Design and Construction Standards (Section 4.03.5(d)). This clause allows the applicant to pay a fee-in-lieu rather than constructing a detention facility for the project. The applicant proposes to pay a fee-in-lieu and this is acceptable to the city.

Tualatin River and Vegetated Corridor

River Migration

The Tualatin River flows from the west into a tight oxbow curve along the west boundary of the site. This oxbow has the potential to undercut the bank, allowing the river to move to the east, into the project. To address this issue the applicant hired a consultant with expertise in river dynamics to analyze the stability of the bank and the risk of the river migrating into the project. The consultant found that the river is in a stable condition and has not moved significantly over the 87 years that data is available. Therefore, the City Engineer is satisfied that the river in this location does not pose a significant risk to the project.

Irrigation Supply and Groundwater Discharge

The landowner to the east currently has an irrigation pump along the river on the west side of the project. This pump feeds a pipeline that runs east through the project and crosses 345th Avenue to serve farmland on the east side of 345th. The preliminary plans show this private irrigation pipe to be relocated under and adjacent to S. 29th Blvd. ▲

written agreement of some type between the owner of the pipe and the city is required to be executed prior to final acceptable of the public infrastructure.

In addition, the plans propose a private storm sewer to carry groundwater discharges from the farmland east of 345th through the project to the Tualatin River. **A written agreement of some type between the owner of the pipe and the city is required to be executed prior to final acceptable of the public infrastructure.**

Vegetated Corridor

The vegetated corridor exists on the west side of S. 29th Blvd, north of Lot 16. Clean Water Services determined mitigation requirements for this corridor. These mitigation requirements are addressed in the preliminary plans.

Erosion Control

Because the site is larger than five acres, the project requires preparation and submittal of erosion control plans meeting the Clean Water Services (CWS) 1200-C plans.

Attachment 4: DOR Annexation Approval

Final Documents
for
Annexation to
Cornelius

Metro proposal number: WA3124
Ordinance/Resolution: 2024-37
Annexation: AN-01-24
DOR: 34-2558-2024

Notice to Taxing Districts

ORS 308.225



Cadastral Information Systems Unit
PO Box 14380
Salem, OR 97309-5075
fax 503-945-8737
boundary.changes@dor.oregon.gov

City of Cornelius
Community Development
1300 S. Kodiak Circle
Cornelius OR 97113

Description and Map Approved
November 8, 2024
As per ORS 308.225

[checked] Description [checked] Map - Received from: Tim Franz
On: 10/30/2024

This is to notify you that your Description and Map in Washington County for:
Annex to City of Cornelius;
Annex to Clean Water Services District;
Withdraw from Special Districts

RES. #2024-37_(AN-01-24) (Sly of Laurel Woods-345th Ave)

has been: [checked] Approved 11/8/2024
[] Disapproved

Notes:

Department of Revenue File Number: 34-2558-2024

Reviewed by: Elise Bruch, 503-302-8353

Boundary: [checked] Change [] Proposed Change

The change is for:

- [] Formation of a new district
[checked] Annexation of a territory to a district
[checked] Withdrawal of a territory from a district
[] Dissolution of a district

If you have not already done so, the approved version of the Description and Map must also be filed with the County Assessor

- [] Transfer
[] Merge
[] Establishment of Tax Zone

**RESOLUTION NO. 2024-37
CITY OF CORNELIUS**

**A RESOLUTION OF THE CORNELIUS CITY COUNCIL AUTHORIZING
ANNEXATION OF ONE TAX LOT**

WHEREAS, The Holt Group, Inc., initiated an application to annex approximately 7.60 acres of land described and mapped within Exhibit A of this Resolution; and

WHEREAS, the City received written consent from 100% of the property owners in the territory proposed be annexed, as required by Metro Code 3.09.045(A); and

WHEREAS, the property in question is vacant, so the City received written consent from 100% of the electors in the territory proposed be annexed, as required by Metro Code 3.09.045(A); and

WHEREAS, notice was provided to the "Necessary Parties" as required for an Expedited Annexation under Metro Code 3.09.045(B), on June 17, 2024, greater than 20 days prior to City Council consideration of the annexation on August 5, 2024; and

WHEREAS, the City Council Staff Report was distributed to Metro on July 6, 2024, at least 7 days prior to City Council consideration; and

WHEREAS, the proposed change is consistent with the City's adopted Comprehensive Plan and public facilities master plans as updated through Ordinance No. 2022-01; and

WHEREAS, the annexation will promote provision of public facilities and services to the property; and

WHEREAS, the subject area includes annexation into Clean Water Services (CWS), and withdrawal from the Cornelius Rural Fire Protection District (CRFPD), Tualatin Valley Irrigation District, Washington County Urban Road Maintenance District, and the Enhanced Washington County Sheriff's Patrol District.

NOW, THEREFORE, BE IT RESOLVED BY THE CORNELIUS CITY COUNCIL AS FOLLOWS:

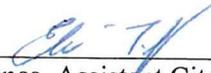
- Section 1. The property described and mapped in Exhibits A and B shall be annexed into the City of Cornelius pursuant to Metro Code 3.09.045.
- Section 2. The property described and mapped in Exhibits A and B shall be annexed into the Clean Waters Services District pursuant to Metro Code 3.09.045.
- Section 3. The property described and mapped in Exhibits A and B shall be withdrawn for the Cornelius Rural Fire Protection District, Tualatin Valley Irrigation District, Washington County Urban Road Maintenance District, and the Washington County Enhanced Sheriff's Patrol District.

Section 3. This resolution is effective immediately upon its enactment by the City Council.

INTRODUCED AND APPROVED by the Cornelius City Council at their regular meeting this 5th day of August, 2024.

City of Cornelius, Oregon

By: 
Jeffrey C. Dalin, Mayor

Attest: 
Ellie Jones, Assistant City Manager and
Acting City Recorder



AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100, Tualatin, OR 97062
P: (503) 563-6151 F: (503) 563-6152

AKS Job #5669

EXHIBIT A

City of Cornelius Annexation

A tract of land located in the Southeast One-Quarter of Section 3, Township 1 South, Range 3 West, Willamette Meridian, Washington County, Oregon, and being more particularly described as follows:

Beginning at the southeast corner of Lot 709 of the plat of "Laurel Woods No. 9" also being on the westerly right-of-way line of SW 345th Avenue (20.00 feet from centerline); thence along said westerly right-of-way line, South 02°49'41" West 593.39 feet to south line of said Section 3; thence along said south line, North 88°02'22" West 532.99 feet to the southeast corner of Tract 'JJ' of the Plat of "Laurel Woods No. 8", also being on the City of Cornelius City Limits line; thence along the easterly line of said Tract 'JJ' on said City Limits line, North 02°56'15" West 380.16 feet to an angle point; thence continuing along said easterly line and said City Limits line, North 01°43'06" East 211.26 feet to an angle point; thence along the south lines of the Plats of "Laurel Woods No. 8" and "Laurel Woods No. 9", and said City Limits line, South 88°22'02" East 575.33 feet to the Point of Beginning.

The above described tract of land contains 7.60 acres, more or less.

5/16/2024

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JANUARY 12, 2016
MICHAEL S. KALINA
89558PLS

RENEWS: 6/30/25

ANNEXATION CERTIFIED

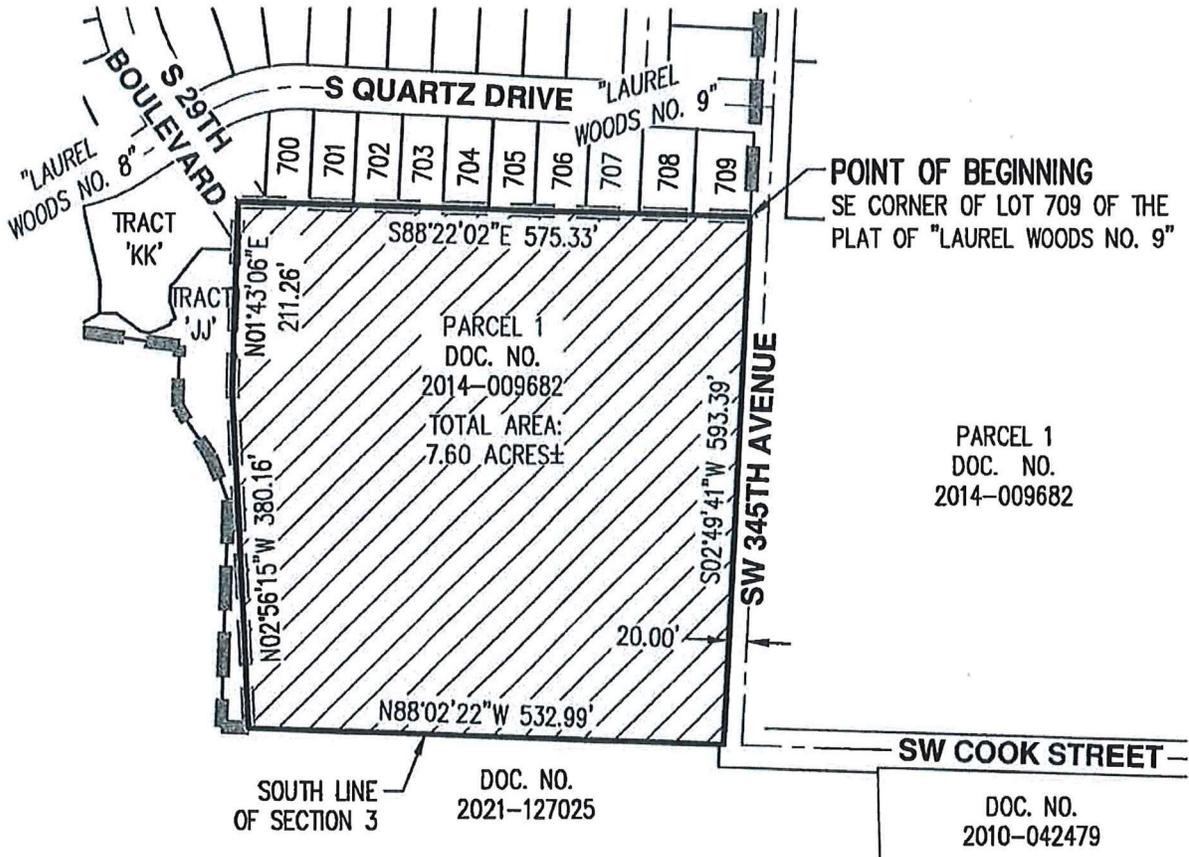
BY

MAY 30 2024

WASHINGTON COUNTY A & T
CARTOGRAPHY

EXHIBIT B

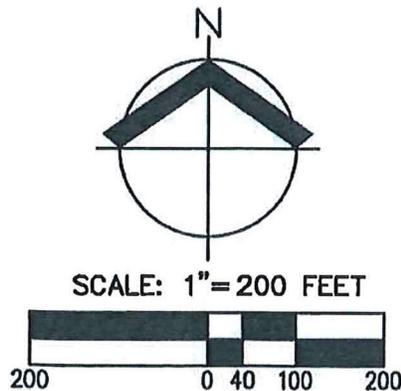
A TRACT OF LAND LOCATED IN THE SOUTHEAST 1/4 OF SECTION 3,
TOWNSHIP 1 SOUTH, RANGE 3 WEST, WILLAMETTE MERIDIAN,
WASHINGTON COUNTY, OREGON



PARCEL 1
DOC. NO.
2014-009682

LEGEND

CITY OF CORNELIUS CITY LIMITS LINE



5/16/2024
REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JANUARY 12, 2016
MICHAEL S. KALINA
89558PLS
RENEWS: 6/30/25

ANNEXATION CERTIFIED

BY *VF*

MAY 30 2024

WASHINGTON COUNTY A & T
CARTOGRAPHY

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151 WWW.AKS-ENG.COM



CITY OF CORNELIUS
ANNEXATION

DATE:	
DRWN: KLH	CHKD: MSK
AKS JOB: 5669	EXHIBIT B

City of Cornelius Agenda Report

To: Peter Brandom, City Manager
From: Barbara Fryer, Community Development
Department Director
Date: August 5, 2024
Subject: Resolution No. 2024-37: AN-01-24 Expedited Annexation of One Tax Lot



Requested City Council Action: Approve Resolution No. 2024-37 to annex one tax lot into the City boundary.

Previous Council Action: Ordinance No. 2015-06 adopted public facilities planning and Comprehensive Plan map designations for the property of Low-Density Residential and Medium Density Residential.

Relevant City Strategic Plan Goal(s): Goal 6: Identify community and economic development opportunities to support the community's needs.

Background: An Expedited Annexation (AN-01-24) application has been received to annex approximately 7.60 acres of land in one tax lot to the City of Cornelius. The property is currently outside the City of Cornelius boundary, but wholly within the existing Urban Growth Boundary (UGB), which was approved through HB 4078, commonly known as the 'Grand Bargain'. The property's eastern boundary abuts city limits. The property owner, the Holt Group, submitted a signed application for the single tax lot to be annexed into the Cornelius city limits to allow for future development of needed housing. There are City services available nearby that can be extended to serve future residential development of the area.

While the property is a single tax lot, there are no electors on site as the area to be annexed was recently divided from the homestead that contains the electors. There is one property owner, Hering Family Joint Trust. Kelly Hering signed the petition on behalf of the Hering Family Joint Trust. Both 100% of the electors and 100% of the property owners for this annexation have signed the annexation petition; therefore, the annexation qualifies for an Expedited Annexation.

Applicant: The Holt Group, INC

Property Owner: Hering Family Trust, represented by Kelly Hering

Location: SW corner of SW 345th Avenue and Cook Street

Map: Township 1 S, Range 3 W, Map 02 C; that portion of Tax Lot 300 lying west of SW 345th Avenue

Process: The annexation (AN-01-24) was initiated by the Holt Group, Inc. The

requestor filed an application with the Community Development Department on forms prescribed by the Community Development Director or designee. The proposed annexation is an Expedited Annexation and follows the requirements of Metro Code 3.09.045. A necessary party can request a public hearing. If a public hearing is not requested, the Council shall make its decision as a consent agenda item. The decision shall become effective by passage of an ordinance, resolution, or order.

APPLICABLE CRITERIA

The State Legislature has directed Metro Regional Services (Metro) to establish criteria, which must be used by all cities within the Metro boundary; these criteria are found in Metro Code Chapter 3.09. The City Comprehensive Plan identifies annexation requirements in *Chapter II, Urbanization, Policies*.

BASIC FACTS and BACKGROUND INFORMATION

1. The subject property is located adjacent to the southeastern boundary of the City of Cornelius.
2. The subject property consists of 7.60 acres of land, Parcel 1 of Partition Plat No. 2024-014.
3. The property is within the Urban Growth Boundary (UGB), which was created in 2014 through HB 4078, commonly known as the 'Grand Bargain'.
4. The subject property is west of the right-of-way for SW 345th Avenue.
5. The applicant and property owners are requesting an Expedited Annexation (AN-01-24) for the annexation of approximately 7.60 acres of unincorporated land into the Cornelius City Limits.
6. The property owner provided a signature authorizing the Annexation. Signed copies of the of this signature is found in Exhibit A, application materials. The site is currently vacant, so no electors are present on the property.
7. The proposed annexation abuts the City Limits along its eastern and southern boundaries, which comprises the western and norther edges of the proposed annexation.
8. On June 17, 2024 Public Notice of the proposal was mailed to Necessary Parties, as required by Metro Code 3.09.045 (Exhibit B, Public Notice).

ANNEXATION REVIEW CRITERIA

The City Comprehensive Plan identifies the following annexation policies in Chapter II, Urbanization, Policies, section 4:

- a. *Annexation will be permitted if:*

- (1) *The City is able to provide adequate services to the area, including sewer, water, administration, and fire protection. The new area can meet city standards for roads, sewers, water, and other services and appropriate amendments to the City's Public Facilities Master Plans have been considered.*

Findings: The applicant submitted a letter detailing the ability for the City to serve the site with sanitary sewer, storm water, and domestic water (Exhibit A, Application submittal). The site abuts S. 29th Boulevard that was developed as part of the Laurel Woods subdivision. Additionally, the site abuts SW 345th Avenue, a County road. The site is currently served by the Cornelius Rural Fire Protection District and would, upon annexation, withdraw from the District and be served by the Cornelius Fire Department. The site, through the development review process, can meet City standards for roads, sewers, water, and other services.

This annexation will annex the property into Clean Water Services (CWS) and withdraw the property from the Tualatin Valley Irrigation District, Washington County Urban Road Maintenance District, and the Washington County Enhanced Sheriff's Patrol District.

Based upon the findings above: Staff conclude that adequate infrastructure and services including, water, sewer, police, administration, fire and future transportation facilities are available and can be coordinated to provide service to the proposed annexation area. This criterion is met.

- (2) *The proposed use of the area to be annexed conforms with the Comprehensive Plan, or has been Master Planned, including all adjacent and intervening properties. The City does not intend to support piecemeal annexations.*

Findings: The subject property is located within the UGB as recognized by Metro, Washington County, and the State. The annexation was Master Planned as part of Ordinance 2015-06 covering the SE UGB area (Exhibit A, Application submittal). The property is the southernmost portion of this SE UGB area and directly connects to the Laurel Woods subdivision, which has just the last three phases out of 11 phases, or about 160 homes out of 905 homes, yet to be constructed. Thus, annexation of this property does not support piecemeal annexation and supports orderly, logical, development for needed housing.

Based upon the findings above: Staff find that the proposed annexation is consistent with the Comprehensive Plan for urban uses. The proposed annexation is not a piecemeal annexation. This criterion is met.

- (3) *A substantial portion of the area to be annexed is contiguous to the City and represents a logical direction for city expansion.*

Findings: The subject property abuts the eastern and southern corporate limits of the City of Cornelius. Since the subject property is currently located within the Metro UGB, and because this property was added to the UGB for the explicit purpose of accommodating regional urbanization in the near term, annexation of this site represents the Region's first choice for local corporate annexation and is therefore a logical selection for expansion of the City of Cornelius.

Based upon the findings above: Staff find the proposed annexation is consistent with the annexation policies and represents a logical direction for City expansion. The proposed annexation is consistent and complies with Chapter 3.09 of Metro's Local Government Boundary Changes requirements. This criterion is met.

DECISION

Based on the facts, findings, and conclusions within the Council Report, staff recommend approval of City File # AN-01-24, Parcel 1 of Tax Lot 300 Annexation.



Barbara Fryer, AICP, Community Development Director

Cost: Staff time.

Advisory Committee Recommendation: Not applicable.

Staff Recommendation: Approve Resolution No. 2024-37 as presented.

Proposed Motion: I make a motion to approve Resolution No. 2024-37, A RESOLUTION OF THE CORNELIUS CITY COUNCIL AUTHORIZING ANNEXATION OF ONE TAX LOT and this action takes effect immediately.

Exhibits: A: Resolution No. 2024-37, including Exhibits A-C

**RESOLUTION NO. 2024-37
CITY OF CORNELIUS**

**A RESOLUTION OF THE CORNELIUS CITY COUNCIL AUTHORIZING
ANNEXATION OF ONE TAX LOT**

WHEREAS, The Holt Group, Inc., initiated an application to annex approximately 7.60 acres of land described and mapped within Exhibit A of this Resolution; and

WHEREAS, the City received written consent from 100% of the property owners in the territory proposed be annexed, as required by Metro Code 3.09.045(A); and

WHEREAS, the property in question is vacant, so the City received written consent from 100% of the electors in the territory proposed be annexed, as required by Metro Code 3.09.045(A); and

WHEREAS, notice was provided to the “Necessary Parties” as required for an Expedited Annexation under Metro Code 3.09.045(B), on June 17, 2024, greater than 20 days prior to City Council consideration of the annexation on August 5, 2024; and

WHEREAS, the City Council Staff Report was distributed to Metro on July 6, 2024, at least 7 days prior to City Council consideration; and

WHEREAS, the proposed change is consistent with the City’s adopted Comprehensive Plan and public facilities master plans as updated through Ordinance No. 2022-01; and

WHEREAS, the annexation will promote provision of public facilities and services to the property; and

WHEREAS, the subject area includes annexation into Clean Water Services (CWS), and withdrawal from the Cornelius Rural Fire Protection District (CRFPD), Tualatin Valley Irrigation District, Washington County Urban Road Maintenance District, and the Enhanced Washington County Sheriff’s Patrol District.

NOW, THEREFORE, BE IT RESOLVED BY THE CORNELIUS CITY COUNCIL AS FOLLOWS:

Section 1. The property described and mapped in Exhibits A and B shall be annexed into the City of Cornelius pursuant to Metro Code 3.09.045.

Section 2. The property described and mapped in Exhibits A and B shall be annexed into the Clean Waters Services District pursuant to Metro Code 3.09.045.

Section 3. The property described and mapped in Exhibits A and B shall be withdrawn for the Cornelius Rural Fire Protection District, Tualatin Valley Irrigation District, Washington County Urban Road Maintenance District, and the Washington County Enhanced Sheriff’s Patrol District.

Section 3. This resolution is effective immediately upon its enactment by the City Council.

INTRODUCED AND APPROVED by the Cornelius City Council at their regular meeting this 5th day of August, 2024.

City of Cornelius, Oregon

By: _____
Jeffrey C. Dalin, Mayor

Attest: _____
Ellie Jones, Assistant City Manager and
Acting City Recorder



AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100, Tualatin, OR 97062
P: (503) 563-6151 F: (503) 563-6152

AKS Job #5669

EXHIBIT A

City of Cornelius Annexation

A tract of land located in the Southeast One-Quarter of Section 3, Township 1 South, Range 3 West, Willamette Meridian, Washington County, Oregon, and being more particularly described as follows:

Beginning at the southeast corner of Lot 709 of the plat of "Laurel Woods No. 9" also being on the westerly right-of-way line of SW 345th Avenue (20.00 feet from centerline); thence along said westerly right-of-way line, South 02°49'41" West 593.39 feet to south line of said Section 3; thence along said south line, North 88°02'22" West 532.99 feet to the southeast corner of Tract 'JJ' of the Plat of "Laurel Woods No. 8", also being on the City of Cornelius City Limits line; thence along the easterly line of said Tract 'JJ' on said City Limits line, North 02°56'15" West 380.16 feet to an angle point; thence continuing along said easterly line and said City Limits line, North 01°43'06" East 211.26 feet to an angle point; thence along the south lines of the Plats of "Laurel Woods No. 8" and "Laurel Woods No. 9", and said City Limits line, South 88°22'02" East 575.33 feet to the Point of Beginning.

The above described tract of land contains 7.60 acres, more or less.

5/16/2024

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JANUARY 12, 2016
MICHAEL S. KALINA
89558PLS

RENEWS: 6/30/25

ANNEXATION CERTIFIED

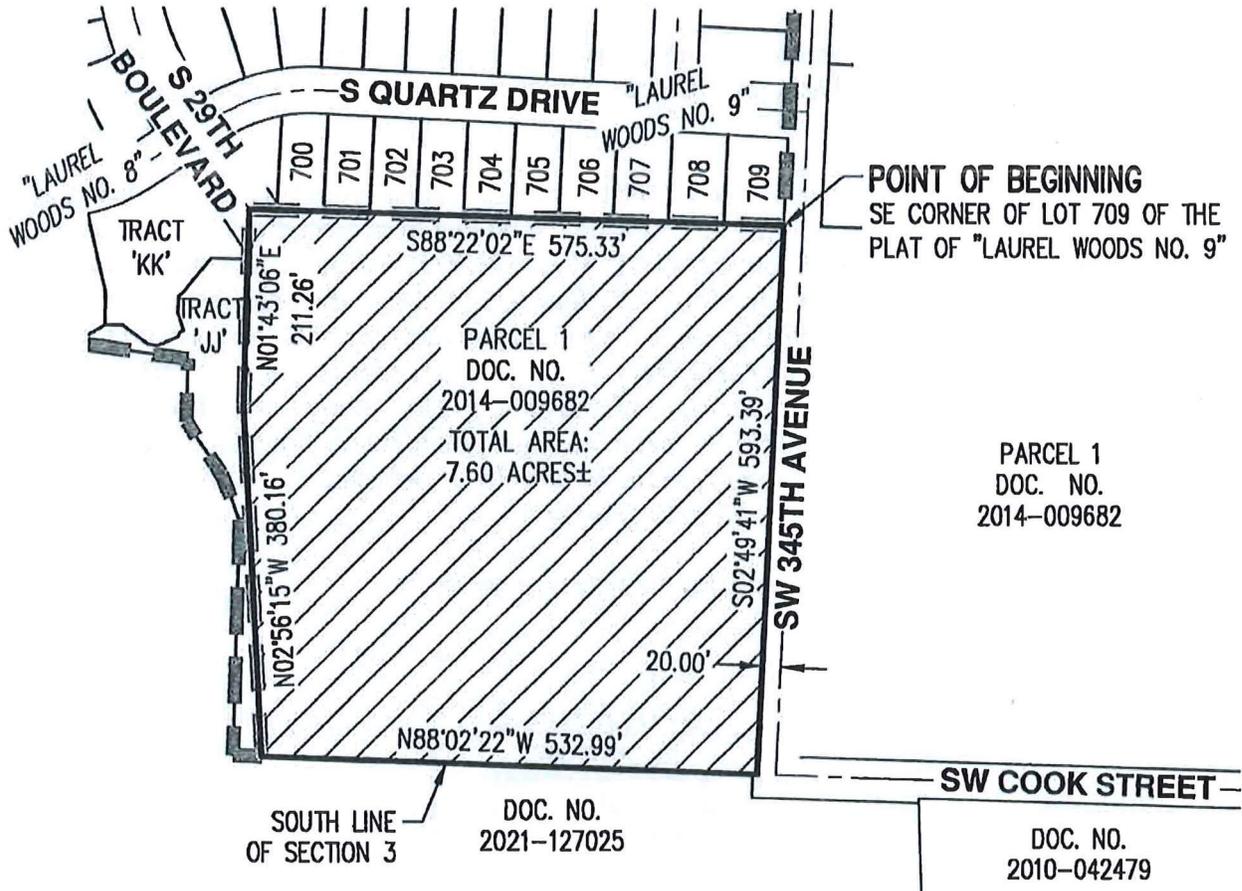
BY TF

MAY 30 2024

WASHINGTON COUNTY A & T
CARTOGRAPHY

EXHIBIT B

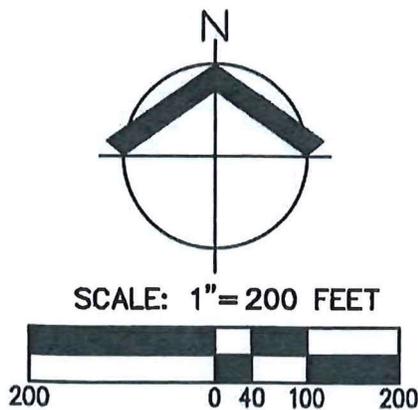
A TRACT OF LAND LOCATED IN THE SOUTHEAST 1/4 OF SECTION 3,
TOWNSHIP 1 SOUTH, RANGE 3 WEST, WILLAMETTE MERIDIAN,
WASHINGTON COUNTY, OREGON



PARCEL 1
DOC. NO.
2014-009682

LEGEND

--- CITY OF CORNELIUS CITY LIMITS LINE



5/16/2024
REGISTERED
PROFESSIONAL
LAND SURVEYOR

Michael S. Kalina

OREGON
JANUARY 12, 2016
MICHAEL S. KALINA
89558PLS
RENEWS: 6/30/25

ANNEXATION CERTIFIED

BY VF

MAY 30 2024

WASHINGTON COUNTY A & T
CARTOGRAPHY

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151 WWW.AKS-ENG.COM



CITY OF CORNELIUS
ANNEXATION

DATE:	
DRWN: KLH	CHKD: MSK
AKS JOB: 5669	EXHIBIT B

Laurel Garden Expedited Annexation

Date: June 2024

Submitted to: City of Cornelius
Department of Community Development
1355 N Barlow Street
Cornelius, OR 97113

Applicant: The Holt Group, Inc.
1301 SE Tech Center Drive, Suite 150
Vancouver, WA 98683

AKS Job Number: 5669



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

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Exhibits

- Exhibit A:** Washington County Assessor’s Map
 - Exhibit B:** Application Form
 - Exhibit C:** Certification of Landowners and Petition for Annexation by 100% of the Property Owners
 - Exhibit D:** Certification of Legal Description and Map of Annexation Area
 - Exhibit E:** City of Cornelius Ordinance No. 2015-06
 - Exhibit F:** Preliminary Service Availability Memo
 - Exhibit G:** Notice of Decision for Washington County Partition No. L2300275-P
 - Exhibit H:** Partition Plat No. 2024-014
 - Exhibit I:** Documents Referenced in Legal Description
-

Laurel Garden Expedited Annexation

Submitted to:	City of Cornelius Department of Community Development 1355 N Barlow Street Cornelius, OR 97113
Applicant:	The Holt Group, Inc. 1301 SE Tech Center Drive, Suite 150 Vancouver, WA 98683
Property Owner:	Hering Family Joint Trust 34005 SW Cook Road Hillsboro, OR 97123
Applicant's Consultant:	AKS Engineering & Forestry, LLC 12965 SW Herman Road, Suite 100 Tualatin, OR 97062 Contact: Melissa Slotemaker, AICP Email: slotemakerm@aks-eng.com Phone: (503) 563-6151
Site Location:	Parcel 1 of Partition Plat No. 2024-014
Washington County Assessor's Map:	1S 3 2C; that portion of Tax Lot 300 lying west of SW 345 th Avenue
Site Size:	±7.60 acres
Land Use Districts:	<u>Current Washington County Zoning District:</u> Future Development – 20 Acre (FD-20) <u>City of Cornelius Zoning District Planned After Annexation:</u> Low-Density Residential (R-7) and Multi-Unit – Residential (A-2)

I. Executive Summary

On behalf of The Holt Group, Inc. (Applicant), AKS Engineering & Forestry, LLC (AKS) is submitting this application for an expedited annexation to the City of Cornelius Community Development Department (hereafter referred to as “the City”). The subject property is ±7.60 acres and is located within the City of Cornelius Urban Growth Boundary (UGB). The property was annexed into the UGB in 2014 by House Bill 4078. The property is planned to be brought into the Low-Density Residential (R-7) and Multi-Unit Residential (A-2) zoning districts following annexation (through a zoning map amendment application to be submitted separately) as established by the City of Cornelius Ordinance No. 2015-06, which amended the City’s Comprehensive Plan to provide Comprehensive Plan and future zoning designations for the southeast UGB area. Ordinance No. 2015-06 (included as Exhibit E) also amended other City plan documents to anticipate the future public facilities and services required to serve the southeast UGB area, including the subject property. The subject site was recently partitioned to divide the portion of the property lying east of SW 345th Avenue and outside the City’s UGB from the remainder of the site. See Plat No. 2024-014 in Exhibit H.

Pursuant to Oregon Revised Statutes (ORS) 199.510(c) this application includes a simultaneous annexation of the property into the boundaries of Clean Water Services (CWS) for the provision of sanitary sewer, storm and surface water management. The Applicant is requesting this annexation in order to provide City services to the subject property for the future development of needed housing on the subject property.

This application includes the City application forms, written materials, and preliminary plans necessary for City staff to review and determine compliance with the applicable approval criteria. The evidence is substantial and supports the City’s approval of the application.

II. Site Description/Setting

The subject property is ±7.60 acres and is located at the northwest intersection of SW 345th Avenue and SW Cook Road, south of the Laurel Woods No. 9 Subdivision (Document No. 2023-022982). The property is currently located in Washington County and is in the Future Development–20 Acre (FD-20) zoning district. The site is within the Metro UGB and the Metro jurisdictional boundary. After annexation, the City will apply the R-7 and A-2 zoning districts as established by City Ordinance No. 2015-06.

The subject property is located within the Hillsboro School District (HSD), the Cornelius Parks and Recreation District, the Washington County Sheriff’s Department District, and the City of Cornelius Water District. The property is planned to be annexed into the CWS Service District for sanitary sewer and stormwater services as part of this application.

The subject property is currently unimproved and contains farmland. The subject site contains portions of the 100-year floodplain of the Tualatin River along its western boundary. The property includes significant topographic variance or slopes greater than 10 percent. Existing vegetation includes an agricultural field, trees, and shrubs. The property is bordered by the Laurel Woods No. 9 Subdivision to the north, SW 345th Avenue to the east, agricultural uses to the south, and the Tualatin River to the west.

III. Applicable Review Criteria

CORNELIUS COMPREHENSIVE PLAN

Chapter II – Urbanization Element

Policy 4

In order to ensure orderly development in conformance with the Comprehensive Plan, the city adopts these policies for annexation:

a. Annexation will be permitted if:

- (1) The City is able to provide adequate services to the area, including sewer, water, administration, and fire protection. The new area can meet city standards for roads, sewers, water, and other services, and appropriate amendments to the City's Public Facilities Master Plans have been considered.

Response: The Cornelius City Council adopted Ordinance No. 2015-06 on November 16, 2015, following neighborhood outreach and area concept planning. The City assessed the capacity of its existing public facilities relative to future potential growth in the southeast UGB area as part of the planning effort for Ordinance 2015-06. The Ordinance amended the City's various master plans to describe how various urban services will need to be provided to accommodate future growth in the southeast UGB area. Master plans that were amended to reflect the future development of the southeast UGB include the Parks Master Plan, the Sanitary Sewer System Master Plan, the Water System Master Plan, the Transportation System Plan, the Stormwater/Surface Drainage Master Plan, and Administrative and Fire Service plans. Amendments to these master plans are addressed and discussed in detail in Ordinance No. 2015-06 (Exhibit E).

The property included in this annexation application is a lot within the southeast UGB area that was examined as part of Ordinance 2015-06. The annexation is intended to allow the subject property to receive City services to facilitate the development of needed housing on the subject property. Ordinance No. 2015-06 indicated that City facilities were adequate to serve the subject property upon future annexation. Further information on service availability to the affected territory can be found in the Preliminary Service Availability Memo (Exhibit F). This provision is met.

- (2) The proposed use of the area to be annexed conforms with the Comprehensive Plan, or has been Master Planned, including all adjacent and intervening properties. The City does not intend to support piecemeal annexations.

Response: Exhibit A of Ordinance No. 2015-06 depicts the adopted Comprehensive Plan Map and Zoning Map designations for land in the southeast UGB area. As demonstrated by the Comprehensive Plan Map and Zoning Map, the subject property is to be designated R-7 and A-2 upon annexation into the City. An application for a zoning map amendment is planned to be submitted subsequent to this application to apply the R-7 and A-2 zoning designations to the subject site. The property is intended to provide needed housing and will conform to the Comprehensive Plan. This provision is met.

- (3) A substantial portion of the area to be annexed is contiguous to the City and represents a logical direction for city expansion.

Response: On April 1, 2014, the subject property was added to the Metro UGB with the signing of House Bill 4078. Because the subject property is currently located within the Metro UGB, and because the property was added to the UGB for the explicit purpose of accommodating regional urbanization in the near term, annexation of this site represents the region’s first choice for local annexation and is therefore a logical selection for expansion of the City of Cornelius.

The subdivision north of the subject property (Laurel Woods No. 9) is located within the City boundary. Therefore, the subject property is contiguous to the City via its northern boundary.

CORNELIUS MUNICIPAL CODE

Chapter 18.125 – Amendment to the Zoning Ordinance

18.125.010 Procedure

(...)

(C) **Approval Criteria. The applicant shall demonstrate the request meets the following criteria:**

(1) **The proposal conforms with the city’s comprehensive plan.**

Response: The subject property was added to the City’s UGB through the Comprehensive Plan Amendment adopted by Ordinance No. 2015-06. The subject property is designated for residential use by the Comprehensive Plan and will be given R-7 and A-2 zoning designations following annexation. The annexation is necessary to develop the property with needed housing and provide City services to the subject property. This use conforms with the City’s Comprehensive Plan; therefore, this criterion is met.

(2) **The permitted uses of the proposed new zone will not materially and/or adversely affect the character of the neighborhood.**

Response: The subject site is located in a residential neighborhood on the edge of the UGB. The subject site is adjacent to a residential subdivision to the north (Laurel Woods No. 9) and is adjacent to rural/farm properties with single-family dwellings to the east and south. According to the Comprehensive Plan Map and Zoning Map, the subject property will be located in the R-7 and A-2 zoning districts following its annexation and subsequent required zoning map amendment. The subject property is intended to be improved with needed housing, which is a permitted use in the R-7 and A-2 zoning districts, and conforms with the overall character of the surrounding properties. Therefore, the permitted uses of the proposed new zone will not materially or adversely affect the character of the neighborhood, and this criterion is met.

(3) **The proposal will place all property similarly situated in the area in the same zoning category or in appropriate complementary categories, without creating a “spot zone.”**

Response: The area to be annexed includes one lot that is ±7.60 acres in size. The subject property will receive R-7 and A-2 zoning designations following annexation into the City. As shown in the Comprehensive Plan Map and Zoning Map and established by Ordinance No. 2015-06, the adjacent subdivision to the north (Laurel Woods No. 9) was designated with R-7

and A-2 zoning after its annexation into the City. Therefore, the land use and zoning designation established in Ordinance No. 2015-06 applies to a relatively large tract of contiguous land and cannot be considered spot zoning.

(...)

(E) Zoning of Annexed Areas. The provisions of this chapter regarding amendments to the ordinance codified in this title shall not apply to action authorized by this section, but the commission shall proceed promptly to recommend a comprehensive zoning plan for the area in accordance with the provisions of this chapter. In order to afford zoning protection to newly annexed areas prior to the time when a comprehensive zoning plan is adopted, interim zoning shall be established as follows:

- (1) An area annexed to the city which is not zoned shall be automatically classified as an R-7 zone.
- (2) Zoning regulations applicable to an area annexed to the city which is zoned by the county at the time of annexation shall continue to apply in accordance with ORS 227.310 unless, at the time of annexation or at a subsequent time, the council rezones the annexed area.

Response: With the adoption of Ordinance No. 2015-06, the City amended its Comprehensive Plan to establish the land use and zoning regulations for the southeast UGB area. These criteria do not apply.

METRO CODE

Title III Planning

Chapter 3.09 Local Government Boundary Change

3.09.010 Purpose and Applicability

The purpose of this chapter is to carry out the provisions of ORS 268.347 to 268.354. This chapter applies to boundary changes within the boundaries of Metro or of urban reserves designated by Metro and any annexation of territory to the Metro boundary. Nothing in this chapter affects the jurisdiction of the Metro Council to amend the region's Urban Growth Boundary (UGB).

Response: Chapter 3.09 of the Metro Code implements those ORS Sections 268.347 through 268.354 relating to boundary changes within a metropolitan service district. The criteria below fully implement the relevant State statutes. Therefore, the findings herein demonstrate that Metro and State annexation criteria are met.

(...)

3.09.040 Requirements for Petitions

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

-
- B. A city, county and Metro may charge a fee to recover its reasonable costs to carry out its duties and responsibilities under this chapter.

Response:

The City is the reviewing entity that will act on this application. All necessary application forms and exhibits, as well as associated review fees, have been submitted with this application. A certified legal description and map of the affected territory are included in Exhibit D. The Certification of Landowners according to Washington County Tax Assessor and Clerk Records is included in Exhibit C. The Petition for Annexation of 100 percent of the property owners is included in Exhibit C, along with the names and mailing addresses of said property owners. These requirements are met.

3.09.045 Expedited Decisions

(...)

- D. To approve a boundary change through an expedited process, the city shall:
1. Find that the change is consistent with expressly applicable provisions in:
 - a. Any applicable urban service agreement adopted pursuant to ORS 195.065;
 - b. Any applicable annexation plan adopted pursuant to ORS 195.205;
 - c. Any applicable cooperative planning agreement adopted pursuant to ORS 195.020(2) between the affected entity and a necessary party;
 - d. Any applicable public facility plan adopted pursuant to a statewide planning goal on public facilities and services;
 - e. Any applicable comprehensive plan;
 - f. Any applicable concept plan; and

Response:

The planned annexation is consistent with the intergovernmental planning agreement between the jurisdictions of the City of Cornelius, Washington County, and Metro. The affected territory was included in the City's Comprehensive Plan Amendment, approved by Ordinance No. 2015-06, and the City's concept plan for the southeast UGB area. The City addressed future transportation and sanitary sewer needs in the area through the adoption of Ordinance No. 2015-06. Although the City of Cornelius Water District provides stormwater facilities and services to the subject property, the City has a contract with CWS for stormwater treatment. CWS availability for treatment of the affected territory was addressed as part of the Comprehensive Plan amendment. This application includes a concurrent annexation into the CWS district boundaries for provision of sanitary sewer services. These requirements are met as applicable.

2. Consider whether the boundary change would:
 - a. Promote the timely, orderly, and economic provision of public facilities and services;
 - b. Affect the quality and quantity of urban services; and
 - c. Eliminate or avoid unnecessary duplication of facilities or services.

Response: The planned annexation would promote the timely, orderly, and economic provision of public facilities and services. The territory to be annexed is located within the southeast UGB area designated in the City’s Comprehensive Plan and addressed in Ordinance No. 2015-06 and other implemented plans such as the City’s Transportation System Plan. The property is contiguous to the City boundary and annexation of the property is integral to providing City services to the area. Future improvements to the site can and will affect the quality and quantity of urban services. The planned annexation will not create unnecessary duplication of facilities and services. The service districts that currently serve the site, including HSD and the Washington County Sheriff’s Department District, will continue to do so after the annexation and further development of the property. Further information on service availability to the affected territory can be found in the Preliminary Service Availability Memo (Exhibit F). These requirements are met.

E. A city may not annex territory that lies outside the UGB, except it may annex a lot or parcel that lies partially within and partially outside the UGB.

Response: The subject property to be annexed was part of a partition that divided a portion of the property lying outside of the UGB from the remainder that is inside the UGB. This partition was approved by County File No. L2300275-P and finalized by Plat No 2024-014 (Exhibit H). Therefore, the subject property is located within the southeast UGB area as designated by the City Comprehensive Plan and established by Ordinance No. 2015-06. This requirement is not applicable.

3.09.050 Hearing and Decision Requirements for Decisions Other Than Expedited Decisions

A. The following requirements for hearings on petitions operate in addition to requirements for boundary changes in ORS Chapters 198, 221 and 222 and the reviewing entity’s charter, ordinances or resolutions.

Response: This narrative and the accompanying exhibits respond to all state and local requirements pertaining to boundary changes. Additionally, Metro Code Chapter 3.09, Cornelius Comprehensive Plan Chapter II Policy 4, and Cornelius Development Code Chapter 18.125 implement the applicable annexation provisions from ORS Chapters 198, 221, and 222. This narrative demonstrates satisfaction with the applicable boundary change requirements.

B. Not later than 15 days prior to the date set for a hearing the reviewing entity shall make available to the public a report that addresses the criteria identified in subsection (D) and includes the following information:

1. The extent to which urban services are available to serve the affected territory, including any extra territorial extensions of service;

Response: Urban services are available or will be made available to serve the annexed property to a level consistent with City standards. The provision of urban services is discussed in further detail in Ordinance No. 2015-06, which amended the City’s Comprehensive Plan and assessed the availability of urban services in the southeast UGB area. Additional information on service availability to the affected territory can be found in the Preliminary Service Availability Memo (Exhibit F).

-
2. Whether the proposed boundary change will result in the withdrawal of the affected territory from the legal boundary of any necessary party; and

Response: Metro Code Section 3.09.020 defines the term “affected territory” as a territory described in a petition. “Necessary party” is defined as any county, city, or district whose jurisdictional boundary or adopted urban service area includes any part of the affected territory or who provides any urban services to any portion of the affected territory, Metro, or any other unit of local government, as defined in ORS 190.003, that is a party to any agreement of provision of an urban service to the affected territory. The proposed annexation will withdraw ±7.60 acres of land from the current Washington County jurisdictional boundary. The legal description for the area planned for withdrawal is included in Exhibit D.

3. The proposed effective date of the boundary change.

Response: The Notice of Decision will indicate the proposed effective date of the boundary change.

- C. The person or entity proposing the boundary change has the burden to demonstrate that the proposed boundary change meets the applicable criteria.

Response: This application includes responses and the necessary exhibits that demonstrate compliance with all applicable boundary change criteria. This requirement is met.

- D. To approve a boundary change, the reviewing entity shall apply the criteria and consider the factors set forth in subsections (D) and (E) of section 3.09.045.

Response: Responses to Metro Code Sections 3.09.045 (D) and (E) are included above. This requirement is met.

IV. Conclusion

The required findings have been made and this written narrative and accompanying documentation demonstrate that the application is consistent with the applicable provisions of the City of Cornelius Municipal Code. The evidence in the record is substantial and supports approval of the application. Therefore, the Applicant respectfully requests that the City approve this application.

Exhibit A: Washington County Assessor's Map

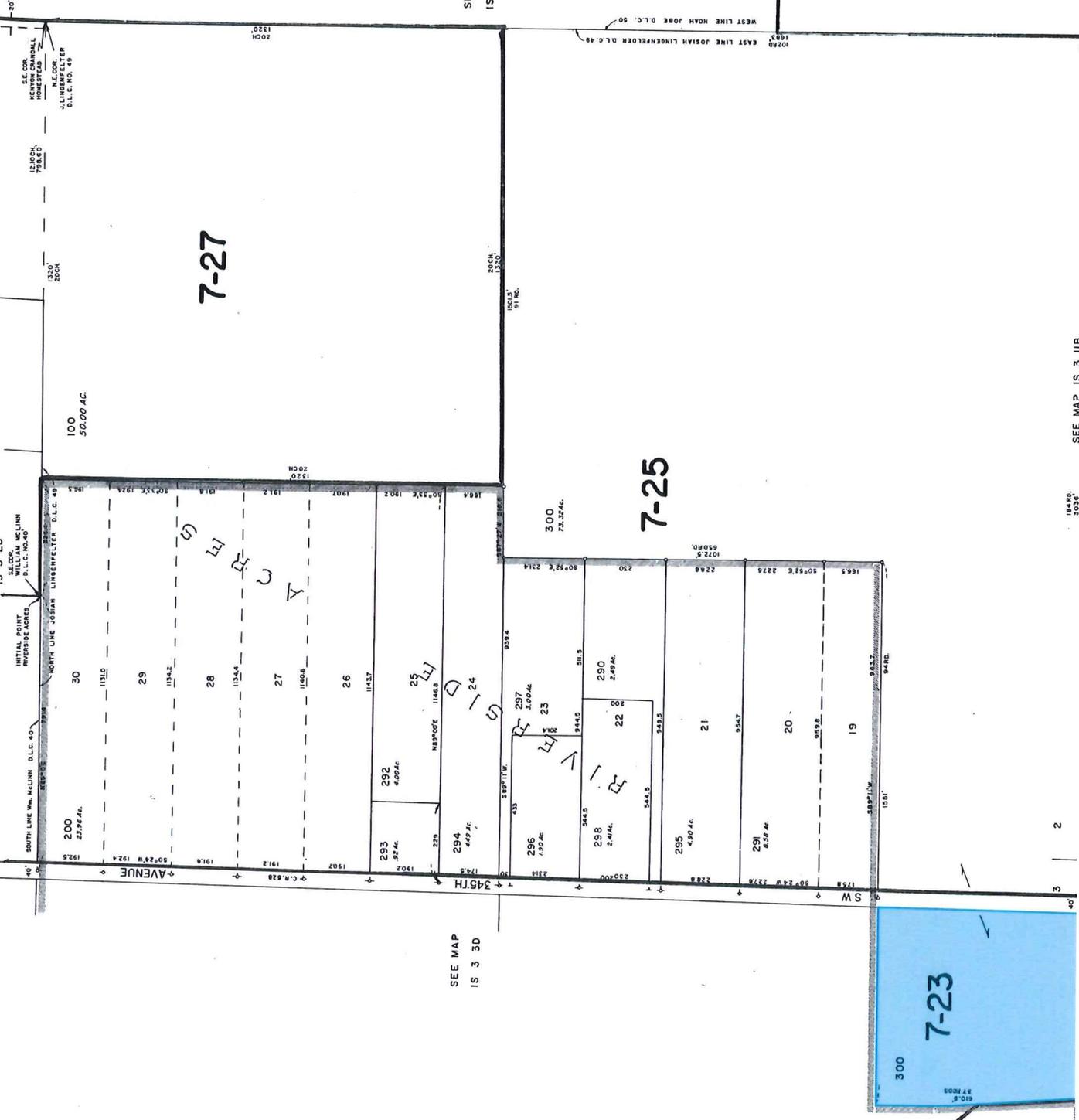
SW 1/4 SECTION 2 T 1S R3W W.M.

WASHINGTON COUNTY OREGON

SCALE 1"=200'

SEE MAP

INITIAL SURVEY
BY J. LINSENFELTER
D.L.C. NO. 49



SEE MAP

IS 3 2B
INITIAL SURVEY
BY J. LINSENFELTER
D.L.C. NO. 49



SEE MAP

IS 3 2D

SEE MAP

IS 3 3D

SEE MAP IS 3 IIB

IS 3 3D

2

TRAIL AND 0-53

Exhibit B: Application Form



Land Use Application

Community Development
Located at 1300 S. Kodiak Circle, Cornelius, Oregon 97113
www.ci.cornelius.or.us

OFFICIAL USE ONLY		
Date Received: _____	Date Complete: _____	↓ File Number ↓
Application Fee: _____	Receipt Number: _____	_____

APPLICATION TYPE

Type I – administrative review without public notice

- | | | |
|--|---|--|
| <input type="checkbox"/> Design Review I | <input type="checkbox"/> Lot Line Adjustment | <input type="checkbox"/> Administrative Relief |
| <input type="checkbox"/> Land Partition—Final Plat | <input type="checkbox"/> Subdivision—Final Plat | |
| <input type="checkbox"/> Other <i>please describe:</i> _____ | | |

Type II – administrative review with public notice

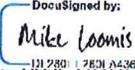
- | | | |
|--|--|---|
| <input type="checkbox"/> Design Review II | <input type="checkbox"/> Land Partition—Preliminary Plat | <input type="checkbox"/> Subdivision—Preliminary Plat |
| <input type="checkbox"/> Other <i>please describe:</i> _____ | | |

Type III – public hearing(s) required with public notice

- | | | |
|--|---|---|
| <input type="checkbox"/> Design Review III | <input type="checkbox"/> Conditional Use Permit | <input type="checkbox"/> Planned Unit Development |
| <input checked="" type="checkbox"/> Comprehensive Plan Amendment | <input type="checkbox"/> Zone Map Amendment | <input type="checkbox"/> Zone Text Amendment |
| <input checked="" type="checkbox"/> Annexation | <input type="checkbox"/> ROW/Easement Vacation | <input type="checkbox"/> Subdivision—Preliminary Plat |
| <input type="checkbox"/> Other <i>please describe:</i> _____ | | |

Applicant's Consultant: Melissa Slotemaker, AICP 12965 SW Herman Road, Ste. 10 Tualatin, OR 97062 (503)-563-6151 slotemakerm@aks-eng.com
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APPLICANT INFORMATION

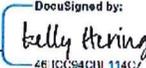
Name: The Holt Group, Inc. Signature: 

Mail Address: 1301 SE Tech Center Drive, Suite 150, Vancouver, WA 98683

Phone: Consultant Please contact Applicant's
 Fax: Consultant Please contact Applicant's
 E-mail: Please contact Applicant's Consultant

Mike Loomis, Authorized Signer, By: Holt Holdings OR, LLC, By: Holt Group Holdings, LLC, Its: Sole Member

PROPERTY OWNER INFORMATION

Name: Hering Family Joint Trust Signature: 

Mail Address: 34005 SW Cook Road, Hillsboro, OR 97123

Phone: Consultant Please contact Applicant's
 Fax: Consultant Please contact Applicant's
 E-mail: Please contact Applicant's Consultant

SUBJECT SITE INFORMATION

Property Address: 34005 SW Cook Road, Hillsboro, OR 97123

Map & Tax Lot Number(s): Map 1S302C, that portion of Tax Lot 300 lying west of SW 345th Avenue

Current Zoning: FD-20 Total Size of Site: ±7.60 acres

Existing Use: Agriculture

Proposed Use: Residential subdivision (following annexation)

**Exhibit C: Certification of Landowners and Petition
for Annexation by 100% of the Property Owners**

CERTIFICATION OF LAND OWNERS

ORS 198.855(3) If the annexation petition is signed by all of the owners of all land in the territory proposed to be annexed or is signed by a majority of the electors registered in the territory proposed to be annexed and by the owners of more than half of the land in the territory, an election in the territory and district shall be dispensed with. After the hearing on the petition, if the county board approves the petition as presented or as modified or, if an election is held, if the electors approve the annexation, the county board shall enter an order describing the boundaries of the territory annexed and declaring it annexed to the district (<https://www.oregonlaws.org/ors/198.855>)

Petition signed by all landowners (100%)

I hereby certify that the attached petition for a proposed boundary change involving the territory described in the petition contains the names of the owners* of all land in the territory proposed to be annexed within the area described in the petition, as shown on the last available complete assessment roll.

NAME TED FOSTER

TITLE GIS TECH

DEPARTMENT CARTOGRAPHY

COUNTY OF WASHINGTON

DATE 5/30/24

*"Landowner" or "owner of land" means any person shown as the owner of land on the last available assessment roll; however, where such person no longer holds the title to the property, then the terms mean any person entitled to be shown as owner of land on the next assessment roll; or, where land is subject to a written agreement of sale, the terms mean any person shown in the agreement as purchaser to the exclusion of the seller; and the terms include any public agency owning land.

ANNEXATION CERTIFIED

BY TF

MAY 30 2024

WASHINGTON COUNTY A & T
CARTOGRAPHY

PETITION FOR ANNEXATION TO THE CITY OF CORNELIUS, OREGON

TO: The Council of the City of Cornelius, Oregon
We, the undersigned property owners of and/or registered voters in the area described below, hereby petition for, and give our consent to, annexation of the area to the City of Cornelius.

Signature	Printed Name	I am a:*			Address	Tax Map	Tax Lot	Precinct No.	Date
		PO	RV	OV					
	Kelly Hering on behalf of Hering Family Joint Trust	X			34005 SW Cook Road, Hillsboro, OR 97123	1S302C	That portion of Tax Lot 300 lying west of SW 345 th Avenue	346	5/24/2024

*PO = Property Owner
RV = Registered Voter
OV = Owner Voter

Exhibit D: Certification of Legal Description and Map of Annexation Area

CERTIFICATION OF LEGAL DESCRIPTION AND MAP

I hereby certify that the description of the property included within the attached petition (located on Assessor's Map 15302C) has been checked by me and it is a true and exact description of the property under consideration, and the description corresponds to the attached map indicating the property under consideration.

NAME TED FOSTER

TITLE GIS TECH

DEPARTMENT CARTOGRAPHY

COUNTY OF WASHINGTON

DATE 5/30/24

ANNEXATION CERTIFIED

BY TF

MAY 30 2024

**WASHINGTON COUNTY A & T
CARTOGRAPHY**



AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100, Tualatin, OR 97062
P: (503) 563-6151 F: (503) 563-6152

AKS Job #5669

EXHIBIT A

City of Cornelius Annexation

A tract of land located in the Southeast One-Quarter of Section 3, Township 1 South, Range 3 West, Willamette Meridian, Washington County, Oregon, and being more particularly described as follows:

Beginning at the southeast corner of Lot 709 of the plat of "Laurel Woods No. 9" also being on the westerly right-of-way line of SW 345th Avenue (20.00 feet from centerline); thence along said westerly right-of-way line, South 02°49'41" West 593.39 feet to south line of said Section 3; thence along said south line, North 88°02'22" West 532.99 feet to the southeast corner of Tract 'JJ' of the Plat of "Laurel Woods No. 8", also being on the City of Cornelius City Limits line; thence along the easterly line of said Tract 'JJ' on said City Limits line, North 02°56'15" West 380.16 feet to an angle point; thence continuing along said easterly line and said City Limits line, North 01°43'06" East 211.26 feet to an angle point; thence along the south lines of the Plats of "Laurel Woods No. 8" and "Laurel Woods No. 9", and said City Limits line, South 88°22'02" East 575.33 feet to the Point of Beginning.

The above described tract of land contains 7.60 acres, more or less.

5/16/2024
REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JANUARY 12, 2016
MICHAEL S. KALINA
89558PLS
RENEWS: 6/30/25

ANNEXATION CERTIFIED

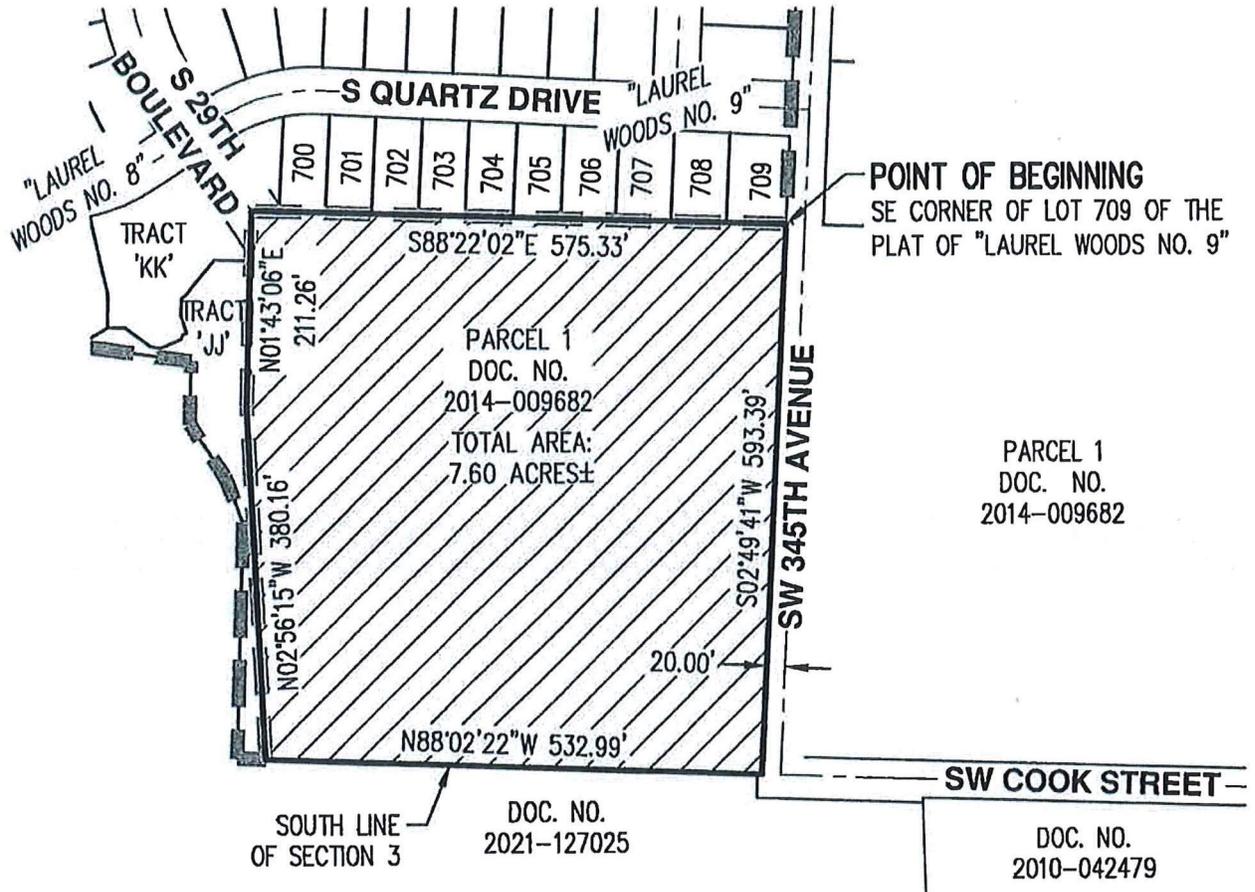
BY 

MAY 30 2024

WASHINGTON COUNTY A & T
CARTOGRAPHY

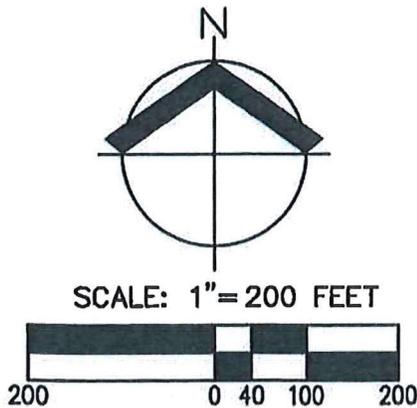
EXHIBIT B

A TRACT OF LAND LOCATED IN THE SOUTHEAST 1/4 OF SECTION 3,
TOWNSHIP 1 SOUTH, RANGE 3 WEST, WILLAMETTE MERIDIAN,
WASHINGTON COUNTY, OREGON



LEGEND

--- CITY OF CORNELIUS CITY LIMITS LINE



5/16/2024
REGISTERED
PROFESSIONAL
LAND SURVEYOR

Michael S. Kalina
OREGON
JANUARY 12, 2016
MICHAEL S. KALINA
89558PLS
RENEWS: 6/30/25

ANNEXATION CERTIFIED

BY VF

MAY 30 2024

WASHINGTON COUNTY A & T
CARTOGRAPHY

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151 WWW.AKS-ENG.COM



CITY OF CORNELIUS
ANNEXATION

DATE:	
DRWN: KLH	CHKD: MSK
AKS JOB: 5669	EXHIBIT B

Exhibit E: City of Cornelius Ordinance No. 2015-06

**ORDINANCE NO. 2015-06
CORNELIUS, OREGON**

AN ORDINANCE AMENDING THE CITY OF CORNELIUS COMPREHENSIVE PLAN TO IDENTIFY PUBLIC IMPROVEMENTS NECESSARY TO ALLOW FOR URBANIZATION AND ESTABLISHING THE COMPREHENSIVE PLAN DESIGNATION FOR LANDS ADDED TO THE SOUTHEAST URBAN GROWTH BOUNDARY IN 2014

FINDINGS:

1. On April 1st, 2014 approximately 345 acres of land was added to the Metro Urban Growth Boundary for the benefit of the City of Cornelius.
2. Prior to allowing land within the Urban Growth Boundary to annex into the City of Cornelius the City must demonstrate how utilities and services can be provided.
3. The State of Oregon acknowledged the City of Cornelius Comprehensive Plan on July 3rd 1978 after its adoption via Ordinance 500.
4. The City of Cornelius Water Master Plan (a component of the Comprehensive Plan) was deemed acknowledged on March 1st 2004 via the adoption of Ordinance 846.
5. The City of Cornelius Sanitary Sewer System Master Plan (a component of the Comprehensive Plan) was deemed acknowledged on September 20th, 2004 via the adoption of Ordinance 853.
6. The City of Cornelius Transportation System Plan (a component of the Comprehensive Plan) was deemed acknowledged on June 20th 2005 via the adoption of Ordinance 860.
7. The City of Cornelius Parks Master Plan (a component of the Comprehensive Plan) was deemed acknowledged on November 2nd, 2009 via the adoption of Ordinance 911.
8. The City desires to adopt comprehensive plan designations to guide the rezoning of property during the annexation process.
9. The City desires to amend the City of Cornelius Comprehensive Plan and supporting plans to identify future improvements necessary to serve the area of land added to the Northeast Urban Growth Boundary.
10. The City has analyzed the utility needs of the expanded Urban Growth Boundary and has identified public improvements necessary to support urbanization and is amending the Comprehensive Plan to include those improvements.
11. The City has analyzed the Transportation System within the community consistent with The Oregon Transportation Planning Rule and concluded that additional improvements are necessary beyond those currently planned for the future and identified within the Comprehensive Plan.
12. The City has examined the Parks and Open Space needs of the community relative to the Urban Growth Boundary expansion and has proposed specific amendments to the Parks Master Plan to reflect the need for additional parks facilities.
13. The 2014 Urban Growth Boundary Findings and Summary dated October 5, 2015 is incorporated via reference as findings in support of this ordinance.

NOW THEREFORE, BASED ON THE FOREGOING, THE CITY OF CORNELIUS ORDAINS AS FOLLOWS:

Section 1. The City of Cornelius Comprehensive Plan Map is amended as outlined in Exhibit A

Section 2. The City of Cornelius Parks Master Plan, Appendix G of the Comprehensive Plan is amended as outlined in Exhibit B.

Section 3. The City of Cornelius Sanitary Sewer System Master Plan, Appendix H of the Comprehensive Plan is amended as outlined in Exhibit C

Section 4. The City of Cornelius Water Master Plan, Appendix I of the Comprehensive Plan is amended as outlined in Exhibit D.

Section 5. The City of Cornelius Transportation System Plan, Appendix M of the Comprehensive Plan is amended as outlined in Exhibit E.

Section 6. The City of Cornelius Storm Drainage/Surface Water Management Master Plan, Appendix H of the Comprehensive Plan is amended as outlined in Exhibit F.

Section 7. Prior to annexation of land within the SE UGB each applicant shall complete a wetland determination of the property.

Section 8. Land annexed into the City shall have a Natural Resource Overlay Zone applied and be subject to applicable provisions of the Cornelius City Code for those areas that contain wetlands and/or are within the vegetated corridor of the Tualatin River.

Section 9. Upon adoption by the Cornelius City Council, this ordinance shall take effect in 30 days.

PRESENTED AND ADOPTED this ___ day of _____, 2015.

City of Cornelius, Oregon

By: _____
Jeffrey C. Dalin, Mayor

ATTEST:

By: _____
Debby Roth, MMC, City Recorder-Treasurer

Exhibit A

Comprehensive Plan Map Amendments

2014 UGB SE Expansion Area Proposed Zoning Alternative Draft 5-23-15



200100 0 200 Feet



Comprehensive Plan / Zoning

Low-density Residential / R-7 (44 Acres)

Medium-density Residential / A-2 (167 Acres)

 TSP Proposed Signal

 TSP Collector Street

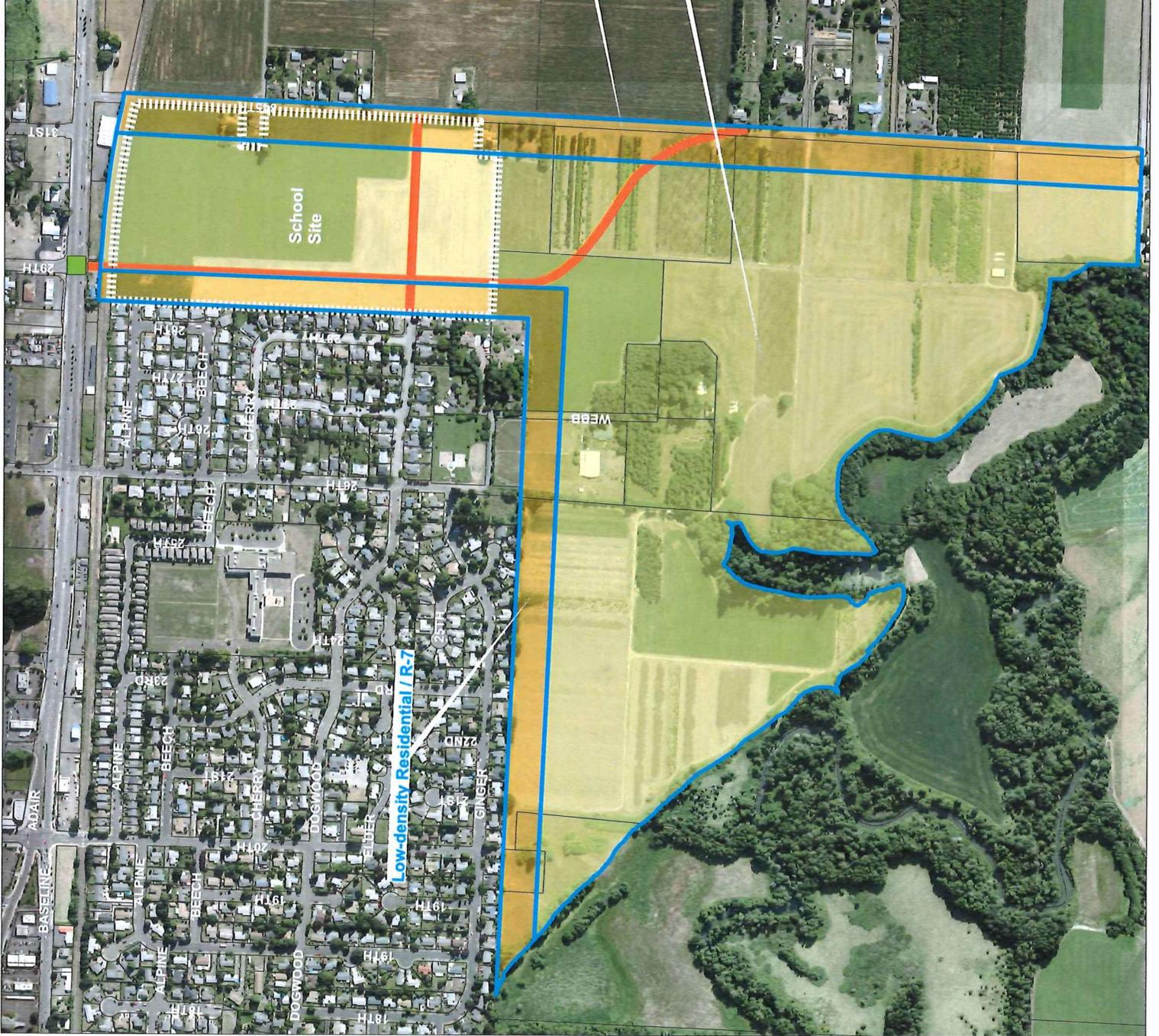


Exhibit B

Amendments to the City of Cornelius Parks Master Plan (Appendix G)



CITY OF CORNELIUS

Amendments to 2009 Parks Master Plan:

Staff is recommending that the City of Cornelius Parks Master Plan be amended as set forth below:

1. Remove the portion of the proposed trail along the Council Creek corridor that coincides with private land ownership as show on attached Map 6.
2. Include the following improvements identified in Council Creek Master Plan as components of the City of Cornelius Parks Master Plan
 - a. The proposed east-west trail alignment along the northern railroad right-of-way as shown on Council Creek Regional Trail Master Plan Segment 5 Jobes Ditch
 - b. The proposed North-South trail alignment following 29th Avenue as shown on Council Creek Regional Trail Master Plan Segment 5 Jobes Ditch
 - c. Include Trailhead Locations as shown on Council Creek Regional Trail Master Plan Segment 5 Jobes Ditch
 - d. Include trail design cross sections as shown on the attached excerpt of the Council Creek Trail Master Plan.
3. Change the planned Community Park in the NE area (CP-1) to a Neighborhood Park (NP)

Exhibit C

Amendments to the City of Cornelius Sanitary Sewer Master Plan (Appendix H)

TECHNICAL MEMORANDUM

Date: August 10, 2015
To: Michael Cerbone, Community Development Director, City of Cornelius
Terry Keyes, City Engineer, City of Cornelius
From: Ken Condit, PE, through Keith Jones, AICP
Project: City of Cornelius Comprehensive Plan Amendment –
Urban Growth Boundary Expansion Areas
Subject: Conceptual Analysis of Wastewater Facilities Extensions

A. EXECUTIVE SUMMARY – KEY FINDINGS

1. Southeast Urban Growth Boundary Expansion Area

- a. The extension of sewer service to the Southeast Urban Growth Boundary (UGB) Expansion Area (South Area) will require a pump station and force main.
- b. A central location for the South-Area pump station appears feasible and offers the most flexibility in developing the layout of the future South-Area collector sewers.
- c. It is preferable to have the wastewater (WW) generated by the new school in the northeast portion of the South Area conveyed by gravity to the new pump station serving the South Area.
- d. Under this concept, only the northwest portion of the South Area will be served by direct, gravity flow to the City's existing sewer system.
- e. The WW generated in the South Area will be conveyed to the City's existing South Trunk Sewer under Ginger Street. The preferred point of connection to the South Trunk is at 20th Avenue and Ginger.

2. South Trunk Sewer Upgrade

- a. Our analysis confirms that the upper reaches of the South Trunk must be increased in size to handle existing and projected peak flows. These sewer reaches extend from Heather Street, through Free Orchards Park to Emerald Loop, and east along Ginger to 23rd Avenue.
- b. Within the scope of this study, we have identified 3,005 linear feet of the South Trunk that needs to be increased in size. The scope of our analysis excluded the South Trunk reaches downstream of Heather.

3. Northeast Urban Growth Boundary Expansion Area

- a. A conceptual sewer layout has been developed for the Northeast Urban Growth Boundary Expansion Area (North Area) to show the feasibility of extending gravity sewer service to the area.
- b. The conceptual layout divides the North Area into four sewer sub-basins that would convey WW to the existing North-South Trunk Sewer and/or the existing Council Creek Trunk Sewer.

B. INTRODUCTION

This technical memorandum describes the results of the analysis we performed to address sanitary sewer service extensions into the areas covered by the recent UGB expansion. The analysis was performed as part of the Comprehensive Planning process that is required for lands within the UGB.

Planning-level concepts have been developed to document the feasibility of providing WW facilities in the UGB expansion areas and connecting these facilities to the existing WW infrastructure. The projected impacts of connecting these service extensions to the City's existing sewer system have also been identified.

Clean Water Services (CWS) will need to conduct a separate facilities planning process to address the projected impacts on downstream WW components owned by that agency.

C. SOUTHEAST UGB EXPANSION AREA SERVICE CONCEPT

1. General Concept

- a. The sewer service concept for the South Area assumes future developments will generally follow existing local topography.
- b. Due to the general topography (sloping down toward the river), most of the South Area cannot be served by gravity sewers that would be tributary to the City's existing sewer system. Therefore, gravity sewers for the South Area will need to be tributary to a future South Cornelius Pump Station (SCPS).
- c. The force main for the SCPS will discharge WW into the City's existing South Trunk sewer located under Ginger Street (see Item 5 below for discharge options).
- d. The alignments of future South-Area gravity sewers and the SCPS force main will be affected by development patterns. Alignments shown in our conceptual layout are provided for illustration purposes.

2. Projected WW Production

- a. Projected Build-Out Development:
 - Projected Residential – 1,200 DU
 - Projected Institutional (High School) – 2,500 Students
 - Projected Commercial & Industrial – None
- b. CWS Flow Criteria from West Basin Facilities Plan (Carollo, 2012) and other CWS input:
 - Average Residential Occupancy – 2.6 People/Dwelling Unit (DU)
 - Average Per Capita WW Flow – 67 Gallons per Capita/Day
 - I/I contributions from future developments on currently undeveloped land:
 - Near-term I/I Contribution Factor (25 years for PS planning) – 1,650 gpd/acre (gpad)
 - Long-term I/I Contribution Factor (50 years for sewer planning) – 4,000 gpad
- c. Projected Average Dry-Weather WW Flows at Build-Out.
 - Projected Build-Out Population – 3,120 People
 - Projected Average WW Production – 209,000 Gallons per Day (gpd)
 - Projected Institutional (High School) – 30,000 gpd (12 gpd/student)
 - Projected Total Average WW Flow – 239,000 gpd
- d. Projected Peak Build-Out WW Flows.
 - Estimated Peaking Factor – 3.0 (Peak-to-Average Flow Ratio)
 - Projected Peak WW Contribution – 720,000 gpd
 - Peak Infiltration/Inflow Allowances
 - Near-term I/I Contribution – 297,000 gpd (1,650 gpad x 180 net acres)
 - Long-term I/I Contribution – 720,000 gpd (4,000 gpad x 180 net acres)
 - Net acreage excludes low-lying land along southerly boundary of South Area and half of school site that is assumed to be playing fields.
 - Projected Peak Flow –
 - Near-term (25-year) Planning for PS Capacity – 1,020,000 gpd \approx 710 gallons per minute (gpm)
 - Long-term (50-year) Planning for Sewer Capacity – 1,440,000 gpd \approx 1,000 gpm

3. South Cornelius Pump Station

- a. Concept-Level PS Capacity – 750 gpm (Preliminary Projection for Build-Out and Near-term I/I).
- b. Approximate Minimum Elevation for Development – 156-160 feet
- c. Approximate PS Floor Level (Top of Wetwell) – Elevation 154-158 feet
- d. Approximate Sewer Inverts at Wetwell – Elevation 140-142 feet
- e. Potential PS Sites Identified for Planning (see Exhibit 1)
 - Site 1 – Central Location near swale south of 26th Avenue
 - Site 2 – SE Location between 345th Avenue and Tualatin River
 - Site 3 – SW Location near swale outlet to river
- f. Site 1 is identified as the preferred site for planning purposes.
 - The more centralized site offers more flexibility in developing the tributary gravity sewers.
 - The central site helps to limit the maximum depth of the tributary gravity sewers.
 - The other two sites would probably require a lower inlet invert at the PS wetwell.

4. School Site Service Options

- a. Sewer service to the school can be extended from the new South-Area collection system or potentially from the existing City sewer system to the west (see Exhibit 1).
- b. Gravity Flow South: This option would have WW from the school conveyed by gravity into the sewer system for the South Area tributary to the future SCPS.
- c. Gravity Flow West:
 - This option would have WW from the school conveyed by gravity into the City's sewer system at the east end of existing Dogwood Street.
 - Flows through the Dogwood sewer eventually reach the South Trunk Sewer at 23rd Avenue.
 - The ability to serve the school site from Dogwood would depend on the actual location and elevation of the school, as well as the elevation, capacity and accessibility of the existing sewer in Dogwood.
- d. For planning purposes we show the school being served by the future South-Area sewers and SCPS. The reasons for this assumption are described below.
 - This approach provides a more conservative projection for the PS capacity.
 - There are concerns about accessibility for maintenance if sewer service were extended from Dogwood.
 - Because the WW contribution from the school is a small portion of the overall South-Area WW flow, future impacts on the existing South Trunk Sewer would likely be similar for either option.

5. South-Area Connection to City's Existing Sewer System

- a. South-Area WW can be discharged into the existing South Trunk Sewer at either 20th Avenue or Webb/26th Avenue (see Exhibit 1)
- b. It is preferable to connect to the South Trunk Sewer at 20th Avenue because that is further downstream and will not impact the existing pipe between 26th and 20th.
- c. The force main from the SCPS can discharge to a gravity sewer in the South Area that will extend west and then north to the intersection of Ginger and 20th as shown in Exhibit 1. Based on the preliminary projection for the SCPS capacity and minimum sewer slope, this South-Area outlet sewer will need to be 12 inches in diameter.

6. Assumptions for Conceptual Layout

- a. The layout assumes the gravity sewers tributary to the SCPS would be 8 inches in diameter with a minimum slope of 0.5%.
- b. The layout assumes a minimum depth to the sewer invert of about 6 feet.

D. IMPACT OF SOUTH AREA ON EXISTING SYSTEM

1. Scope

Our study of downstream impacts from the South Area was limited to an analysis of the effect the projected peak hourly flow from projected development will have on an upper reach of the existing South Trunk Sewer. This section of the existing sewer extends under Ginger Street, Emerald Loop and the Free Orchards City Park to Heather Street, near 15th Avenue (see Exhibit 1).

2. Background

The 2012 CWS West Basin Facilities Plan (WBFP) previously identified capacity deficiencies in most of the South Trunk Sewer and recommended replacement of about 3,800 feet of this upper reach with larger pipe sizes.

3. Purpose

The purpose of our impact analysis is to provide updated recommendations for pipe replacements. The update is based on the peak flow projections we generated from the current land-use plan for the South Area (see Section C above) and more-recent information on I/I contributions provided by CWS.

4. South Trunk Field Survey

A field survey was performed of the manholes along the upper reach of the South Trunk from Heather Street to 26th Avenue. This survey established current data for existing pipe sizes, invert elevations and manhole rim elevations that were used to generate an updated model of this upper reach. The data is shown in Appendix A.

5. South Trunk Analysis

- a. We evaluated the upper reach of the South Trunk by applying estimates of peak WW and infiltration/inflow contributions from currently developed areas and applying the projected near-term and long-term SCPS flow capacities at the preferred discharge point.
- b. We generated flow estimates from existing, tributary developments using criteria for WW generation listed in the WBFP and updated I/I criteria supplied by CWS. These estimates assume no redevelopment will occur in the tributary areas to significantly increase WW flows.
- c. Breakdowns of the estimated flows into the South Trunk are listed in Table 1 (following page) and shown in Exhibit 2. The projected peak WW flows from developed areas are similar to the WBFP, but do not coincide exactly. The projected I/I contributions are lower than the WBFP because CWS identified a lower, per-acre I/I contribution based on more-recent flow data the agency obtained for the South Trunk sub-basin.

6. Results of Analysis

The pipe replacements identified in our planning-level analysis of the South Trunk are listed in Table 2 (following page). The results of our analysis are further described in the following paragraphs.

- a. Our results generally coincide with the recommendations of the WBFP from Heather (MH #20045) upstream to 20th and Ginger (MH #20034). An 18-inch sewer pipe is needed to convey projected peak flows through these segments for both the near-term and long-term I/I contributions from the South Area.

The 18-inch pipe size assumes the existing, inverted siphons in Free Orchards Park will be replaced with straight, gravity sewers that will be laid aboveground across the low-lying swales. These sewers will need to be supported from pedestrian boardwalks or similar structures through these locations.

Pipe bursting could potentially be used to replace the existing buried 12-inch sewer with an 18-inch pipe. However, the existing South Trunk has a fairly shallow depth of burial under Emerald Loop and where Ginger transitions to 18th Avenue. Consequently, surface heaving could be a major concern with pipe bursting in this stretch. Installation methods will need to be further addressed at a later stage of project development.

- b. Our analysis indicates a 12-inch pipe is needed for the pipe reach in Ginger between 20th and 23rd Avenues based on the average slope. This conclusion contrasts with the WBFP recommendation for a 15-inch pipe along this reach. The difference may result from the lower I/I contribution provided by CWS and a shift of the South-Area sewer connection further downstream along the South Trunk.

It should be noted our survey of the MHs along the South Trunk shows one sewer length in this reach, between MHs #20031 and #20032, has a very mild slope of 0.07%. If this pipe were replaced through pipe bursting, it would continue to have a mild slope, which would reduce the pipe capacity and could promote solids deposition. This issue will need to be considered when evaluating installation methods for this reach.

Table 1										
South Trunk Sewer - Projected Flow Contributions										
SFR Land Use Factor = 1,200.0 gpad for existing developments (WBFP, TM 2.3, Table 2)										
Peaking Factor = 3.0 (multiplier applied to residential flow)										
Avg. I/I Contribution = 5,150.0 gpad avg. for Basin FG-6 (CWS Input - July 2015)										
Area	Inlet MH#	Acreage	Flows from Currently Developed Areas (gpm)				Future SCPS Flow (gpm)		Cumulative Flows (gpm)	
			Base WW	Peak WW	Peak I/I	Total Peak	Near Term	Long Term	Near Term	Long Term
1	22461	20	17	50	72	122	0	0	122	122
2	20030	85	74	223	304	527	0	0	649	649
3	20034	20	17	50	72	122	750	1,000	1,521	1,771
4	20036	55	46	138	197	335	0	0	1,856	2,106
5	20043	8	7	20	29	49	0	0	1,905	2,155
		188	160	481	672	1,155	750	1,000	1,905	2,155
									2.75 MGD	3.10 MGD

Table 2									
South Trunk Sewer - Probable Requirements for Pipe Replacements									
Pipe Reach	Upstrm MH#	Dnstrm MH#	Location	Existing Size (in.)	Proposed Size (in.)	Reach Length (ft)	Approx. Avg. Slope	Pipe Capacity (gpm) ***	
1	20030	20034	23th-20th Ave.	10	12	825	0.25%	775	
2	20034	20036	20th-19th Ave.	12	18	510	0.15%	1,780	
3	20036	20040	19th Ave-Emerald	12	18	805	0.22%	2,150	
4	20040	20043	Emerald-Fawn **	6, 10 & 12	18	420	0.28%	2,425	
5	20043	20045	Fawn-Heather **	6 & 10	18	445	0.34%	2,675	
Total Length - 3,005							Linear Feet		
12" Pipe - 825							Linear Feet		
18" Pipe - 2,180							Linear Feet		
** Free Orchards Park *** New Pipe w/Max. Depth 80% of Pipe Diameter									

E. NORTH EXPANSION AREA SERVICE CONCEPT**1. General Concept:**

- a. The conceptual sewer layout would provide gravity service to the North Area. The layout is shown in Exhibit 3.
- b. The sewer layout is generally based on current development patterns (layout of lots, streets & railroad) with most sewers following an existing R-O-W.
- c. The gravity sewers would be divided into four separate sub-basins: Northwest, Northeast, Southwest and Southeast.
- d. All four sub-basins would be tributary to the Clean Water Services' Council Creek Trunk Sewer.

2. Projected WW Production

- a. Projected Build-Out Development:
 - Projected Residential – 480 DU
 - Projected Commercial – 6 acres
 - Projected Industrial & Institutional – None
- b. CWS Flow Criteria from West Basin Facilities Plan (Carollo, 2012) and other CWS input:
 - Average Residential Occupancy – 2.6 People/Dwelling Unit (DU)
 - Average Per Capita WW Flow – 67 Gallons per Capita/Day
 - Average flow contribution from commercial land – 1,000 gpd/acre (gpad)
 - Long-term I/I contribution from currently undeveloped land – 4,000 gpd/acre (gpad)
- c. Projected Average Dry-Weather WW Flows at Build-Out.
 - Projected Build-Out Population – 1,250 People
 - Projected Residential – 83,620 Gallons per Day (gpd)
 - Projected Commercial – 6,000 gpd
 - Projected Total Average WW Flow – 89,620 gpd
- d. Projected Peak Build-Out WW Flows.
 - Estimated Peaking Factor – 4.0 (Peak-to-Average Flow Ratio)
 - Projected Peak WW Contribution – 358,500 gpd
 - Peak Infiltration/Inflow Allowance – 300,000 gpd (4,000 gpad x 75 net acres)
 - Projected Peak Flow – 660,000 gpd \approx 460 gallons per minute (gpm)

3. Sewer Drainage Pattern

- a. NW Sub-basin
 - This sub-basin would drain to the west along the existing ODOT railroad R-O-W.
 - WW flows would discharge into an existing sewer that extends down from the Trailer Park to the existing North-South Trunk Sewer.
 - The east boundary of the NW sub-basin is limited by a highpoint in the RR line between 338th and 341st Avenues. East of this point the RR grade slopes down to Dairy Creek.

- b. NE Sub-basin
 - This sub-basin would serve areas that generally slope to the north and east toward Council Creek or Dairy Creek.
 - WW flows would discharge through a gravity sewer extending across the RR line and north along 334th Avenue to the existing Council Creek Trunk Sewer.
- c. SW Sub-basin
 - This sub-basin would generally drain west to the existing sewer along East Lane just north of Baseline Street. The service concept is laid out to minimize the amount of area served by the SW Sub-basin due to constraints posed by existing utilities in the Baseline R-O-W.
 - The existing sewer extending along Baseline is on the south side of the R-O-W. Gravity sewer service from the area north of Baseline is prevented from discharging into this existing sewer by the 72-inch water transmission main under the north side of Baseline.
 - Existing utilities along the north side of the Baseline R-O-W limit the space that would be available for a new parallel sewer on the north side of Baseline.
 - The mobile home park on East and West Lanes is currently served by existing gravity sewers.
- d. SE Sub-basin
 - This Sub-basin would serve a small area on the south side of Baseline, east of the current City limit.
 - The area would be served by an extension of the existing 8-inch sewer that extends along the south side of Baseline. The Baseline sewer discharges into the north-south trunk sewer.

4. Approximate Peak WW Flow Distribution to Existing Trunk Sewers

- a. Approximate flow to N-S Trunk (NW, SW & SE Sub-basins) – 290,000 gpd (60%)
- b. Approximate flow directly to Council Creek Trunk (NE Sub-basin) – 195,000 gpd (40%)

5. Assumptions for Conceptual Layout

- a. The layout assumes gravity sewers would be 8 inches in diameter with a minimum slope of 0.5%.
- b. The layout assumes a minimum depth to the sewer invert of 6 feet and a maximum depth of about 15 feet.

F. IMPACT OF NORTH AREA ON EXISTING SYSTEM

1. City's Baseline Street Sewer

A small amount of additional WW from projected commercial development in the SE Sub-basin will discharge into the City's existing sewer along the south side of Baseline. This projected WW contribution will be too minor to impact the existing sewer system.

2. North-South Trunk Sewer

The conceptual layout for the North Area would convey projected flows from the NW and SW Sub-basins into the existing CWS North-South Trunk Sewer. CWS records show this line extending from East Lane, just north of Baseline, up to the Council Creek Trunk Sewer. These records also show the line as an 8-inch pipe with most sections between manholes laid at a slope of 0.4%. The North-South Trunk sewer currently receives flows from collector sewers in Baseline and two other City collector sewers north of Baseline.

If future development is evenly distributed throughout the North Area, the NW and SW Sub-basins could carry more than half the projected flows. Since an 8-inch pipe with a 0.4% slope has a capacity of about 0.5 MGD before surcharging, future flows from the NW and SW Sub-basins could surcharge the line. Future CWS facilities planning efforts will need to model the line to verify whether the North-South Trunk will be adequate.

3. Council Creek Trunk Sewer

The sewer service concept for the North Area results in all future WW flows generated in the area being conveyed to the Council Creek Trunk Sewer. The NE Sub-basin will drain directly to this line and the other sub-basins will be conveyed to this line through the North-South Trunk Sewer.

CWS records show the Council Creek line as a 42-inch pipe between the North-South Trunk and 334th Avenue. This existing 42-inch pipe line would need to be at or very near capacity to be impacted at all by the projected WW flows from the North Area. Future CWS modeling of this line will need to address the potential for any impacts from the North Area.

G. ORDER-OF-MAGNITUDE ESTIMATE OF PROBABLE COST

As part of the comprehensive planning process, we developed estimates of the probable project costs for the SCPS, the associated PS force main and downstream South-Area gravity sewer, and the South Trunk Sewer replacements. We used cost information presented in the WBFP as the basis for the estimates and then applied an inflation factor based on the 20-City Average Construction Cost Index (CCI) published by Engineering News Record (ENR).

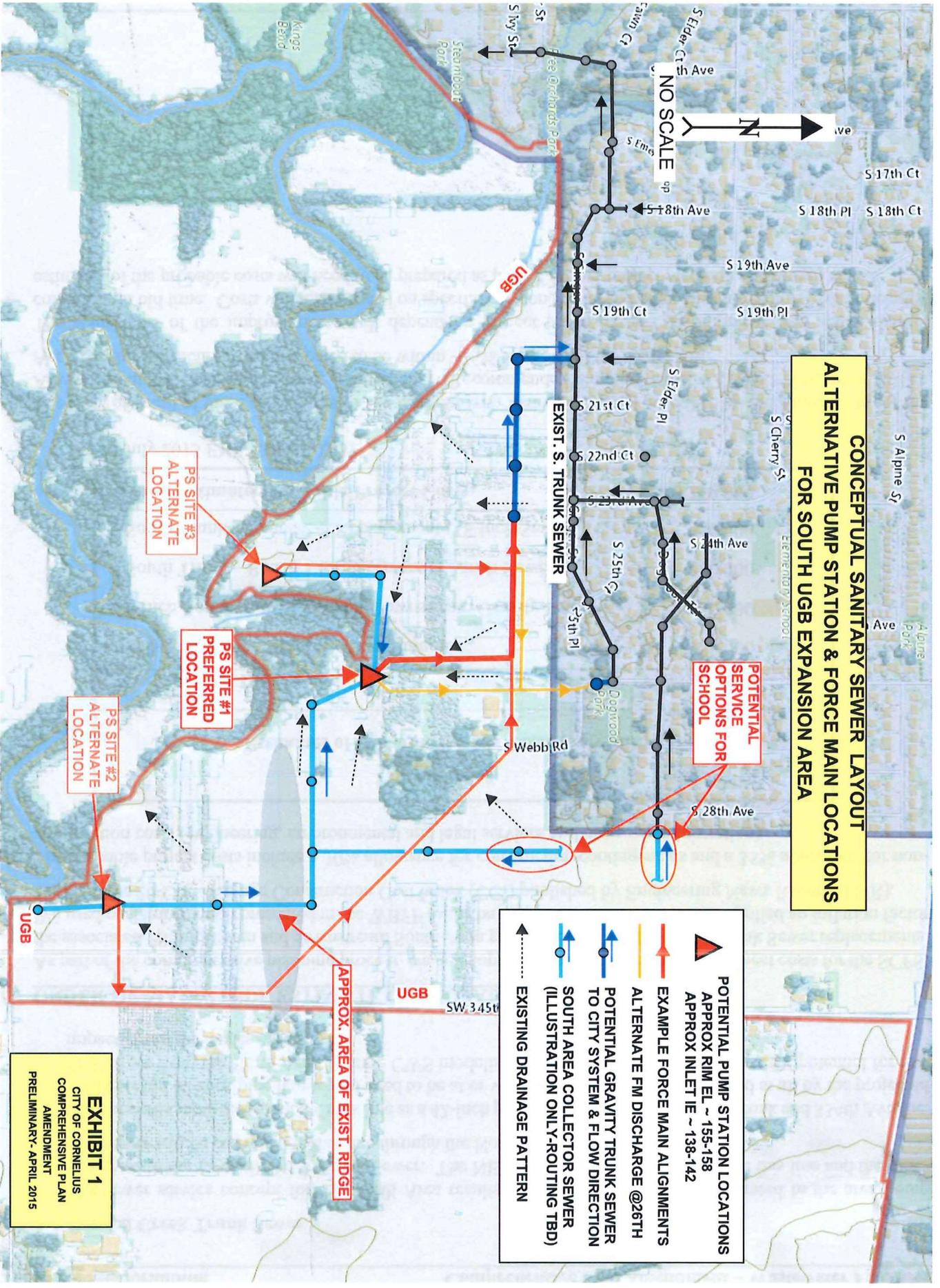
The probable project costs include a 30% allowance for construction contingencies and a 35% allowance for non-construction costs (engineering, environmental and legal services and project administration).

Table 3	
Estimates of Probable Project Costs (July 2015 **)	
Project Description	Probable Cost
750-gpm South Cornelius Pump Station	\$ 880,000
8-inch Force Main & 12-inch Downstream Gravity Sewer	\$ 650,000
South Trunk – Reach 1 Replacement (12-inch Sewer)	\$ 280,000
South Trunk – Reach 2-5 Replacement (18-inch Sewer)	\$ 1,450,000
Total Estimated Probable Project Costs	\$ 3,260,000

** July 2015 ENR CCI = 10,037

The level of detail of these cost estimates is consistent with Estimate Class 4 described by the Association for the Advancement of Cost Engineering International (Recommended Practice #18R-97, Rev. November 2011). Accordingly, the accuracy is anticipated to be within –25% to +35% of the actual cost.

The actual cost of the improvements will depend on project scope, design development, and actual market conditions at bid time. Costs will also depend on specific site conditions and other variable factors. More detailed estimates of the probable costs will need to be prepared as part of further project planning and design efforts.



**CONCEPTUAL SANITARY SEWER LAYOUT
ALTERNATIVE PUMP STATION & FORCE MAIN LOCATIONS
FOR SOUTH UGB EXPANSION AREA**

NO SCALE

- POTENTIAL PUMP STATION LOCATIONS
APPROX RIM EL ~ 155-158
APPROX INLET IE ~ 138-142
- EXAMPLE FORCE MAIN ALIGNMENTS
- ALTERNATE FM DISCHARGE @26TH
- POTENTIAL GRAVITY TRUNK SEWER TO CITY SYSTEM & FLOW DIRECTION
- SOUTH AREA COLLECTOR SEWER (ILLUSTRATION ONLY-ROUTING TBD)
- EXISTING DRAINAGE PATTERN

PS SITE #3
ALTERNATE
LOCATION

PS SITE #1
PREFERRED
LOCATION

PS SITE #2
ALTERNATE
LOCATION

POTENTIAL
SERVICE
OPTIONS
FOR
SCHOOL

APPROX. AREA OF EXIST. RIDGE

EXHIBIT 1
CITY OF CORNELIUS
COMPREHENSIVE PLAN
AMENDMENT
PRELIMINARY - APRIL 2015

**SOUTH TRUNK SEWER EVALUATION
ESTIMATED TRIBUTARY AREAS & FLOWS**

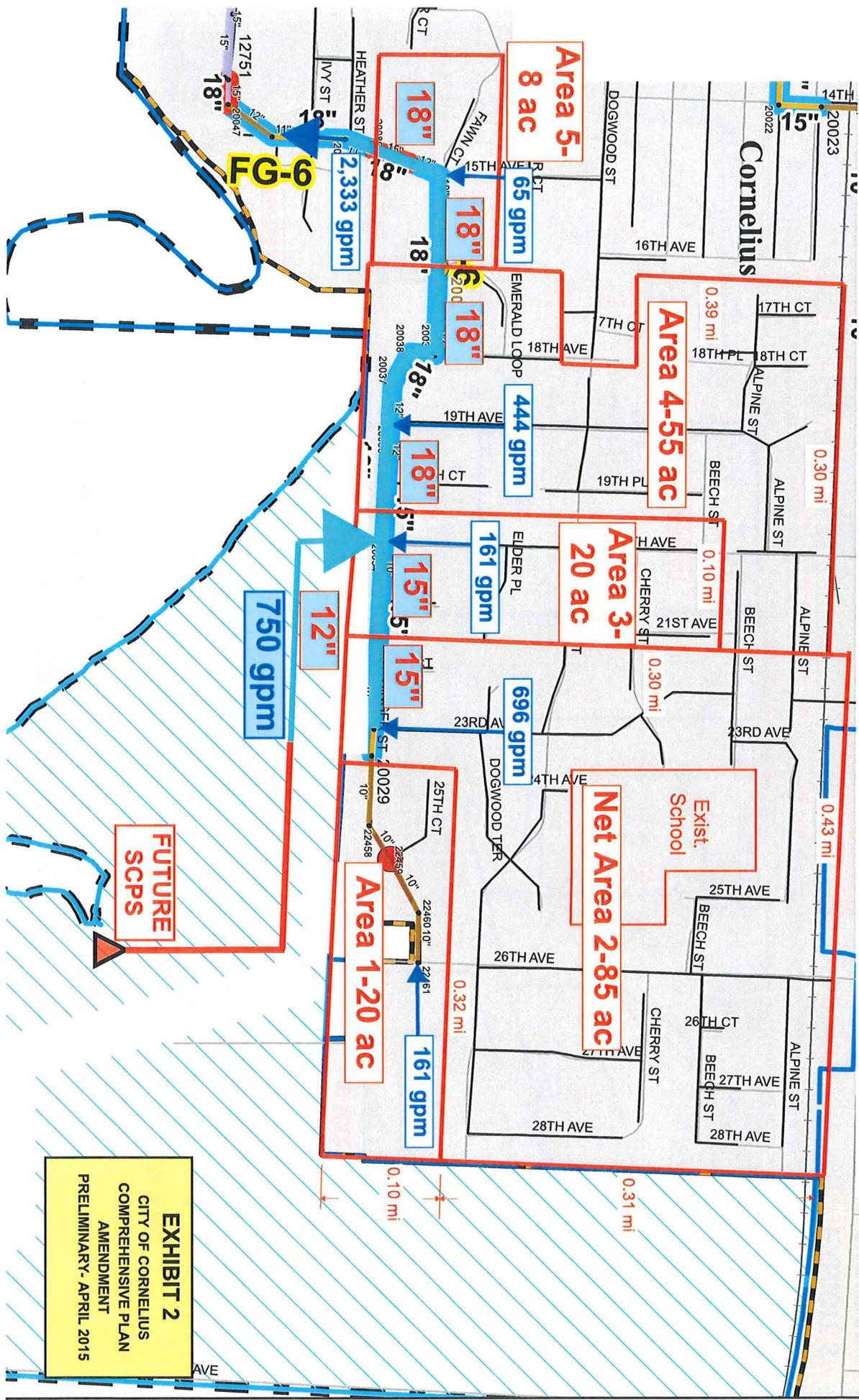
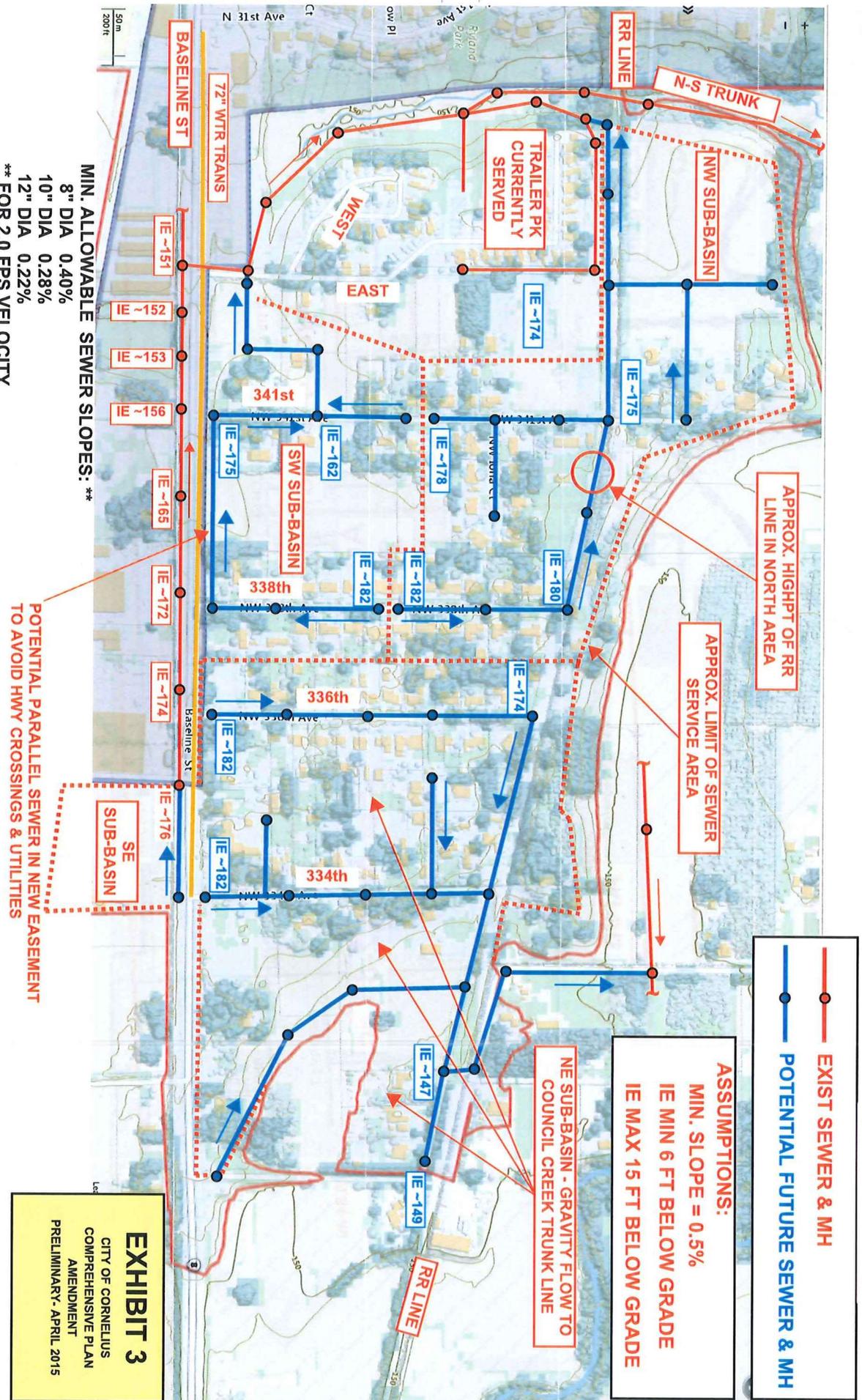


EXHIBIT 2
CITY OF CORNELIUS
COMPREHENSIVE PLAN
AMENDMENT
PRELIMINARY - APRIL 2015

**CONCEPTUAL SANITARY SEWER LAYOUT
FUTURE SERVICE FOR NORTH UGB EXPANSION AREA**



- EXIST SEWER & MH
- POTENTIAL FUTURE SEWER & MH

ASSUMPTIONS:
 MIN. SLOPE = 0.5%
 IE MIN 6 FT BELOW GRADE
 IE MAX 15 FT BELOW GRADE

NE SUB-BASIN - GRAVITY FLOW TO COUNCIL CREEK TRUNK LINE

MIN. ALLOWABLE SEWER SLOPES: **
 8" DIA 0.40%
 10" DIA 0.28%
 12" DIA 0.22%
 ** FOR 2.0 FPS VELOCITY

POTENTIAL PARALLEL SEWER IN NEW EASEMENT TO AVOID HWY CROSSINGS & UTILITIES

EXHIBIT 3
 CITY OF CORNELIUS
 COMPREHENSIVE PLAN
 AMENDMENT
 PRELIMINARY - APRIL 2015

APPENDIX A

**City of Cornelius
South Trunk Sewer Survey Data**

Model Pipe#	MH#	Location	Rim Elev	MH Inlet			MH Outlet			Run	Slope (ft/ft)
				Size & Mat'l	Dip	IE	Size & Mat'l	Dip	IE		
6122	22461	26th/Ginger	175.77	10"PVC(S)	10	165.77	10"PVC(W)	10.1	165.67	216.61	0.0028
6124	22460		173.21	10"PVC(E)	8.14	165.07	10"PVC(SW)	8.25	164.96	263.44	0.0022
6090	22459	25th/Ginger	174.91	10"PVC(NE)	10.53	164.38	10"PVC(SW)	10.7	164.21	168.04	0.0035
6088	22458		174.25	10"PVC(NE)	10.62	163.63	10"PVC(W)	10.79	163.46	307.38	0.0034
1	20029		173.35	10"PVC(E)	10.95	162.4	10"CSP(W)	11.05	162.3	108.56	0.0027
2	20030	23rd/Ginger	173.23	10"CSP(E)	11.22	162.01	10"CSP(W)	11.29	161.94	260.11	0.0029
3	20031		174.14	10"CSP(E)	12.95	161.19	10"CSP(W)	13.09	161.05	156.34	0.0007
4	20032		173.21	10"CSP(E)	12.27	160.94	10"CSP(W)	12.39	160.82	122.03	0.0029
5	20033		172.54	10"CSP(E)	12.07	160.47	10"CSP(W)	12.19	160.35	282.94	0.0028
6	20034	20th/Ginger	170.84	10"CSP(E)	11.29	159.55	12"CSP(W)	11.39	159.45	254.93	0.0014
7	20035		168.6	12"CSP(E)	9.5	159.1	12"CSP(W)	9.58	159.02	254.70	0.0017
8	20036	19th/Ginger	166.61	12"CSP(E)	8.03	158.58	12"CSP(W)	8.13	158.48	149.79	0.0019
9	20037		163.79	12"CSP(E)	5.6	158.19	12"CSP(NW)	5.7	158.09	152.39	0.0026
10	20038		162.04	12"CSP(SE)	4.34	157.7	12"CSP(N)	4.4	157.64	118.03	0.0038
11	20039	18th/Emerald	164.47	12"CSP(S)	7.28	157.19	12"CSP(W)	7.35	157.12	383.81	0.0019
12	20040	Emerald	160.72	12"CSP(E)	4.33	156.39	12"CSP(W)	4.38	156.34	22.56	0.0080
	20042	Emerald	161.16	12"CSP(E)	5	156.16	10" ??(W) 10" ??(W)	5.15 4.82	156.01 156.34		
13 & 15	<i>(Ignore MH# 20079 - blowoff)</i>									394.50	0.0023
	20043	15th/Fawn	160.34	10"CSP(E)	5.25	155.09	12"CSP(SW)	5.3	155.04		
14				10"CSP(E)	5.25	155.09				130.08	0.0035
	20044	Sou. of Fawn	159.08	12"CSP(NE)	4.5	154.58	12"CSP(SW) 8"CSP(SW)-??	4.4	154.68		
213 & 16	<i>(Ignore MH# 20079 - blowoff)</i>									313.56	0.0040
	20045	Heather	157.95	12"CSP(NE)	4.51	153.44	10"CSP(S)	4.53	153.42	<i>(Should be 12" Out?)</i>	
???				8"CSP(NE)	4.55	153.40				141.59	0.0026
	64144		160.03	12"CSP(N)	6.98	153.05	12"CSP(S)	7.05	152.98		

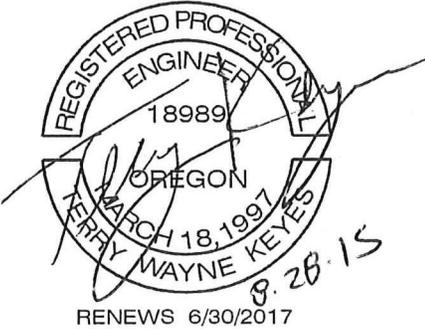
Exhibit D

Amendments to the City of Cornelius Water Master Plan (Appendix I)

Cornelius Urban Growth Boundary Expansion

Water Plan

August 28, 2015



Terry Keyes, PE
City Engineer
City of Cornelius

The cost of bringing the water infrastructure in this area up to current standards is approximately:

4,000 LF @ \$130/LF = **\$520,000**

This cost cannot be justified based on the limited amount of water user fee revenue the area would produce. Therefore, if the Northeast UGB area is annexed to the City of Cornelius, the annexation will likely occur in small chunks as development occurs. With each annexation, Cornelius will take over the portion of the water system needed to serve that area. The development necessitating the annexation will be primarily responsible for improving the annexed part of the Hillsboro water system to Cornelius standards.

Storage needs for the Northeast UGB area can be easily handled by the City's current 1.5 MG (million-gallons) above ground reservoir and its 50+MG Aquifer Storage and Recovery (ASR) System scheduled to come on line in 2017.

Flow needs for this area can be handled from three sources.

1. 12" Cornelius main line on the north side of Baseline that currently ends at East Lane
2. 12" Cornelius main line on the south side of Baseline that currently ends at the Coastal Farm Store at about 336th Avenue
3. Existing but unused transfer station from the Hillsboro 72" transmission line in Baseline to the Cornelius system at East Lane

In summary, the City of Cornelius can easily serve the Northeast UGB area. The primary concern is the fact that most pipes in this area are substandard. Bringing this area up to current standards is an expensive proposition that is not currently programmed into the Cornelius water rate structure. Therefore, improvements to the water infrastructure in this area will be required at the time of development. Until areas are annexed into the City the system within this area will remain within Hillsboro's service district and will be maintained and operated by Hillsboro.

Water Infrastructure Needs – Southeast UGB Area

The Southeast UGB area represents a clean slate in that the area contains almost no existing water infrastructure. The only public water facility in the area is a 2" plastic line from Baseline south along 345th to serve approximately 8 residents within ¼ mile of Baseline. Since most of these residents are outside the UGB expansion area, the City does not intend to upgrade this 2" plastic line in the foreseeable future. However, the south end of this line may be looped into the new water infrastructure in the UGB area to protect against an emergency such as a line break.

When developed, the Southeast UGB area will be served by 12" mains under the planned collector streets. The collector streets are expected to include: 29th south of Baseline, 26th and 20th south of Ginger, Dogwood east of 28th, and a new east-west collector south of the current city limits that connects 20th, 26th and 29th. All local streets will be underlain with 8" water mains, the minimum standard required by Cornelius.

In addition, to provide adequate flow and pressure to this area at build-out, some improvements in the City's existing water system may be required. The needed improvements will be determined when the City completes its water master plan update later this year. However, the improvements to the existing system that are likely to be needed at full development of the UGB area include:

- 12" line to replace existing 8" line in Dogwood from 18th to 20th
- 12" line to replace 8" line in 20th from Dogwood to Southeast UGB area
- 12" line to replace 8" line in 26th from Dogwood to Southeast UGB area

These improvements are not needed initially, but will be required as the area nears build-out. When the City's water master plan update is completed in late 2015, the amount of development the existing system can support will be determined. For development that occurs before the master plan update is complete, the developer will be responsible for proving that the existing system can provide adequate flow and pressure to the UGB area. If adequate flow and pressure cannot be attained, the developer will need to make the improvements noted above.

Storage needs for the Southeast UGB area can be handled by the City's current 1.5 MG above ground reservoir and its 50+MG Aquifer Storage and Recovery (ASR) System scheduled to come on line in 2017.

Water Infrastructure Costs – Southeast UGB Area

All the new water mains in the Southeast UGB area will be installed and funded by developers. However, the City must pay for oversizing of lines greater than 8" size. In other words, while the developers are responsible for funding the installation of 8" lines under all the streets in this area, the City must fund the additional cost of 12" lines where they are needed. The cost of this upsizing of lines to 12" is estimated to be:

12" oversize cost in UGB area = ~10,000 LF @ \$20/LF = \$200,000

Furthermore, the City must fund improvements to piping outside the UGB area. These improvements are listed above and will cost approximately:

12" replacement lines inside UGB area = ~2,200 LF @ \$140/LF = \$300,000

Water SDCs from the southeast UGB area are expected to be:

1,100 single family residences @ \$3,884 SDC per residence = ~\$4M

Therefore, the water SDCs captured from the new development in the southeast UGB area are more than adequate to fund the improvements to pipes needed to serve this area.

Recommendations

In the Northeast UGB area, staff recommends the area continue to be served by the City of Hillsboro until parcels are annexed. At the time parcels are annexed into the City of Cornelius, Cornelius should take over the portion of Hillsboro's system needed to serve the annexed parcel. Developers should pay for all improvements needed to bring lines up to City of Cornelius standards.

In the Southeast UGB area, developers should design and install all water mains. The City shall pay for oversizing mains under collectors to 12" from the 8" standard size. The City shall also design, build, and fund improvements necessary to the water mains within the current City boundaries.

Attachment 2 – Cornelius Water Improvement Needs for Northeast UGB Area

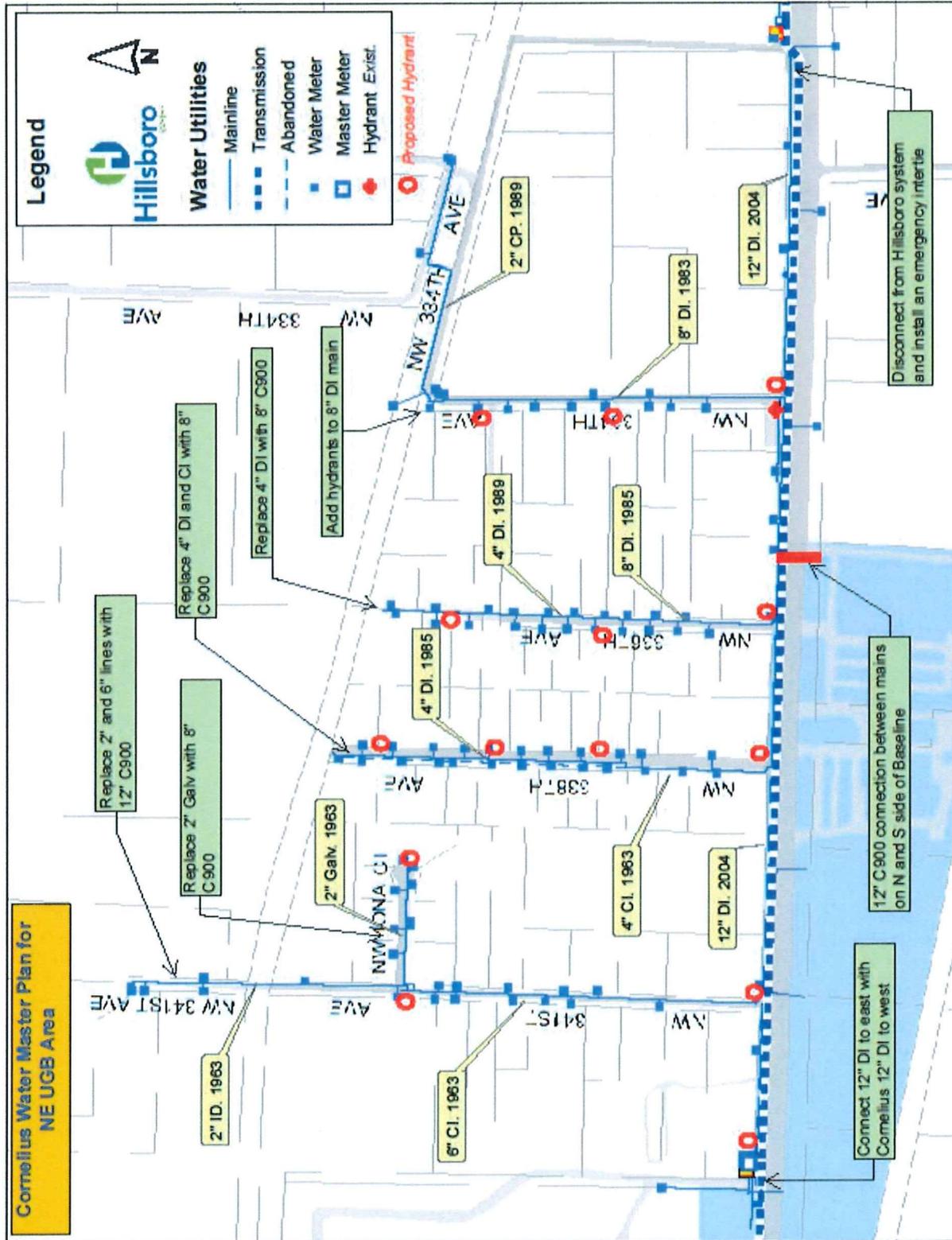


Exhibit E

Amendments to the City of Cornelius Transportation System Plan (Appendix M)

RECOMMENDATIONS

Transportation Planning Rule Findings

The traffic analysis completed for the proposed Cornelius UGB expansion areas found the potential vehicle trip increase would not significantly impact the surrounding transportation system and would satisfy the requirements of OAR 660-012-0060. No capacity improvements to existing facilities beyond those identified in the RTP and Cornelius TSP are required to support the UGB expansion areas. Further analysis of Tualatin Valley Highway west of 345th Avenue should be included in the upcoming Cornelius TSP update to identify specific projects to serve fronting property needs for access, capacity and safety.

Local Improvements

Local roadway projects would be required to support the UGB expansion areas and provide adequate access and internal circulation. Based on the City’s functional classification designations¹³ and the future 2040 PM peak hour volume forecasts, recommended local improvements were identified as shown in Table 11. Planning level cost estimates were developed for each roadway project based on the collector cross-section with parking on both sides of the street (shown in Figure 9). If the collector facilities were constructed with a narrower cross-section (shown in Figures 10 and 11) the costs would be lower.

Table 11: Local Improvements to Support UGB Expansion

Project	Description	Planning Level Cost Estimate
20 th Avenue Extension	Construct a collector facility south of Ginger Street then east to 29 th Avenue extension	\$7,450,000
26 th Avenue Extension	Construct a collector facility south of Ginger Street to the 20 th Avenue extension east-west alignment	\$1,300,000
29 th Avenue Extension	Construct a collector facility south of Tualatin Valley Highway to realignment with 345 th Avenue, install railroad crossing treatments on 29 th Avenue, close railroad crossing on 345 th Avenue	\$6,800,000

¹³ Cornelius Transportation System Plan, DKS Associates, adopted June 20, 2005, Figure 8-3.



Dogwood Street Extension	Construct a collector facility east to 345 th Avenue (east UGB expansion area boundary)	\$1,600,000
29 th Avenue/Tualatin Valley Highway Signal	Install a traffic signal, interconnect with adjacent railroad crossing	\$600,000

Note: Collector facility cost estimate based on Figure 9 cross-section

The remaining roadways needed to support future development would function as local streets. The preliminary alignment for the recommended collector facilities are shown on Figure 7. These alignments are conceptual and will be refined with further engineering analysis prior to construction.

Policies and Standards

New policies and standards should be adopted to support the UGB expansion areas:

- Development should be limited to 130 residential units connecting to 20th Avenue and 260 residential units connecting to 26th Avenue prior to construction of the 29th Avenue connection to Tualatin Valley Highway. With a roadway connection between 20th and 26th Avenue, a combined development limit of 390 residential units should be applied.
- Roadway and trail cross-sections shown in Figures 9 to 14 should be incorporated into the Cornelius TSP.

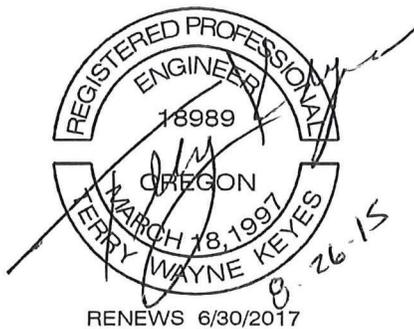
Exhibit F

Amendments to the City of Cornelius Storm Drainage/Surface Water Master Plan (Appendix H)

Cornelius Urban Growth Boundary Expansion

Stormwater Plan

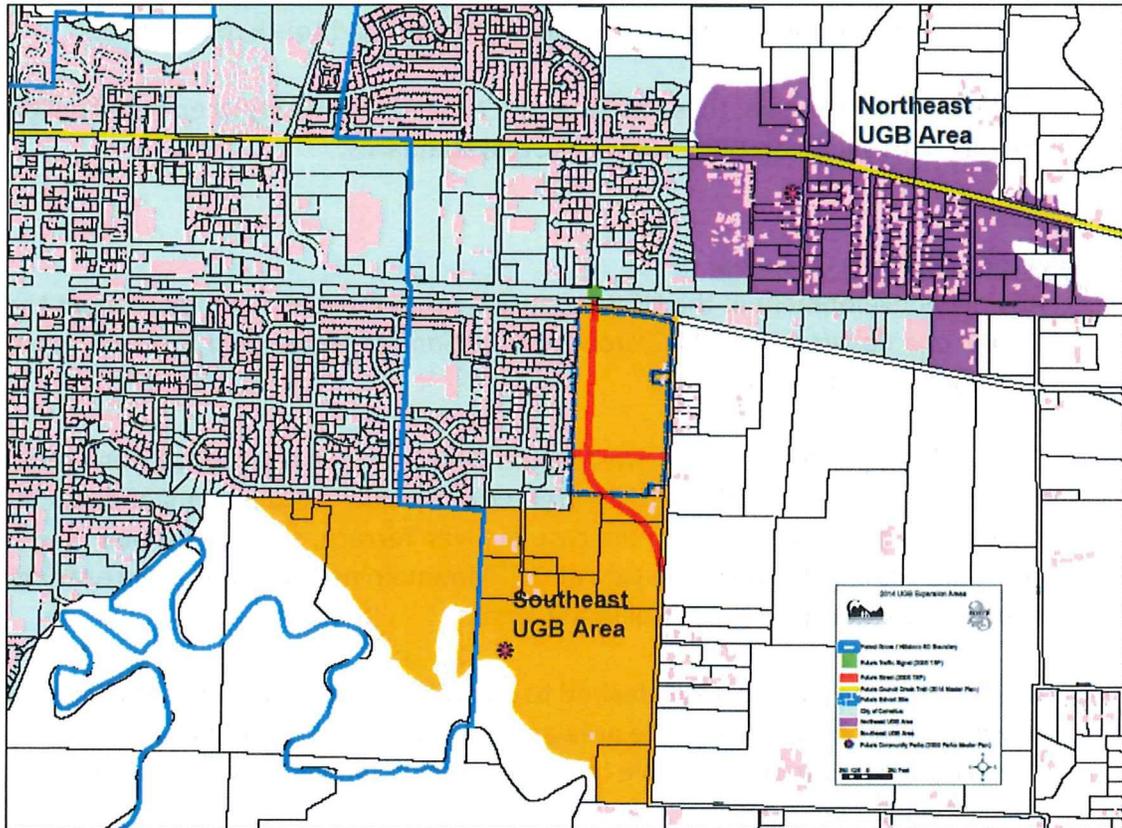
August 26, 2015



Terry Keyes, PE
City Engineer
City of Cornelius

Study Area

The Urban Growth Expansion (UGB) area consists of two parts. The Northeast UGB area is primarily north of Baseline and south of the Council Creek flood plain, just east of the current City limits. The Southeast UGB area is north of the Tualatin River flood plain and west of 345th Avenue. These areas are shown in the map below.



The terrain in these two areas is generally flat. The Northeast area largely slopes to the north toward Council Creek. The only waterway in this area is a large wetland area that separates the UGB expansion area from the current City boundary. This wetland area drains north toward Council Creek.

The Southeast area primarily slopes to the south toward the Tualatin River. The only waterway in this area is an agricultural ditch that starts where 26th Avenue turns into Webb Road and then traverses in a south-southwest direction toward the Tualatin River.

Existing Stormwater Facilities

The only existing stormwater facilities in the Northeast UGB area are roadside and trackside ditches along Baseline, the north-south streets traversing the area, and the railroad north of Baseline.

The stormwater facilities in the Southeast UGB area are limited to the roadside ditches on 345th Avenue and railroad ditches along the railroad south of Baseline.

As development occurs, these facilities are expected to be replaced with facilities meeting current Clean Water Service (CWS) standards.

Stormwater Standards Overview

Any new development in the UGB expansion areas must at a minimum meet the current *Design and Construction (D&C) Standards for Sanitary Sewer and Surface Water Management* issued by CWS.

Some UGB expansion areas in Washington County, notably Tigard's River Terrace and the unincorporated North Bethany, created additional stormwater standards that go beyond the D&C Standards. In the case of River Terrace, severe erosion in the stream corridors coming off the south side of Bull Mountain necessitated a more stringent approach to stormwater control in the area.

In North Bethany's case, CWS desired to incorporate extensive LIDA (low-impact development practices) into the area and pre-built a number of large regional facilities. This was deemed more desirable to the creation of individual stormwater facilities in each development phase.

One downside of the North Bethany approach is that CWS has had difficulty keeping ahead of development with new facilities. Also, by CWS constructing regional facilities rather than each developer constructing their own facilities, North Bethany has a large stormwater fee or system development charge that is unique in Washington County.

Finally, the D&C Standards issued by CWS are expected to change significantly as a result of a new MS4 permit from the State of Oregon, Department of Environmental Quality (DEQ) to CWS. One change in the new MS4 permit will be an increased level of treatment for stormwater. However, the most significant change in the standards is expected to be a requirement to deal with hydro-modification. Instituting this type of requirement is expected to create the need for very large detention and retention facilities on new development sites.

Cornelius Plan

Because Cornelius does not face the problems Tigard does on Bull Mountain and because the City does not have the staff to plan, design, and build regional facilities, as CWS is doing in North Bethany, Cornelius will require developers to meet the current stormwater standards issued by CWS. While this approach is not innovative, it has been used successfully for decades in urban Washington County to manage stormwater runoff.

The only variations from the CWS standards are:

1. Prohibition on the use of proprietary treatment systems, e.g., Stormfilters, for treatment on parts of the system that the City must maintain in the future, i.e., facilities to be dedicated to the City.
2. Unless required by CWS rules, prohibition on single-family residential lot LIDA facilities.

The reason for the prohibition on proprietary systems is the additional maintenance burden these pose for the City at a time when stormwater maintenance funding is extremely limited. Likewise, the single-family lot LIDA facilities require on-going City inspection and oversight that the City does not have funding to undertake.

Costs

Since developers will be responsible for designing and constructing stormwater facilities in the new UGB areas, the City will incur zero capital costs for these systems. The City will, however, incur, increased maintenance costs long-term, but these costs are funded by monthly stormwater fees payable by the new residents and businesses in the area.

Recommendations

Staff recommends the City use the CWS D&C Standards that are applicable at the time of development to address stormwater issues in the UGB areas. Staff further recommends, the following two conditions be placed on all new development in these areas:

1. Prohibition on the use of proprietary treatment systems for treatment on parts of the system that the City must maintain in the future.
2. Unless required by CWS rules, prohibition on single-family residential lot LIDA facilities being used to meet subdivision stormwater quality or quantity requirements.

Exhibit F: Preliminary Service Availability Memo



May 28, 2024

City of Cornelius
Community Development & Planning Department
1355 N. Barlow St
Cornelius, OR 97113

**Re: Public Utility Service Availability
Parcel 1 (Tax lot 300) Annexation Application
Cornelius, Oregon**

This narrative is being provided to support the annexation application for Parcel 1 of the recent partitioned Tax Lot 300 (Tax Map 1S 3 02C). Approximately 7.60 acres of property is planned to be annexed into the City of Cornelius under this proposal. The following paragraphs are intended to discuss the impacts and availability of the following public facilities and services to the subject property proposed for annexation.

SANITARY SEWER

The subject property is not currently served by public sanitary sewer; therefore, future construction of a sanitary main extension will be required. An 8-inch public sanitary sewer main exists at the existing southern termination of S. 29th Blvd. The 8-inch sanitary sewer main will require extension along S. 29th Blvd and has sufficient depth and capacity to serve the project area.

STORMWATER

The subject property falls under the jurisdiction of Clean Water Services (CWS). As such, on-site stormwater quality and quantity facilities (if required) will be designed in accordance with the *Design and Construction Standards for Sanitary Sewer and Surface Water Management, R&O 19-22*, dated Nov. 12, 2019. Stormwater routing and capacity is available in the existing stormwater facility constructed within Phase 8 of the Laurel Woods to serve the project site.

Additional evaluations and details of the stormwater facility and the associated conveyance systems will be developed during the preliminary and engineering design phases.

DOMESTIC WATER

The project area has the potential to be served by connecting to the City of Cornelius water system. Notes from the City Engineer indicate that a "12-inch public water main currently exists at the south end of S. 29th Blvd. This water main shall be extended into the site and end at 345th." An additional 8-inch water main connection is also required to provide for a looped/redundant water system connection along 345th Avenue.

We look forward to working with you on this project. If you have any questions or comments, please contact me at (503) 563-6151 or PaulS@aks-eng.com.

Sincerely,

AKS ENGINEERING & FORESTRY, LLC



Paul A. Sellke, PE, GE
Project Engineer



**Exhibit G: Notice of Decision for Washington County
Partition No. L2300275-P**



WASHINGTON COUNTY
 Department of Land Use & Transportation
 Current Planning
 156 North First Avenue, Suite #350-13
 Hillsboro, Oregon 97124-3072
 phone: (503) 846-8761 fax: (503) 846-2908
 www.co.washington.or.us

CASEFILE: L2300275-P (REVISED)

**NOTICE OF DECISION
 & STAFF REPORT**

PROCEDURE TYPE: II

CPO: 12C

COMMUNITY PLAN: Rural/Natural Resource

PROPERTY DESCRIPTION:

ASSESSOR MAP: TAX LOT NUMBER(S):
1S3 02C 300

SITE SIZE: 73.32 acres (per Assessment & Taxation)

ADDRESS: 34005 SW Cook Street

LAND USE DISTRICT:

EFU (Exclusive Farm Use)
FD-20 (Future Development 20 acres)

APPLICANT:

Holt Holdings OR, LLC
Joe Schiewe and Mike Loomis
PO Box 61426
Vancouver, WA 98666

APPLICANT'S REPRESENTATIVE:

AKS Engineering and Forestry, LLC
Melissa Slotemaker
12965 SW Herman Road, Suite 100
Tualatin, OR 97062

OWNER:

Hering Family Joint Trust
By David D. and Kelly M. Hering
34005 SW Cook Road
Hillsboro, OR 97123

PROPERTY LOCATION:

On both sides of SW 345th Avenue, and on the north side of SW Cook Street, on each side of the Urban Growth Boundary (UGB).

PROPOSED DEVELOPMENT ACTION: Preliminary Review for a 2-Parcel Partition along the UGB in the EFU and FD-20 Districts

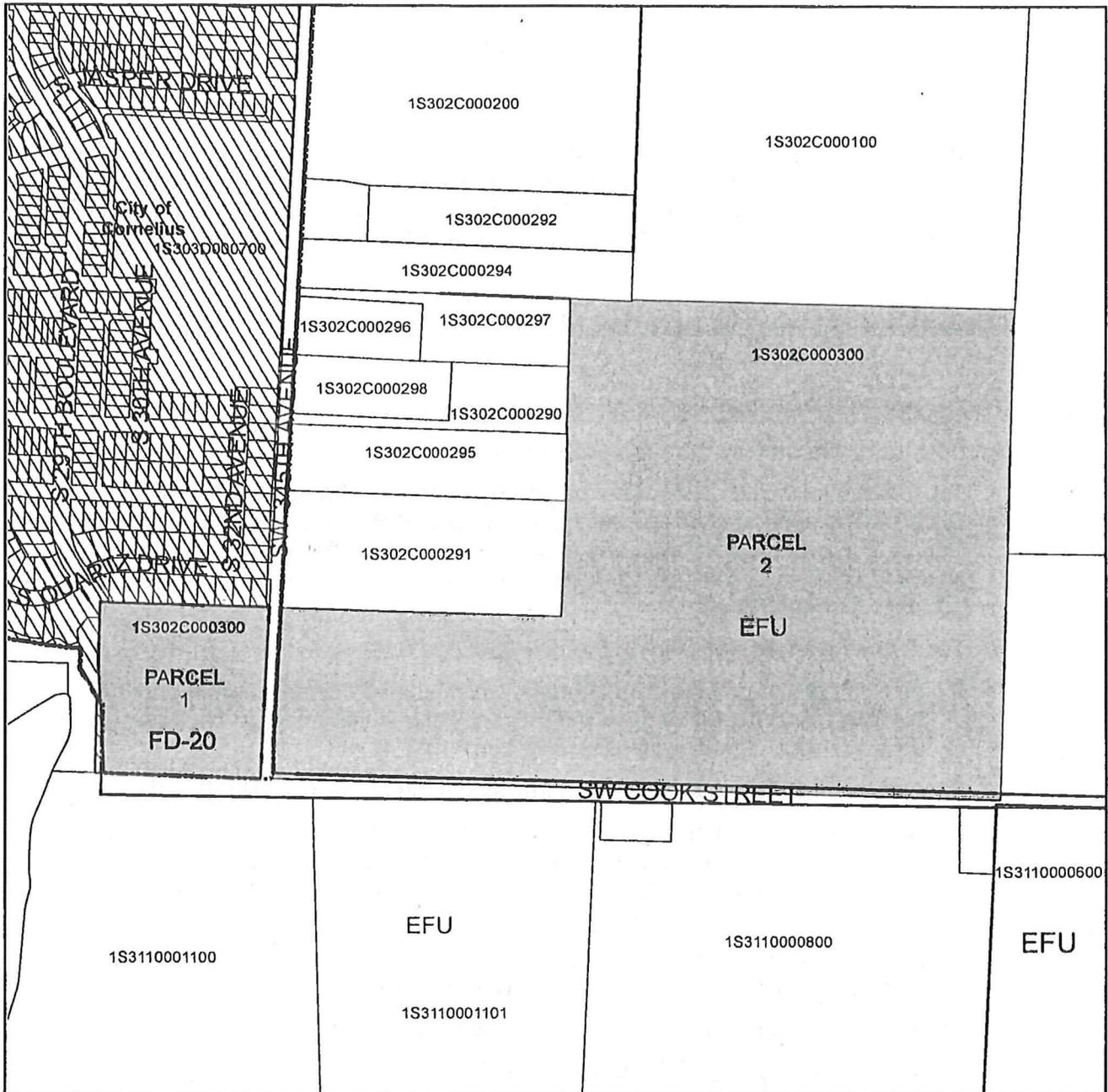
DECISION:

Approval _____ Approval with Conditions Denial _____

Signature: Date 2-9-24
 Stephen Shane, Current Planning Principal Planner

Staff Planner: Erik Stout, 503-846-8135

- Attachments:
- A. Vicinity Map
 - B. **CONDITIONS OF APPROVAL**
 - C. Staff Report
 - D. Appeal Information



↑ NORTH



AREA OF CONSIDERATION

NOT TO SCALE

SITE & SURROUNDING LAND USE DISTRICTS:

EFU District (Exclusive Farm Use)

Future Development 20-Acre District (FD-20)

City of Cornelius

REVIEW STANDARDS FROM CURRENT OR APPLICABLE ORDINANCE OR PLAN

- A. Washington County Comprehensive Plan
- B. Applicable Community Plan (See Front of Notice)
- C. Transportation System Plan
- D. Washington County Community Development Code:
 - ARTICLE I, Introduction & General Provisions
 - ARTICLE II, Procedures
 - ARTICLE III, Land Use Districts
 - ARTICLE IV, Development Standards
 - ARTICLE V, Public Facilities and Services
 - ARTICLE VI, Land Divisions & Lot Line Adjustments
 - ARTICLE VII, Public Transportation Facilities
- E. R & O 86-95 Traffic Safety Improvements
- F. ORD. NO. 738, Road Design and Construction Standards
- G. ORD.691-A, 729, 741, 746, 751, 793-A Transp. Development Tax

Attachment B CONDITIONS OF APPROVAL

- I. In accordance with Section 201-4, Final Approval for the partition shall be submitted within four (4) years of the date of this Preliminary Approval, unless: the permit is revoked as provided by Section 201-7; an application for a permit extension is filed pursuant to Section 201-5; or, development has commenced as provided in Section 201-6.
- II. The partition plat shall be recorded within two (2) years of the date of Final Approval. (Section 602-1.1)
- III. To Obtain Final Partition Approval, the applicant shall:
 - A. Submit to the Survey Division (503-846-8723):

Ten (10) copies of the revised final partition plat meeting the applicable provisions of ORS 92. The applicant shall submit the necessary copies of the partition plat to the County Surveyor, together with any applicable review and filing fees. The survey plat shall be approved by the County Surveyor who will then forward the necessary approved copies to Current Planning.

The following shall be shown on the plat: (Section 610)

 1. All existing and proposed easements, which shall be clearly identified as to intended purpose. Maintenance rights and responsibilities shall be stipulated in separate recorded document(s). (Section 610-2.4)
 2. A notation on the plat referencing the conditions of this Casefile. (Section 207-5)
 3. Dedication of additional right-of-way to meet 25 feet from centerline on SW 345th Avenue along the EFU portion of the parcel and SW Cook Street, per standards set by Washington County Transportation System Plan. (Sections 501-8.4 and - 9.3)
 4. A notation stating that the allowance of the partition does not warrant that septic tank approval is or will be available. (Section 610-2.4)
 - B. Submit to Current Planning (Erik Stout, 503-846-8135):
 1. Type I Final Approval application, including:
 - a) Final Approval request form;
 - b) Final Approval application fee;
 - c) Final site plan consistent with the one stamped "Preliminary Approval" in the Casefile;
 - d) Hard copies of evidence of satisfaction of all conditions of Final Approval;
 - e) Hard copy of the Final Plat, substantially consistent with the preliminary plat.
 2. Evidence that subsurface sewage disposal system permit or site evaluation approvals have been obtained from Washington County Environmental Health (503-846-8722) for vacant Parcel 1, unless the plat includes a note in accordance with Section 610-2.4.

3. Documentation from the Water Master that Parcel 1 can accommodate public water or an on-site water source.
4. Evidence the following documents have been recorded with the Recording Division of the Assessment and Taxation Department (503-846-8752):
 - a) Waiver of the right of remonstrance against customarily accepted farming/forestry practices on surrounding properties. The waiver shall be on a standard form which is available at the Current Planning Services front counter. The document shall be recorded with the Assessor's Office (recording fees apply). (Section 207-5)

IV. Miscellaneous Conditions:

- A. Prior to any ground disturbing activities, please contact Building Services (503-846-3470) for a grading permit. (Section 207-5, Section 410)
- B. Any future development on either Parcel 1 or Parcel 2 will be subject to applicable regulations and possible development review, as required by the Washington County Community Development Code. (Section 207-5)
- C. This development shall be constructed in accordance with the findings of this decision, the approved plans, and the standards of the Community Development Code. (Section 201-1)
- D. All conditions of approval shall be binding upon all heirs, successors, and assigns. (Section 207-5)
- E. Transferability of this permit may occur only as allowed by law (ORS 195.305).
- F. Adequate sight distance shall be maintained at the access point onto the public road. Maintenance may require trimming or removal of vegetation. (Section 501-9)

Attachment C STAFF REPORT

I. APPLICABLE STANDARDS

- A. Washington County Comprehensive Framework Plan (Rural/Natural Resource Plan)
- B. Washington County Community Development Code (Code)
 - 1. Article II: PROCEDURES
 - Section 202-2 Type II Procedure
 - Section 207-5 Conditions of Approval
 - 2. Article III: LAND USE DISTRICTS
 - Section 308 FD-20 (Future Development 20 Acre District)
 - Section 340 EFU (Exclusive Farm Use)
 - 3. Article IV: DEVELOPMENT STANDARDS
 - Section 403 Applicability
 - Section 424 Creation of Parcels in the EFU, EFC and AF-20 Districts
 - 4. Article V: PUBLIC FACILITIES AND SERVICES
 - Section 501-9 Limited Application of Public Facility & Service Standards Outside the UGB
 - 5. Article VI: LAND DIVISIONS AND LOT LINE ADJUSTMENTS
 - Section 610 Land Divisions and Property Line Adjustments Outside a UGB
- C. Washington County Transportation Plan
- D. Ordinance 793-A Transportation Development Tax

II. AFFECTED JURISDICTIONS

Cornelius Rural Fire District
Washington County Department of Health and Human Services
Washington County Sheriff

III. FINDINGS

Background

- 1. The applicant requests preliminary approval for a 2-parcel partition along the Urban Growth Boundary on a split-zoned property designated EFU (Exclusive Farm Use) and FD-20 (Future Development 20 Acres). The regional Urban Growth Boundary (UGB) defines the boundary between the two land use districts: the portion to the west of the UGB line lies within the FD-20 district, while the remainder of it lies within the EFU district.
- 2. The subject site is actively farmed and supports a single-family residence and outbuildings in the south-central portion of the site, within the EFU portion of the parcel. After the partition, Parcel 1 (FD-20 District) will be 8.15 acres while Parcel 2 (EFU District) will be 72.2 acres.
- 2.3. Following the partition, the applicant intends to annex the FD-20 parcel into the City of Cornelius. A representative from the City of Cornelius indicated that the applicant has had a pre-application conference in which they proposed a 29-lot subdivision. Any/all future development after annexation will be subject to the regulations of the City of Cornelius.
- 3.4. No development or grading is proposed with this application. Therefore, this standard and requirements of Sections 410 (Grading and Drainage) and 426 (Erosion Control) are not applicable to this partition request and will be addressed at time of development.

4.5. The western portion of the subject site (Parcel 1) is intersected in a north-south direction by the Tualatin River and the eastern portion of the site (Parcel 2) is intersected by an unnamed tributary to Council Creek. A 100-year flood plain associated with each is mapped along its orientation within the subject site. Therefore, Section 421 is applicable to this request. However, no land disturbance is proposed with this application and further assessment pursuant to Section 421 is not required at this time.

5.6. Eight letters of comment, six of which were by the same commentor, were received in response to the public notice prior to completion of this staff report. The concerns are summarized as follows:

1. Future development of the parcel following the partition, and its impact to the environment and the wildlife that may be found there. The commentor provided a photo of the property showing elk roaming the property in August, and indicated other animals such as migratory birds and the northern red-legged frog can be found periodically on the parcel. Lastly, the commentor asked if Parcel 1 would protect the white oaks growing on the parcel. Two commentors asked if each parcel would be eligible for future partitions and dwellings.
2. Source of additional drinking water for any new residents, and how the wastewater will be treated.
3. How the proposed partition will impact their ability to continue farming, stating the housing in the area has been "creeping" closer to their property, resulting in walkers, pets and delivery drivers "trespassing" on their property. Furthermore, the commentor said they are concerned that they could face lawsuits for activities associated with farming (dust, chemicals, noise, smell, etc.).
4. The impact the partition may have to traffic on SW Cook Street and SW 345th Avenue. SW Cook Street is a gravel road that the commentor states is frequented by farming implements, that could pose a potential hazard to motorist unfamiliar with the area. Lastly, the commentor is concerned an increase in traffic may degrade the surface at an accelerated rate, and increase dust generated from the road.
5. How the increased population will be able to reduce their transportation related carbon footprint "without adequate public transportation."

Applicant Response: In response to abovementioned comments the applicant has provided the following responses:

1. Impacts to Roadways and Public Services:

"Concern was raised related to the impact of future development of the site on the existing transportation system as well as on water supply and wastewater management. As stated in the partition application, development is not proposed with this application and therefore no impacts to roadways or public utilities will result from approval of the application. Future applications to the City of Cornelius will need to address roadway improvements, traffic impacts, and the public utilities needed to allow for future development to occur on the western parcel. The City of Cornelius has indicated, similar to the

Laurel Woods subdivision, that future development would not have vehicular access to SW 345th Avenue and therefore traffic would not be routed towards SW 345th Avenue or SW Cook Road.”

2. Environmental Impacts:

“Comments also included a concern for the larger carbon footprint caused by new development without available public transportation as well as a concern for existing trees and wildlife. Parcel 1 is currently within the Metro Urban Growth Boundary (UGB) and was determined to be able to support urban development at the time of the UGB expansion. The goal of the UGB is to guide development and control urban expansion onto farm and forest lands and generally help limit impacts on the environment regionally. Applications will be required to address any environmental impacts to natural resources and wildlife prior to future development of the site.”

3. Development Allowed Outside the UGB:

“A question was asked about what development can occur on proposed Parcel 2, which will be fully outside the UGB and remain within the Exclusive Farm Use (EFU) zone. The property is currently improved with a single-family dwelling and multiple accessory structures to support the agricultural use consistent with the EFU zone. The Applicant is unaware of any plans to modify the use or improvements to Parcel 2.”

4. Impacts to Adjacent Agricultural Property:

“Finally, a neighbor expressed concern that future residential development may create conflict between new residents and existing farming uses. Again, while this is a valid concern, this application does not include development and does not address impacts from new residential uses. As further discussed in the application, development is not proposed with the partition and therefore there are no impacts to roadways, public utilities, or wildlife due to approval of the application. Rather, this application is needed to align the property boundaries with the existing Urban Growth Boundary (UGB) surrounding the City of Cornelius. Future land use applications may then be submitted that will address development and impacts from that development.”

Staff Response: Staff has provided the following comments to concerns provided below:

1. As indicated by the applicant, development on Parcels 1 and 2 is not proposed with this application, instead, this application is requested to align the property boundaries with the existing Urban Growth Boundary (UGB) surrounding the City of Cornelius. Following the partition, future development will be limited to Parcel 1 due to the parcel already supporting a dwelling. Parcel 2 will be approximately 72.2 acres, therefore it cannot be partitioned further, as resulting parcels would not meet the 80-acre minimum lot size requirements of the EFU District. All development on Parcel 1 will be subject to the FD-20 district standards when proposed unless annexed into the City

of Cornelius, at which time the City standards will dictate the roadway improvements, traffic impacts, and the public utilities needed to allow future development to occur. The City of Cornelius may require bollards along SW 345th Road and SW Cook Road along the UGB line once Parcel 1 is annexed into the City to limit urban traffic onto rural roads. Under current FD-20 standards, Parcel 1 cannot be partitioned further since the resultant parcels will not meet the minimum required lot size of 20 acres. The current partition is being approved via Code Section 424 that allows a partition when a parcel straddles the UGB line. Impacts to natural resources and habitat will be assessed per applicable standards if any future development impacts them. Staff finds that the partition, as proposed, meets, or can meet the applicable Code standards upon execution of the Conditions of Approval.

A. Comprehensive Framework Plan (Rural/Natural Resource Plan Element)

STAFF: The goals and policies, which relate to the development of land, are implemented by the Washington County Community Development Code (the Code). The applicant is not required to address, consider, or implement any goal, policy or strategy of the Plan except where required by the Code.

An unnamed tributary to Council Creek traverses the eastern portion of the subject site in a south-north direction. These riparian features have been designated Significant Natural Resources (*Water Areas & Wetlands and Fish & Wildlife Habitat*) in the Rural/Natural Resource Plan Element. Land with such designation is subject to Code Section 422, which requires the application of Plan Policy 10, Implementing Strategy E. The proposed partition does not include any physical disturbance or development that would impact the designated Significant Natural Resource; accordingly, further assessment pursuant to Section 422 is not addressed herein. All other Plan Policies are implemented by the Code.

B. Washington County Community Development Code

1. Article II: Procedures

Section 202 PROCEDURE TYPES AND DETERMINATION OF PROPER PROCEDURE

202-2 Type II

STAFF: This application is being processed through the Type II procedure of the Community Development Code. Where appropriate, Conditions of Approval are imposed to ensure compliance with the standards of the Code and other County regulations and to minimize identified impacts upon surrounding properties.

Section 204 NOTICE OF TYPE I, II OR III DEVELOPMENT ACTIONS

STAFF: Public notice was mailed to nearby property owners and the applicant has submitted an affidavit stating that a public notice sign was posted on the site. Eight written comments were received as of the date of issuance of this staff report and have been addressed in the findings above. Where appropriate, conditions of approval will be imposed to ensure compliance with the standards of the code and other county regulations, and to minimize identified impacts upon surrounding properties.

Section 207 DECISION

207-5 Conditions of Approval

STAFF: Conditions of approval will be imposed as necessary to ensure compliance with the standards of the Code and other County regulations and to mitigate adverse impacts the development may have on the surrounding area. The applicant shall comply with all of the applicable Code regulations and Departmental conditions. The Conditions of Approval outlined in Attachment B do not restrict the authorized density of this property.

2. Article III: Land Use Districts

Section 308 FUTURE DEVELOPMENT 20-ACRE DISTRICT (FD-20)

308-6 Dimensional Requirements

STAFF: The applicant requests approval to partition the subject property into two parcels pursuant to the standards in Section 424-11, addressed later in this report. Section 424-11 authorizes the proposed partition subject to the standards in that section and does not require compliance with the dimensional standards in this section. As a result of this partition and upon recordation, Parcel 1 (approximately 8.15 acres) will lie entirely in the FD-20 District.

308-6.2 Yard Requirements:

STAFF: The applicant does not propose any new development in this application and thus these requirements do not apply to this request. Any future development within Parcel 1 will be subject to the standards of this section. The setbacks of the existing structures on site will continue to exceed the minimum district requirements.

308-8 Access

STAFF: Parcel 1 (FD-20 district) directly abuts SW 345th Avenue, maintaining more than 500-feet of frontage. This requirement is met.

Section 340 EXCLUSIVE FARM USE (EFU)

340-8 Creation of Lots or Parcels by a Land Division

STAFF: The applicant requests approval to partition the subject property into two parcels pursuant to the standards in Section 424-11, addressed later in this report.

340-9 Dimensional Requirements

STAFF: Section 424-11 authorizes the proposed partition subject to the standards in that section. and does not require compliance with the minimum lot area (80 acres) of the EFU district .

340-9.2 Yard Requirements:

STAFF: Existing structures comply with the setback requirements and will continue to do so after the partition. The applicant does not propose any new development in this application; any future development proposed on Parcel 2 will require compliance with the requirements of this section.

340-9.4 Minimum lot width at the street:

The minimum lot width at the street shall be thirty (30) feet or the lot shall have an easement of record at least thirty (30) feet wide at the street or as approved by the appropriate fire marshal.

STAFF: Parcel 2 (to lie within the EFU district) maintains adequate frontage of more than 500-feet on SW 345th Avenue and more than 2,000 feet on SW Cook Road.

340-10 Access

STAFF: This section requires that each lot border a public street or benefit from an access easement of record at least 30 feet wide at the street or as otherwise approved by the fire marshal. As noted above, Parcel 2 abuts SW 345th Avenue and SW Cook Road, meeting the requirements of this section.

3. Article IV: Development Standards

Section 403 APPLICABILITY

403-2 Master Plan - Minimum Requirements for All Development

STAFF: The applicant submitted a site plan meeting the minimum requirements of Section 403-2. The applicant also provided written findings indicating compliance with this Section.

Section 424 CREATION OF PARCELS IN THE EFU, EFC AND AF-20 DISTRICTS

424-11 Division of a Lot or Parcel Split by an Urban Growth Boundary in the EFU, AF-20 and EFC Districts

424-11.1 A division of a lawfully established unit of land may occur along an Urban Growth Boundary (UGB) where the parcel remaining outside the UGB is zoned for either agricultural or forest use and is smaller than the minimum parcel size, provided that:

- A. If the parcel contains a dwelling, the parcel must be large enough to support continued residential use. A land division that results in a lot or parcel less than two acres shall provide:*
- (1) Documentation from the Department of Health & Human Services or the Department of Environmental Quality that property(ies) less than two acres in size can accommodate a subsurface sewage disposal system and/or replacement system; and*
 - (2) Documentation from the Water Master that property(ies) less than two acres in size can accommodate public water or an on-site water source.*

STAFF: The subject site supports a dwelling and several outbuildings and is actively farmed. Parcel 1 lies within the Urban Growth Boundary in the FD-20 District. Parcel 2, to remain outside the UGB, lies within the EFU District and is larger than 70 acres, hence the above documentation is not required.

4. Article V: Public Facilities and Services

Section 501 PUBLIC FACILITY AND SERVICE REQUIREMENTS

501-9 Limited Application of the Public Facility and Service Standards Outside the UGB

501-9.1 For the purpose of determining the impact and adequacy of public facilities and service outside the UGB only this Section of Article V applies.

STAFF: Outside the Urban Growth Boundary (UGB), the County applies the Public Facilities Standards in a limited way. Outside the UGB, the Code does not require the applicant to assure that adequate levels of public services exist; the County is required only to consider the impact of the proposed development on public facility and service levels. While the land use review process does consider the impact of development on public services, it does not assure their adequacy.

501-9.2 For all Type II and Type III applications, with the exceptions noted below, impact on the following public facilities shall be considered: school, fire, police protection and public roads.

STAFF: The partition proposed in this application will result in two parcels. As such, per Code Standard 501-9.7, for partitions creating less than four (4) parcels, the applicant is not required to address service provider capabilities.

501-9.3 For the purpose of determining impact and adequacy of public roads, Section 501-8.5.E. (Sight Distance), 501-8.5.G. (Road Standards), and 501-8.4 (Dedication of Right-of-way) of this article shall apply except as provided in Sections 501-9.4 and 501-9.5. However, in all instances, traffic safety issues shall be addressed by the County.

STAFF: The subject property lies on both sides of SW 345th Avenue and on the north side of SW Cook Road which are both designated as a rural local streets. Both parcels will retain frontage on both streets following the partition.

No development is proposed on either Parcel 1 or Parcel 2 at this time. Any future development proposed on either parcel will be reviewed for applicable access requirements at that time.

In accordance with Sections 501-9.3 and 501-8.4, this partition is subject to a requirement for right-of-way dedication at the site's frontage onto SW 345th Avenue and SW Cook Road which are is designated as a rural local streets on county transportation map, with a required right-of-way width of 50 feet. Recognizing that the FD-20 portion is likely to get annexed and developed in the near future, and that street and sidewalk improvements will be required at that time, staff finds limiting the Section 501-8.4 required right-of-way dedication to the EFU frontage along SW 345th Road acceptable. City of Cornelius staff have communicated verbally to County staff they have no concerns regarding any right-of-way dedication required by Washington County. Dedication is not required along SW Cook Street at this time since it is not directly affected/involved in the proposed partition. Dedication on SW Cook Street may be required when development is proposed in the EFU portion of the parcel. Additional right-of-way dedication along both streets the EFU portion -of SW 345th Avenue may be required to meet 25 feet from centerline. Dedication of right-of-way has been included as a condition of approval in Attachment B.

No new public roads are proposed in this request. Staff finds the application can meet all the standards of this section when the conditions of approval in Attachment B are fulfilled.

5. Article VI: Land Divisions and Property Line Adjustments

Section 610 LAND DIVISIONS AND PROPERTY LINE ADJUSTMENTS OUTSIDE A UGB

602-3 Subsequent Land Divisions and Property Line Adjustments

610-2 Rural Land Divisions (Partitions and Subdivisions)

STAFF: The applicant has submitted all materials necessary to determine compliance with the Code standards for Preliminary Approval. Pursuant to Section 610-2.4 and as conditioned in Attachment B, the applicant is required to request Final Approval within four (4) years of the date of Preliminary Approval of this request, unless the permit is revoked as provided by Section 201-7; an application for a permit extension is filed pursuant to Section 201-5; or development has commenced as provided in Section 201-6. The applicant shall comply with applicable Code standards for final approval.

The applicant must obtain final approval for the plat prior to recording of the plat. The final approval process is outlined in the conditions of approval in Attachment B. Within two years of final approval, the plat shall be filed and recorded in accordance with Section 602-1.1.

C. Washington County Transportation Plan

STAFF: With regard to this request, the policies of the Transportation Plan element of the Washington County Comprehensive Plan are limited to the classification of SW 345th Avenue and SW Cook Road as rural local streets.

D. Ordinance 793-A Transportation Development Tax

STAFF: The Transportation Development Tax is required of all new development. It constitutes an assurance to satisfy extra capacity improvements to major collectors, county and city arterial streets, certain state facilities, and transit facilities, as listed in the Capital Improvement Project List. This tax is based on the number of daily trips a site generates and is due upon issuance of a building permit.

IV. SUMMARY AND CONCLUSION

Staff finds that based on the findings herein, the application for a two-parcel partition in the EFU and FD-20 districts conforms to the approval standards as discussed in Section III of this report, provided that the Conditions of Approval outlined in Attachment B are met. Therefore, the request is **APPROVED**, subject to the Conditions of Approval.



WASHINGTON COUNTY
Dept. of Land Use & Transportation
155 N. 1st Avenue, #350-13
Hillsboro, OR 97124
Ph. (503) 846-8761 Fax (503) 846-2908
www.co.washington.or.us

ATTACHMENT "D"
TYPE II

APPEAL INFORMATION

CASEFILE # L2300275-P (REVISED)

Attached is a copy of the Land Use and Transportation Department's Review Authority decision on this request for a Development Action.

Any person who is adversely affected or aggrieved, or who is entitled to written notice pursuant to ORS 215.416(11) may appeal the decision by filing a written appeal.

Failure to file a petition for review with the Department of Land Use and Transportation by 4:00 p.m. on the due date, with the fee specified in the Notice of Decision, shall be a jurisdictional defect.

The decision, including conditions of approval, may be appealed and a public hearing held by filing a signed petition for review (appeal) within twelve (12) calendar days of date written notice is provided (date mailed).

APPEAL PERIOD: 02/09/2024 (Date Mailed) to 4:00 p.m. on 02/21/2024 (Appeal Due Date)

This decision will be final if an appeal is not filed by the due date.

The complete file is available at the County Department of Land Use and Transportation for review.

A petition for review (appeal) must contain the following: L2300275-P (REVISED)

1. The name and signature of each petitioner filing the petition for review (appeal). If a group consisting of more than one person is filing a single petition for review, one individual shall be designated as the group's representative for all contact with the Department. All Department communications regarding the petition, including correspondence, shall be with this representative;
2. A statement of the interest of each petitioner;
3. The date the Notice of Decision was sent as specified in the notice (date mailed);
4. The nature of the decision and the specific ground for appeal. For applications with multiple requests, specify the particular request(s) and/or specific conditions of approval being appealed;
5. A statement listing the number of pages of the petition and that all pages are present;
6. A statement setting forth the appeal fee as specified in the Notice of Decision; and
7. The appropriate appeal fee of \$250.⁰⁰

For further appeal information, contact the Appeal Secretary at the Washington County Department of Land Use and Transportation. Phone 503-846-3849 or louisa_bruce@co.washington.or.us.

Exhibit H: Partition Plat No. 2024-014

PARTITION PLAT

A PORTION OF THE JOSIAH LINGENFELTER DLC NO. 49, LOCATED IN THE SOUTHWEST 1/4 OF SECTION 2, AND THE SOUTHEAST 1/4 OF SECTION 3, TOWNSHIP 1 SOUTH, RANGE 3 WEST, WILLAMETTE MERIDIAN, WASHINGTON COUNTY, OREGON
DATE: APRIL 23, 2024

PREPARED FOR
THE HOLT GROUP, INC.
VANCOUVER, WA 98668

PARTITION PLAT NO. 2024-014
RECORDED AS DOCUMENT NO. 2024-02512
SHEET 3 OF 3

DECLARATION

KNOW ALL PEOPLE BY THESE PRESENTS THAT DAVID D. HERING AND KELLY M. HERING, TRUSTEES OF THE HERING FAMILY JOINT TRUST DATED FEBRUARY 14, 2014, ARE THE OWNERS OF THE LAND SHOWN ON THE ANNECED MAP AND AS DESCRIBED IN THE ACCOMPANYING SURVEYOR'S CERTIFICATE, AND HAS CAUSED THE SAME TO BE SURVEYED AND PLATTED IN ACCORDANCE WITH THE PROVISIONS OF THE OREGON PLATTING ACT, AND THE SURVEYOR HAS HEREBY DEDICATED TO THE PUBLIC AS PUBLIC WAYS ALL RIGHTS OF WAY AS SHOWN HEREON ON SAID PLAT.

David D. Hering, Trustee
DAVID D. HERING
TRUSTEE, HERING FAMILY JOINT TRUST
DATED FEBRUARY 14, 2014

ACKNOWLEDGMENT

STATE OF OREGON }
COUNTY OF Washington } SS

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS 21 DAY OF MAY, 2024, BY KELLY M. HERING, TRUSTEE OF THE HERING FAMILY JOINT TRUST DATED FEBRUARY 14, 2014.

NOTARY SIGNATURE _____

NOTARY PUBLIC - OREGON (PRINTED NAME) ZAN MARIE LOWE

COMMISSION NO. 1014331A

MY COMMISSION EXPIRES JULY 15, 2025

STATE OF OREGON }
COUNTY OF Washington } SS

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS 21 DAY OF MAY, 2024, BY KELLY M. HERING, TRUSTEE OF THE HERING FAMILY JOINT TRUST DATED FEBRUARY 14, 2014.

NOTARY SIGNATURE _____

NOTARY PUBLIC - OREGON (PRINTED NAME) ZAN MARIE LOWE

COMMISSION NO. 1014331A

MY COMMISSION EXPIRES JULY 15, 2025

APPROVALS

APPROVED THIS 11 DAY OF JUNE, 2024
WASHINGTON COUNTY SURVEYOR
Scott Long

DEDICATION ACCEPTED UNDER ORS 92.120(1)(B) THIS 11 DAY OF JUNE, 2024
WASHINGTON COUNTY SURVEYOR
Scott Long

APPROVED THIS 11 DAY OF JUNE, 2024
DIRECTOR, DEPARTMENT OF LAND USE AND TRANSPORTATION
[Signature]

ALL TAXES, FEES, ASSESSMENTS OR OTHER CHARGES AS PROVIDED BY ORS 92.035 HAVE BEEN PAID AS OF THIS 12 DAY OF JUNE, 2024
DIRECTOR OF ASSESSMENT AND TAXATION
(WASHINGTON COUNTY ASSESSOR)

BY: [Signature]
COUNTY CLERK

STATE OF OREGON }
COUNTY OF WASHINGTON } SS

I DO HEREBY CERTIFY THAT THIS PARTITION PLAT WAS RECEIVED FOR RECORDING AND RECORDED IN THE COUNTY CLERK'S OFFICE AT 12:27 O'CLOCK P.M. AND RECORDED IN THE COUNTY CLERK RECORDS.

BY: [Signature]
COUNTY CLERK

5/15/2024
REGISTERED
LAND SURVEYOR
[Signature]

OREGON
JANUARY 12, 2016
MICHAEL S. TALUNA
RENEWED 7/27/25

JOB NAME:	HERING
JOB NUMBER:	5669
DRAWN BY:	KLH
CHECKED BY:	MSK
DRAWING NO.:	5669-PP



AKS ENGINEERING & FORESTRY, LLC
12365 SW HERMAN RD, STE 100
VANCOUVER, WA 98682
504.561.6151
WWW.AKS-ENG.COM

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

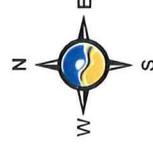
2024-014

Retires:

HILLSBORO
97123
Post Office and Zip
2024025472
Document Number
6-12-2024
Date Recorded
1S302C000300
Parent Parcel(s)

Map Features

- Subdivision
- Taxlots



Scale in Feet
1 inch = 450 feet

If you have questions about addressing
for this plat, please contact:
Washington County Surveyor's Office
Phone: 503-846-8723





Exhibit I: Documents Referenced in Legal Description

RECORDED AS DOCUMENT NO. 2022-044284
 SHEET 2 OF 8

LAUREL WOODS NO. 8

A REPLAT OF PORTIONS OF LOTS 2-9, "RIVERSIDE ACRES",
 LOCATED IN THE SE1/4 OF SECTION 3, T.1S., R.3W., W.M.,
 CITY OF CORNELIUS, WASHINGTON COUNTY, OREGON
 DATE: JANUARY 4, 2022

- FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." PER "LAUREL WOODS NO. 6"
- FOUND 1-1/8" COPPER DISC INSCRIBED "AKS ENGR." PER "LAUREL WOODS NO. 6"
- FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." PER "LAUREL WOODS NO. 6"
- FOUND 1-1/8" COPPER DISC INSCRIBED "AKS ENGR." PER "LAUREL WOODS NO. 6"
- UNLESS NOTED OTHERWISE
- 5/8" X .30" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION, SET ON:

- 5/8" X .30" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." PER "LAUREL WOODS NO. 5"
- FOUND 1-1/8" COPPER DISC INSCRIBED "AKS ENGR." PER "LAUREL WOODS NO. 6"
- FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." PER "LAUREL WOODS NO. 6"
- FOUND 1-1/8" COPPER DISC INSCRIBED "AKS ENGR." PER "LAUREL WOODS NO. 6"
- UNLESS NOTED OTHERWISE
- 5/8" X .30" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION, SET ON:

- 5/8" X .30" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." IN A MONUMENT MONUMENTATION, SET ON:
- 5/8" X .30" IRON ROD WITH 2" ALUMINUM CAP INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION
- SQUARE FEET
- P.U.E. PUBLIC UTILITY EASEMENT
- W.E. PUBLIC SIDEWALK EASEMENT
- S.T.E. PUBLIC STREET TREE EASEMENT
- S.T.E.-T SITE TYPICAL. SEE DETAIL ON SHEET 4
- D.T.L.-6 SEE EASEMENT DETAIL ON SHEET 6
- P.S.S.-6 SEE PRIVATE STORM SEWER EASEMENT DETAIL ON SHEET 6
- D.O.C. NO. DOCUMENT NUMBER, WASHINGTON COUNTY RECORDS

LEGEND



AKS
 AKS ENGINEERING & FORESTRY, LLC
 1000 NE 10TH AVE, SUITE 100
 TUALUMIN, OR 97052
 503.563.6151
 WWW.AKS-ENG.COM

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

JOB NAME:	LAUREL WDS PHES
JOB NUMBER:	4636
DRAWN BY:	GEP
CHECKED BY:	MSK
DRAWING NO.:	4636PHS8.PLT

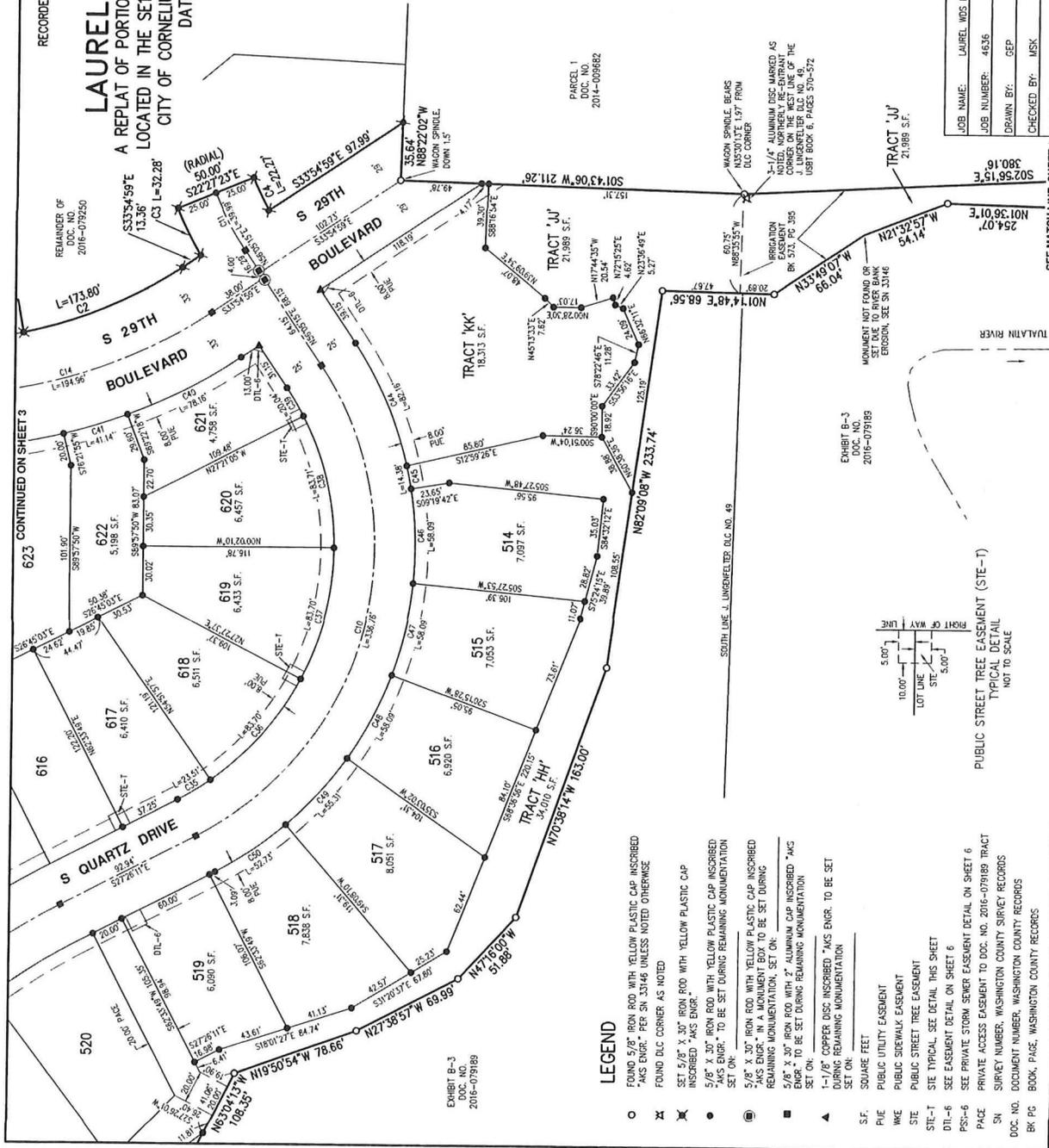
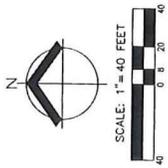
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557	556	555	554	553	552	551	550	549	548	547
546	545	544	543	542	541	540	539	538	537	536
535	534	533	532	531	530	529	528	527	526	525

REGISTERED PROFESSIONAL LAND SURVEYOR
 GARY E. PAUL
 OREGON
 JANUARY 17, 1995
 2016-073188

PREPARED FOR
 LAUREL WOODS DEVELOPMENT, LLC
 P.O. BOX 61426
 VANCOUVER, WA 98666

REVISION 12/17/2022

LAUREL WOODS NO. 8
A REPLAT OF PORTIONS OF LOTS 2-9, "RIVERSIDE ACRES",
LOCATED IN THE SE1/4 OF SECTION 3, T.1S., R.3W., W.M.,
CITY OF CORNELIUS, WASHINGTON COUNTY, OREGON
DATE: JANUARY 4, 2022



REGISTERED
PROFESSIONAL
LAND SURVEYOR
Gary E. Paul
JANUARY 17, 1995
GARY E. PAUL
2898
RENEW 12/31/2022

PREPARED FOR
LAURELWOOD DEVELOPMENT, LLC
P.O. BOX 61426
VANCOUVER, WA 98666

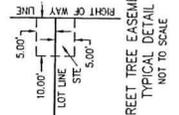


AKS ENGINEERING & FORESTRY, LLC
12965 SW HEMLOCK RD, STE 100
TUALATIN, OR 97062
503.265.1515
WWW.AKS-ENG.COM

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

JOB NAME:	LAUREL WOODS PHASE
JOB NUMBER:	4636
DRAWN BY:	GEP
CHECKED BY:	MSK
DRAWING NO.:	4636PHS8.PLT

- LEGEND**
- FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." PER SN. 33146 UNLESS NOTED OTHERWISE.
 - ✕ FOUND D.L.C. CORNER AS NOTED
 - SET 5/8" X 30" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION
 - ⊙ SET 5/8" X 30" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION
 - SET 5/8" X 30" IRON ROD WITH 2" ALUMINUM CAP INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION
 - ▲ SET 1-1/8" COPPER DISC INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION
 - S.F. SQUARE FEET
 - P.U.E. PUBLIC UTILITY EASEMENT
 - W.K.E. PUBLIC SIDEWALK EASEMENT
 - STE PUBLIC STREET TREE EASEMENT
 - SITE-T SITE TYPICAL TREE EASEMENT
 - SITE-T SITE TYPICAL TREE EASEMENT
 - DTL-6 SEE EASEMENT DETAIL ON SHEET 6
 - PS-6 SEE PRIVATE STORM SEWER EASEMENT DETAIL ON SHEET 6
 - PAGE PRIVATE ACCESS EASEMENT TO DOC. NO. 2016-079189 TRACT SN
 - DOC. NO. DOCUMENT NUMBER, WASHINGTON COUNTY SURVEY RECORDS
 - BK PG BOOK, PAGE, WASHINGTON COUNTY RECORDS



SEE MATCH LINE, SHEET 1

LAUREL WOODS NO. 8
A REPLAT OF PORTIONS OF LOTS 2-9, "RIVERSIDE ACRES",
LOCATED IN THE SE1/4 OF SECTION 3, T.1S., R.3W., W.M.,
CITY OF CORNELIUS, WASHINGTON COUNTY, OREGON
DATE: JANUARY 4, 2022

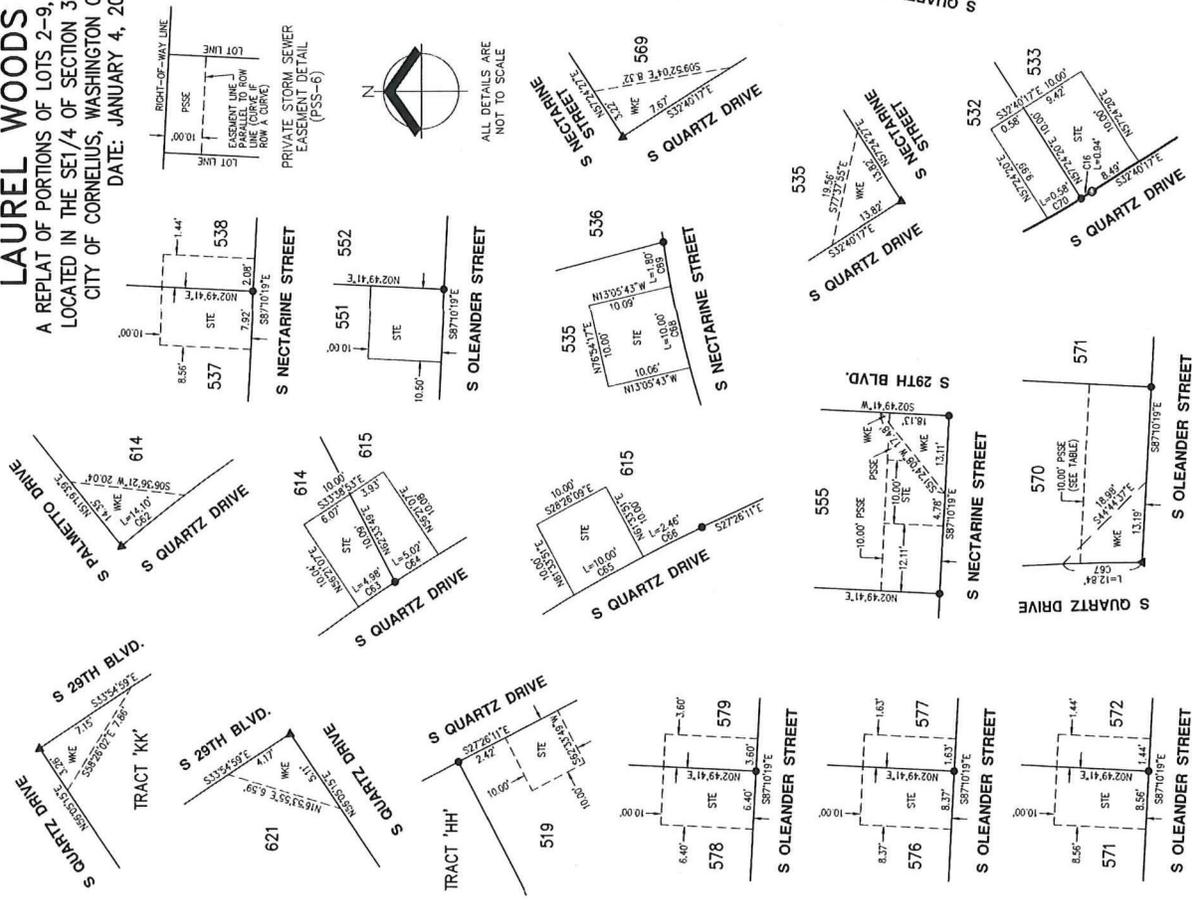
PLAT NOTES

- THIS PLAT IS SUBJECT TO THE CITY OF CORNELIUS CONDITIONS OF APPROVAL FOR LAUREL WOODS IMPOSED IN CASE FILE CUP/PUD-03-16 AND SUB-03-16.
- TRACT 'CC' IS A PUBLIC OPEN SPACE TRACT AND TRACT 'HH' IS A PUBLIC PARK TRACT. SAID TRACTS SHALL BE MAINTAINED BY THE CITY OF CORNELIUS AND ARE SUBJECT TO A PUBLIC PEDESTRIAN AND BICYCLE ACCESS EASEMENT OVER THEIR ENTIRETIES.
- TRACTS 'II' AND 'JJ' ARE UNSETTLED CORRIDOR TRACTS AND SHALL BE MAINTAINED BY THE CITY OF CORNELIUS AND ARE SUBJECT TO AN EASEMENT FOR STORM SEWER SURFACE WATER DRAINAGE AND DETENTION TO CLEAN WATER SERVICES OVER THEIR ENTIRETIES.
- TRACT 'KK' IS A STORM WATER FACILITY AND SHALL BE MAINTAINED BY THE CITY OF CORNELIUS AND IS SUBJECT TO AN EASEMENT FOR STORM SEWER SURFACE WATER DRAINAGE AND DETENTION TO CLEAN WATER SERVICES OVER ITS ENTIRETY.

LEGEND

- FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." PER "LAUREL WOODS NO. 5"
- 5/8" X 30" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION SET ON.
- ▲ 1-1/8" COPPER DISC INSCRIBED "AKS ENGR. TO BE SET DURING REMAINING MONUMENTATION SET ON.
- SITE
- ▭ PUBLIC STREET TREE EASEMENT
- ▭ PUBLIC SIDEWALK EASEMENT
- ▭ PRIVATE STORM SEWER EASEMENT (SEE LOT TABLE ON THIS SHEET FOR BURDENED AND BENEFITED LOTS)
- ▭ RIGHT-OF-WAY

PRIVATE STORM SEWER EASEMENT BURDENED LOT	BENEFITED LOT
536, 536	537
538	539
540	541
542	543
544	545
546	547
548	549
550	551
553	552
555	544
556	567
569	568
570	571
581	584
585	586
588	587
590	589
592	591
594	593
596	595



EASEMENT DETAIL CURVE DATA

CURVE	RADIUS	DELTA	LENGTH	CHORD
C62	425.00'	154.03°	14.10'	S339°01'E 14.10'
C63	425.00'	04°01'8"	4.98'	S33°45'52"E 4.98'
C64	425.00'	0°40'55"	5.02'	S33°04'58"E 5.02'
C65	425.00'	1°29'53"	10.00'	S28°26'32"E 10.00'
C66	425.00'	0°19'55"	2.46'	S27°46'00"E 2.46'
C67	125.00'	24°22'27"	12.84'	S00°51'33"E 12.84'
C68	125.00'	4°25'06"	10.00'	N77°02'00"E 10.00'
C69	125.00'	0°48'33"	1.80'	N79°47'43"E 1.80'
C70	178.00'	0°11'03"	0.58'	S32°16'49"E 0.58'
C71	125.00'	2°33'48"	10.00'	S05°25'06"E 10.00'
C72	125.00'	6°15'55"	24.67'	S01°01'15"E 24.67'

REGISTERED PROFESSIONAL LAND SURVEYOR
Blayne D. Paul
OREGON
JANUARY 4, 1995
GARY E. PAUL
2698
RENEW 12/31/2022

AKS
AKS ENGINEERING & FORESTRY, LLC
1000 SW 10TH AVE, STE 100
TUALA, OR 97064
503.583.6151
WWW.AKS-ENG.COM

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

PREPARED FOR
LAURELWOOD DEVELOPMENT, LLC
P.O. BOX 61426
VANCOUVER, WA 98666

JOB NAME: LAUREL WDS PHSD
JOB NUMBER: 4636
DRAWN BY: GEP
CHECKED BY: MSK
DRAWING NO.: 4636PHSD-PL1

LAUREL WOODS NO. 8
A REPLAT OF PORTIONS OF LOTS 2-9, "RIVERSIDE ACRES",
LOCATED IN THE SE1/4 OF SECTION 3, T.1S., R.3W., W.M.,
CITY OF CORNELIUS, WASHINGTON COUNTY, OREGON
DATE: JANUARY 4, 2022

SURVEYOR'S CERTIFICATE

I, GARY E. PAUL, HEREBY CERTIFY THAT I HAVE CORRECTLY SURVEYED AND MARKED WITH PROPER MONUMENTS, THE LANDS REPRESENTED ON THE ANNECED MAP OF "LAUREL WOODS NO. 8", SITUATED IN THE SOUTHEAST ONE-QUARTER OF SECTION 3, TOWNSHIP 1 SOUTH, RANGE 3 WEST, WILLAMETTE MERIDIAN, CITY OF CORNELIUS, WASHINGTON COUNTY, OREGON, THAT AT THE INITIAL POINT OF SAID SURVEY POINT 179.9 CHORD BEARS SOUTH 87°10'19" EAST, 58.00 FEET TO THE POINT OF BEGINNING OF SAID SURVEY. SAID INITIAL POINT BEING THE SOUTHWEST CORNER OF LOT 24, LAUREL WOODS NO. 8, AS SHOWN ON THE SAID ANNECED MAP. SAID SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE PROVISIONS OF O.R.S. CHAPTER 92, ALL RIGHTS AND TRACTS BEING OF THE JURISDICTION OF THE UNITED STATES GOVERNMENT, AND ALL STREETS AND EASEMENTS OF THE MOUTH THEREON SET FORTH, AND DOES HEREBY DEDICATE TO THE PUBLIC AS PUBLIC WAYS ALL RIGHTS OF WAY AS SHOWN, AND DOES HEREBY GRANT ALL EASEMENTS AS SHOWN OR NOTED ON SAID PLAT.

LAURELWOOD DEVELOPMENT, LLC,
AN OREGON LIMITED LIABILITY COMPANY
BY: HOLT GROUP HOLDINGS, LLC,
ITS SALES MANAGER
BY: GREG KUBICEK, MANAGER

CURVE	RADIUS	DELTA	LENGTH	CHORD
C1	13.50	90.000°	21.207	54.749417W 19.097
C2	271.00	2220.48°	105.730	522.44132E 105.037
C3	225.00	81.130°	32.287	86.516013E 32.285
C4	175.00	77.729°	22.277	50.53352W 22.278
C5	175.00	144.472°	46.207	82.516417W 46.077
C6	250.00	38.384°	18.627	51.702547E 18.625
C7	250.00	429.642°	19.397	50.811507W 19.397
C8	200.00	32.932°	18.837	51.635150E 18.834
C9	400.00	10.980°	10.659	53.501017E 10.654
C10	200.00	87.953°	33.676	57.942821E 33.673
C11	200.00	117.732°	39.397	58.148497E 39.397
C12	100.00	35.251°	6.182	17.570704E 6.184
C13	200.00	41.302°	14.486	18.724407E 14.177
C14	200.00	38.444°	19.496	51.523271E 19.164
C15	175.00	14.911°	45.261	52.597431E 45.144
C16	175.00	01.756°	0.94	53.210197E 0.931
C17	125.00	22.460°	4.974	10.854297E 4.947
C18	125.00	924.59°	20.54	10.845202E 20.52
C19	125.00	312.07°	6.997	5.884674E 6.997
C20	75.00	35.201°	46.367	57.927047W 46.437
C21	275.00	12.953°	0.127	5.871270E 0.114
C22	275.00	207.333°	0.784	5.894231E 0.732
C23	175.00	574.297°	17.037	50.777567W 17.027
C24	175.00	302.342°	32.884	50.021009E 31.795
C25	175.00	170.117°	51.987	53.403327E 51.793
C26	225.00	81.734°	45.287	10.826287E 45.189
C27	225.00	87.919°	33.867	10.879251E 33.843
C28	225.00	87.919°	33.867	10.879251E 33.843
C29	225.00	107.153°	40.407	10.850194E 40.317
C30	225.00	279.164°	10.237	5.885262E 10.222
C31	175.00	1974.58°	59.797	58.379127W 59.592
C32	175.00	2279.04°	67.967	58.277177W 67.844
C33	425.00	67.965°	49.859	53.945441E 49.844
C34	425.00	559.05°	44.397	53.025147E 44.337
C35	175.00	741.52°	23.517	53.017072E 23.419
C36	175.00	274.207°	83.707	54.852012E 82.911
C37	175.00	274.167°	83.707	57.613171E 82.911
C38	175.00	274.207°	83.717	10.720106E 82.911
C39	175.00	633.467°	20.047	10.892202E 20.033
C40	337.00	137.177°	78.167	10.716217W 77.987
C41	337.00	659.337°	41.114	10.707544W 41.117
C42	337.00	857.497°	40.967	10.070107W 40.937
C43	337.00	929.237°	55.897	10.135117W 55.817
C44	225.00	205.519°	82.167	5.862325W 81.707
C45	225.00	339.145°	14.387	5.783526W 14.387
C46	225.00	1447.54°	58.097	5.880406W 57.933
C47	225.00	1447.55°	58.097	10.730197W 57.933
C48	225.00	1447.54°	58.097	10.730197W 57.933
C49	225.00	1405.06°	55.317	10.734247W 55.317
C50	225.00	1329.397°	52.737	10.402010W 52.617
C51	375.00	845.267°	63.867	10.376544W 63.787
C52	375.00	922.347°	58.187	10.395544W 58.117
C53	225.00	124.922°	53.887	10.542307W 53.716
C54	225.00	1430.01°	55.247	10.714848W 55.107
C55	225.00	1430.01°	55.247	10.714848W 55.107
C56	225.00	1107.58°	43.727	10.451172E 43.657

ACKNOWLEDGMENT

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS 23RD DAY OF JANUARY 2022 BY GARY E. PAUL, MANAGER OF LAURELWOOD DEVELOPMENT, LLC, AN OREGON LIMITED LIABILITY COMPANY, THE MANAGER OF LAURELWOOD DEVELOPMENT, LLC, AN OREGON LIMITED LIABILITY COMPANY.

NOTARY SIGNATURE: *Gary E. Paul*
NOTARY PUBLIC - OREGON (PRINTED)
COMMISSION NO. 977021
MY COMMISSION EXPIRES July 17, 2022

DECLARATION

KNOW ALL PERSONS BY THESE PRESENTS THAT LAURELWOOD DEVELOPMENT, LLC, AN OREGON LIMITED LIABILITY COMPANY, IS THE OWNER OF THE LAND SHOWN ON THE ANNECED MAP AND AS DESCRIBED IN THE ACCOMPANYING SURVEYOR'S CERTIFICATE, AND SAID LANDS ARE BEING OFFERED TO THE PUBLIC AS PUBLIC WAYS AND TRACTS BEING OF THE JURISDICTION OF THE UNITED STATES GOVERNMENT, AND ALL STREETS AND EASEMENTS OF THE MOUTH THEREON SET FORTH, AND DOES HEREBY DEDICATE TO THE PUBLIC AS PUBLIC WAYS ALL RIGHTS OF WAY AS SHOWN, AND DOES HEREBY GRANT ALL EASEMENTS AS SHOWN OR NOTED ON SAID PLAT.

LAURELWOOD DEVELOPMENT, LLC,
AN OREGON LIMITED LIABILITY COMPANY
BY: HOLT GROUP HOLDINGS, LLC,
ITS SALES MANAGER
BY: GREG KUBICEK, MANAGER

CONSENT AFFIDAVIT

A SUBDIVISION PLAT CONSISTENT AFFIDAVIT FROM WESTERN ALLIANCE BANK, AN OREGON BANK, HAS BEEN FILED FOR RECORD IN WASHINGTON COUNTY RECORDS, HAS BEEN RECORDED AS DOCUMENT NO. 2022-014284, WASHINGTON COUNTY RECORDS.

PREPARED FOR

LAURELWOOD DEVELOPMENT, LLC
P.O. BOX 61426
VANCOUVER, WA 98666

REGISTERED PROFESSIONAL LAND SURVEYOR

GARY E. PAUL
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 2698

AKS

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD., STE 100
TUALATIN, OR 97062
503.863.6151
WWW.AKS-ENG.COM

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

JOB NAME: LAUREL WOODS PHASE
JOB NUMBER: 4835
DRAWN BY: GEP
CHECKED BY: MSK
DRAWING NO.: 4835P-08 PLT

REVISION 12/21/2022

REGISTERED PROFESSIONAL LAND SURVEYOR
JANUARY 17, 1995
GARY E. PAUL
2698

LAUREL WOODS NO. 8

A REPLAT OF PORTIONS OF LOTS 2-9, "RIVERSIDE ACRES",
LOCATED IN THE SE1/4 OF SECTION 3, T.1S., R.3W., W.M.,
CITY OF CORNELIUS, WASHINGTON COUNTY, OREGON
DATE: JANUARY 4, 2022

RECORDED AS DOCUMENT NO. 2022-014284
SHEET 8 OF 8

APPROVALS

APPROVED THIS 20th DAY OF DECEMBER, 2011
CITY OF CORNELIUS PLANNING COMMISSION

BY: [Signature]

APPROVED THIS 15th DAY OF FEBRUARY, 2022
CITY OF CORNELIUS, COMMUNITY DEVELOPMENT DIRECTOR

BY: [Signature]

APPROVED THIS 25th DAY OF FEBRUARY, 2022
WASHINGTON COUNTY SURVEYOR

BY: [Signature]

APPROVED THIS 25th DAY OF FEBRUARY, 2022
WASHINGTON COUNTY BOARD OF COMMISSIONERS

BY: [Signature]

ALL TAXES, FEES, ASSESSMENTS OR OTHER CHARGES AS
PROVIDED BY ORS 92.095 HAVE BEEN PAID AS OF THIS
25th DAY OF FEBRUARY, 2022.

DIRECTOR OF ASSESSMENT AND TAXATION
(WASHINGTON COUNTY ASSESSOR)

BY: [Signature]

ATTEST THIS 25 DAY OF FEBRUARY, 2022
DIRECTOR OF ASSESSMENT AND TAXATION
EX-OFFICIO COUNTY CLERK

BY: [Signature]
DEPUTY

STATE OF OREGON }
COUNTY OF WASHINGTON } SS

I DO HEREBY CERTIFY THAT THIS SUBDIVISION PLAT WAS RECEIVED FOR
RECORD ON THIS 25 DAY OF FEBRUARY, 2022
AT 2:40 O'CLOCK, P. AND RECORDED IN THE COUNTY CLERK
RECORDS.

DEPUTY COUNTY CLERK

REGISTERED
PLANNING
LAND SURVEYOR
[Signature]
OREGON 1985
JANUARY 17, 1985
GARY A. HULL
2558
RENEW 12/27/2022

PREPARED FOR
LAURELWOOD DEVELOPMENT, LLC
P.O. BOX 61426
VANCOUVER, WA 98686

REMAINING CORNER MONUMENTATION
IN ACCORDANCE WITH ORS 92.070, THE REMAINING CORNERS OF THIS SUBDIVISION HAVE
BEEN CORRECTLY SET AND MONUMENTED. THIS DOCUMENT IS HEREBY PREPARED
REGARDING THE SETTING OF SAID MONUMENTS AND IS RECORDED IN DOCUMENT
NO. _____, WASHINGTON COUNTY RECORDS.

APPROVED THIS _____ DAY OF _____

WASHINGTON COUNTY SURVEYOR

JOB NAME:	LAUREL WDS PH5B
JOB NUMBER:	4636
DRAWN BY:	GEP
CHECKED BY:	MSK
DRAWING NO.:	4636PH5B-PLT

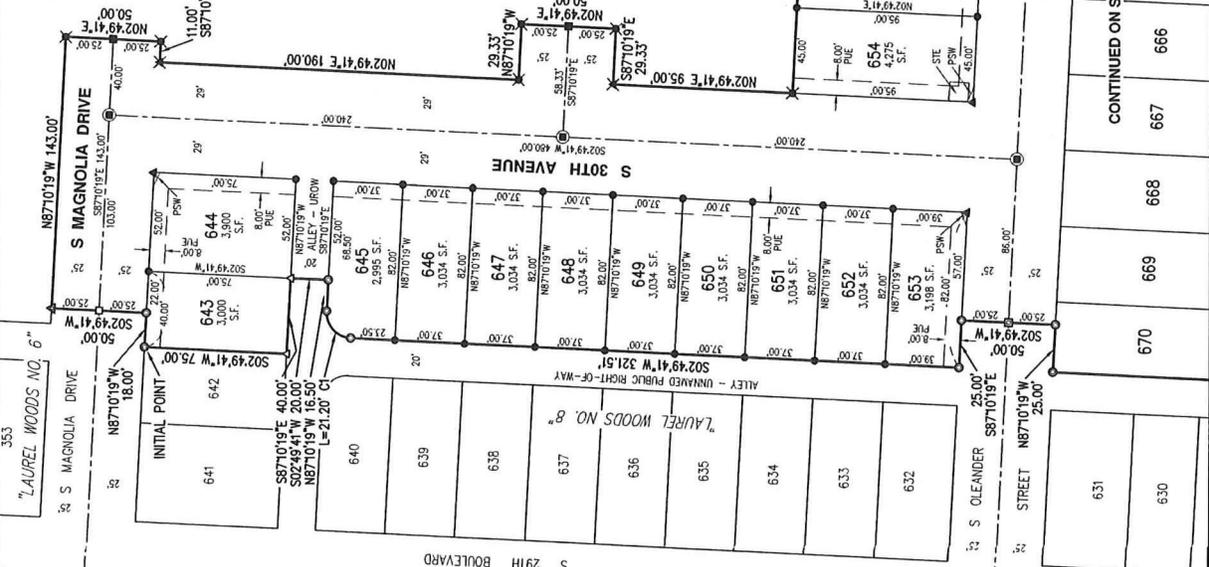
AKS ENGINEERING & FORESTRY, LLC
7045 SW BEAMAN RD, STE 100
TIGARD, OR 97082
503.583.9151
WWW.AKS-ENG.COM

AKS

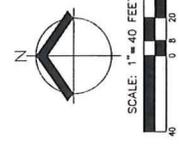
ENGINEERING - SURVEYING - NATURAL RESOURCES
FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

LAUREL WOODS NO. 9

A REPLAT OF PORTIONS OF LOTS 6-10, "RIVERSIDE ACRES",
LOCATED IN THE SE1/4 OF SECTION 3, T.1S., R.3W., W.M.,
CITY OF CORNELIUS, WASHINGTON COUNTY, OREGON
DATE: APRIL 20, 2023



- LEGEND**
- FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." PER "LAUREL WOODS NO. 8" UNLESS OTHERWISE NOTED
 - ▲ FOUND 1-1/8" COPPER DISC INSCRIBED "AKS ENGR." PER "LAUREL WOODS NO. 6"
 - ▲ FOUND 1-1/8" COPPER DISC INSCRIBED "AKS ENGR." PER "LAUREL WOODS NO. 8"
 - ▲ FOUND 5/8" X 3/8" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR."
 - ▲ SET 1-1/8" COPPER DISC INSCRIBED "AKS ENGR."
 - SET 5/8" X 3/8" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION
 - SET 1-1/8" COPPER DISC INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION
 - SET 5/8" X 3/8" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." IN A MONUMENT BOX TO BE SET DURING REMAINING MONUMENTATION
 - SET ON 5/8" X 3/8" IRON ROD WITH 2" ALUMINUM CAP INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION
 - ▲ SET ON 1-1/8" COPPER DISC INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION
 - SQUARE FEET
 - PUE PUBLIC UTILITY EASEMENT
 - PSW PUBLIC SIDEWALK EASEMENT, SEE DETAILS ON SHEET 5
 - SITE PUBLIC STREET TREE EASEMENT, SEE DETAILS ON SHEET 5
 - SITE-T SITE TYPICAL, SEE DETAIL ON SHEET 5
 - UR-OW UNNAMED PUBLIC RIGHT-OF-WAY
 - DOC. NO. DOCUMENT NUMBER, WASHINGTON COUNTY RECORDS



SHEET 2 CURVE DATA

CI	CURVE RADIUS	DELTA	LENGTH	CHORD
1	13.50'	90°00'00"	21.20'	57'49'41" W 19.09'



PREPARED FOR
LAURELWOOD DEVELOPMENT, LLC
P.O. BOX 61426
VANCOUVER, WA 98666

JOB NAME:	LAUREL WOODS
JOB NUMBER:	4636
DRAWN BY:	GEP
CHECKED BY:	MSK
DRAWING NO.:	4636PH9 PLAT

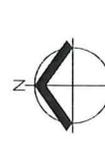
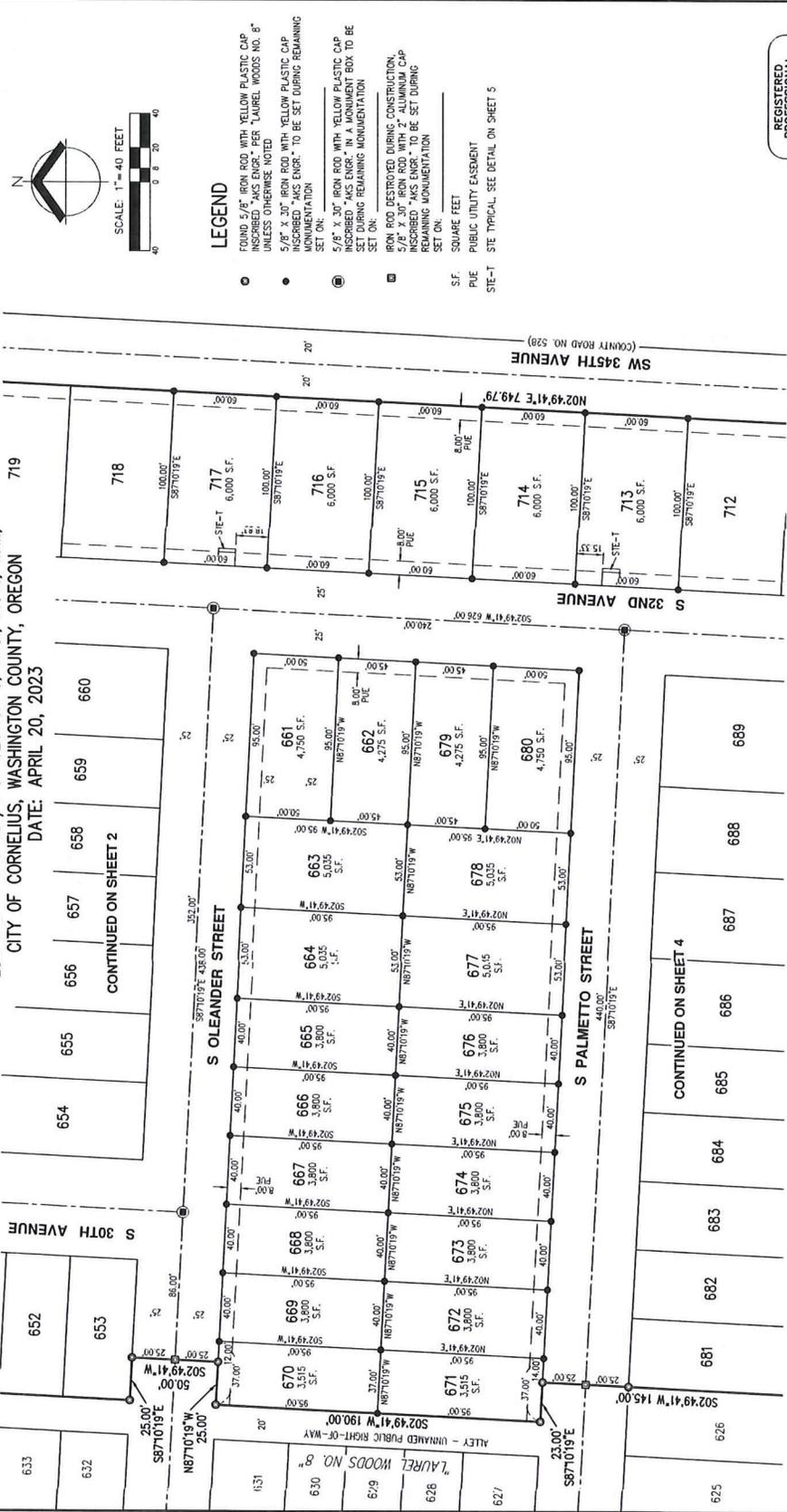
AKS ENGINEERING & FORESTRY, LLC
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ENGINEERING - SURVEYING - NATURAL RESOURCES
FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

RECORDED AS DOCUMENT NO. 2023 022912
SHEET 3 OF 6

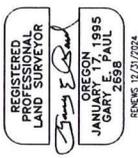
LAUREL WOODS NO. 9

A REPLAT OF PORTIONS OF LOTS 6-10, "RIVERSIDE ACRES",
LOCATED IN THE SE1/4 OF SECTION 3, T.1S., R.3W., W.M.,
CITY OF CORNELIUS, WASHINGTON COUNTY, OREGON
DATE: APRIL 20, 2023



LEGEND

- FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP INScribed "AKS ENGR." UNLESS OTHERWISE NOTED.
- 5/8" X 30" IRON ROD WITH YELLOW PLASTIC CAP INScribed "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION.
- SET ON: 5/8" X 30" IRON ROD WITH YELLOW PLASTIC CAP INScribed "AKS ENGR." IN A MONUMENT BOX TO BE SET DURING REMAINING MONUMENTATION.
- IRON ROD DESTROYED DURING CONSTRUCTION, 5/8" X 30" IRON ROD WITH 2" ALUMINUM CAP TO BE SET DURING REMAINING MONUMENTATION.
- SQUARE FEET
- PUBLIC UTILITY EASEMENT
- SITE-T SITE TYPICAL. SEE DETAIL ON SHEET 5



PREPARED FOR
LAURELWOOD DEVELOPMENT, LLC
P.O. BOX 81426
VANCOUVER, WA 98666

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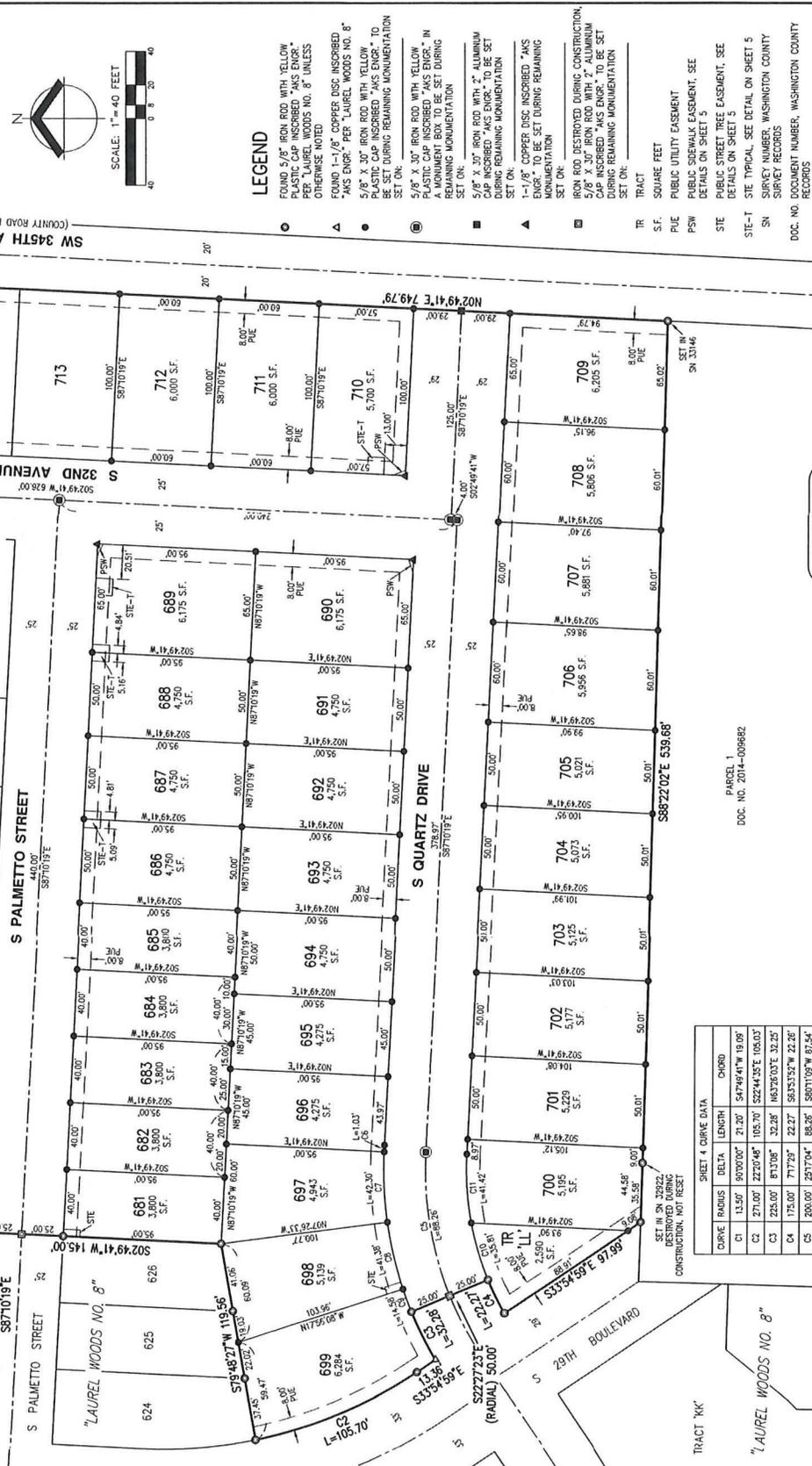
ENGINEERING - SURVEYING - NATURAL RESOURCES
FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

JOB NAME: LAUREL WOODS
JOB NUMBER: 46326
DRAWN BY: GEP
CHECKED BY: MSK
DRAWING NO.: 46326P49 PLAT

LAUREL WOODS NO. 9
A REPLAT OF PORTIONS OF LOTS 6-10, "RIVERSIDE ACRES",
LOCATED IN THE SE1/4 OF SECTION 3, T.1S., R.3W., W.M.,
CITY OF CORNELIUS, WASHINGTON COUNTY, OREGON
DATE: APRIL 20, 2023

CONTINUED ON SHEET 3

627 671 672 673 674



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

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JANUARY 17, 1995
GARY J. IZARD
RENS: 12,171,2824

PREPARED FOR
LAURELWOOD DEVELOPMENT, LLC
VANCOUVER, WA 98666

JOB NAME: LAUREL WOODS
JOB NUMBER: 4636
DRAWN BY: GEP
CHECKED BY: MSK
DRAWING NO.: 4636PH9 PLAT

LEGEND
FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." PER "LAUREL WOODS NO. 8" UNLESS OTHERWISE NOTED
FOUND 1-1/8" COPPER DISC INSCRIBED "AKS ENGR." PER "LAUREL WOODS NO. 8"
5/8" X 30" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION SET ON.
5/8" X 30" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." IN A MONUMENT BOX TO BE SET DURING REMAINING MONUMENTATION SET ON.
5/8" X 30" IRON ROD WITH "C" ALUMINUM CAP INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION SET ON.
1-1/8" COPPER DISC INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION SET ON.
IRON ROD DESTROYED DURING CONSTRUCTION. CAP INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION SET ON.
TRACT
S.F. SQUARE FEET
PUE PUBLIC UTILITY EASEMENT
PSW PUBLIC SIDEWALK EASEMENT. SEE DETAILS ON SHEET 5
SITE PUBLIC STREET TREE EASEMENT. SEE DETAILS ON SHEET 5
SITE-T SITE TYPICAL. SEE DETAIL ON SHEET 5
SN SURVEY NUMBER, WASHINGTON COUNTY SURVEY RECORDS
DOC. NO. DOCUMENT NUMBER, WASHINGTON COUNTY RECORDS

SHEET 4 CURVE DATA

CURVE	RADIUS	DELTA	LENGTH	CHORD
C1	13.50'	90.0000°	21.00'	54.749417W 19.00'
C2	271.00'	22.2048°	105.70'	522.4435E 105.03'
C3	225.00'	17.308°	32.26'	163.3930E 32.25'
C4	175.00'	71.725°	22.27'	58.3332W 22.26'
C5	200.00'	25.7704°	88.26'	58.01109W 87.54'
C6	225.00'	0.1547°	1.03'	18.7174E 1.03'
C7	225.00'	19.4613°	42.30'	57.7116W 42.34'
C8	225.00'	10.3213°	41.38'	57.63200W 41.32'
C9	225.00'	3.7424°	14.58'	58.92103W 14.58'
C10	175.00'	11.4320°	35.81'	18.73422E 35.75'
C11	175.00'	13.3335°	41.42'	18.50235E 41.32'

SET IN ON 2023
DESTROYED DURING
CONSTRUCTION, NOT RESET

RECORDED AS DOCUMENT NO. **2073 022982**

SHEET 5 OF 6

LAUREL WOODS NO. 9

A REPLAT OF PORTIONS OF LOTS 6-10, "RIVERSIDE ACRES",
 LOCATED IN THE SE 1/4 OF SECTION 3, T.1S., R.3W., W.M.,
 CITY OF CORNELIUS, WASHINGTON COUNTY, OREGON
 DATE: APRIL 20, 2023

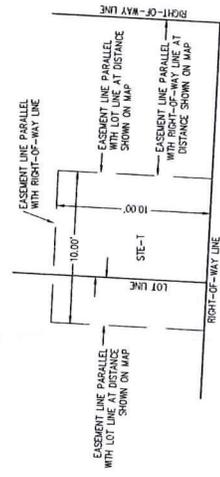
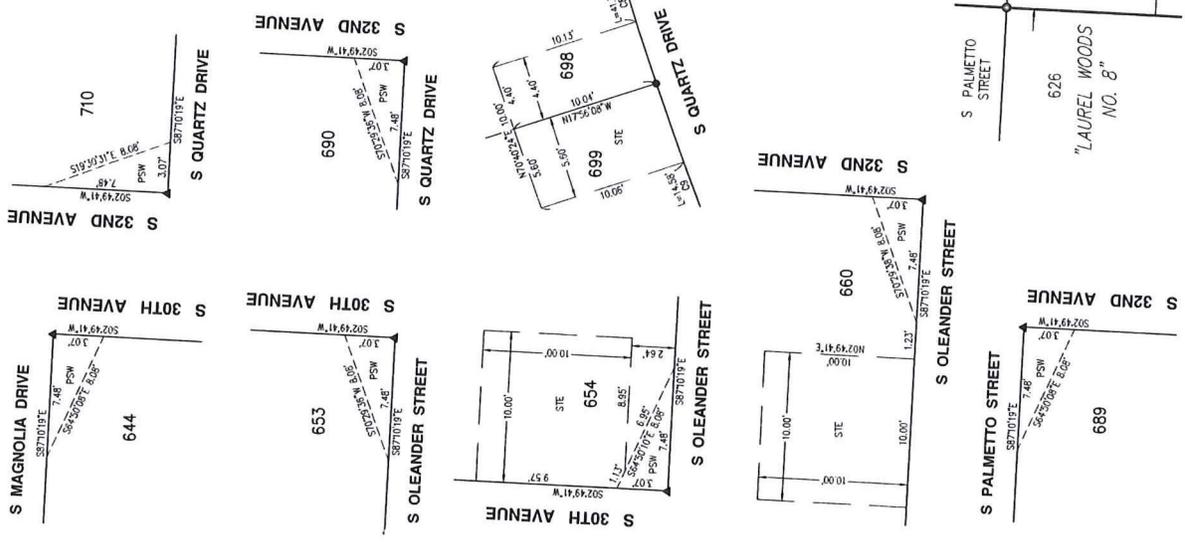


ALL DETAILS ARE
 NOT TO SCALE

LEGEND

- FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." PER "LAUREL WOODS NO. 8" UNLESS OTHERWISE NOTED
- 5/8" X 30" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION
- ▲ 1-1/8" COPPER DISC INSCRIBED "AKS ENGR." TO BE SET DURING REMAINING MONUMENTATION
- SITE
- STE-T PUBLIC STREET TREE EASEMENT - TYPICAL, SEE DETAIL
- PSW PUBLIC SIDEWALK EASEMENT

SHEET & CURVE DATA			
CURVE	RADIUS	DELTA	CHORD
CB	225.00'	103°21'31"	41.30'
CS	225.00'	3°42'47"	14.58'
			589°21'02"W 14.58'



10.00' PUBLIC STREET TREE EASEMENT - TYPICAL
 NOT TO SCALE

PLAT NOTES

1. THIS PLAT IS SUBJECT TO THE CITY OF CORNELIUS CONDITIONS OF APPROVAL FOR LAUREL WOODS IMPOSED IN CASE FILE CUP/PUD-03-16 AND SUB-03-16.
2. TRACT 'LL' IS A PUBLIC OPEN SPACE TRACT AND SHALL BE MAINTAINED BY THE CITY OF CORNELIUS AND IS SUBJECT TO A PUBLIC PEDESTRIAN AND BICYCLE ACCESS EASEMENT OVER ITS ENTIRETY.
3. THERE SHALL BE NO DIRECT MOTOR VEHICLE ACCESS TO OR FROM LOTS 710-719 ONTO SW 345TH AVENUE UNLESS AUTHORIZED BY THE COVERING BODY HAVING JURISDICTION OVER SAID ROAD.
4. THIS PLAT IS SUBJECT TO THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY EASEMENT RECORDED IN BOOK 131, PAGE 457, WASHINGTON COUNTY RECORDS. THE EASEMENT LIES WITHIN THE DEDICATED PUBLIC RIGHT-OF-WAY OF S MAGNOLIA DRIVE AND IS NOT SHOWN.



PREPARED FOR
 LAURELWOOD DEVELOPMENT, LLC
 P.O. BOX 6142Z
 VANCOUVER, WA 98666

AKS ENGINEERING & FORESTRY, LLC
 12965 SW HERMAN RD., STE 100
 TUALATIN, OR 97062
 503.553.6151
 WWW.AKS-ENG.COM

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

JOB NAME: LAUREL WOODS
 JOB NUMBER: 4636
 DRAWN BY: GEP
 CHECKED BY: MSK
 DRAWING NO.: 4636PHS_PLAT

LAUREL WOODS NO. 9
 A REPLAT OF PORTIONS OF LOTS 6-10, "RIVERSIDE ACRES",
 LOCATED IN THE SE1/4 OF SECTION 3, T.1S., R.3W., W.M.,
 CITY OF CORNELIUS, WASHINGTON COUNTY, OREGON
 DATE: APRIL 20, 2023

DECLARATION
 KNOW ALL PERSONS BY THESE PRESENTS THAT LAURELWOOD DEVELOPMENT, LLC, AN
 ORGANIZED LIMITED LIABILITY COMPANY, IS THE OWNER OF THE LAND SHOWN ON THE
 ATTACHED MAP, UNLESS OTHERWISE INDICATED THEREON. THE CITY OF CORNELIUS
 HAS CAUSED THE SAME TO BE SURVEYED AND PLATTED IN ACCORDANCE WITH THE
 PROVISIONS OF O.R.S. CHAPTER 92, ALL LOTS AND TRACTS BEING OF THE DIMENSIONS
 SHOWN AND ALL RIGHTS-OF-WAY AND EASEMENTS OF THE WIDTHS THEREON SET FORTH,
 AND DOES HEREBY DEDICATE TO THE PUBLIC AS PUBLIC WAYS ALL RIGHTS OF WAY AS
 SHOWN, AND DOES HEREBY GRANT ALL EASEMENTS AS SHOWN OR NOTED ON SAID PLAT.

LAURELWOOD DEVELOPMENT, LLC,
 AN OREGON LIMITED LIABILITY COMPANY
 BY: [Signature]
 ITS SOLE MEMBER
 BY: GREG H. KUBICEK, AUTHORIZED SIGNER

ACKNOWLEDGMENT
 STATE OF OREGON }
 COUNTY OF Washington }

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS 15 DAY OF May, 2023
 BY GREG H. KUBICEK AS AUTHORIZED SIGNER OF HOLT GROUP HOLDINGS, LLC, A DELAWARE LIMITED LIABILITY
 COMPANY, THE SOLE MEMBER OF LAURELWOOD DEVELOPMENT, LLC, AN OREGON LIMITED LIABILITY COMPANY.

NOTARY PUBLIC - OREGON (PRINTED)
[Signature]
 COMMISSION NO. 1026465
 MY COMMISSION EXPIRES July 16, 2026

APPROVALS
 APPROVED THIS 21st DAY OF May, 2023
 CITY OF CORNELIUS PLANNING COMMISSION

BY: [Signature]
 APPROVED THIS 21st DAY OF May, 2023
 CITY OF CORNELIUS COMMUNITY DEVELOPMENT DIRECTOR

BY: [Signature]
 APPROVED THIS 6th DAY OF June, 2023
 WASHINGTON COUNTY SURVEYOR

BY: [Signature]
 APPROVED THIS 6th DAY OF June, 2023
 WASHINGTON COUNTY BOARD OF COMMISSIONERS

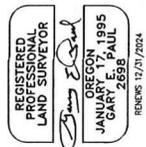
BY: [Signature]
 ALL TAXES, FEES, ASSESSMENTS OR OTHER CHARGES AS
 PROVIDED BY ORS 92.095 HAVE BEEN PAID AS OF THIS
6th DAY OF June, 2023
 DIRECTOR OF ASSESSMENT AND TAXATION
 (WASHINGTON COUNTY ASSESSOR)

BY: [Signature]
 ATTEST THIS 6th DAY OF June, 2023
 DIRECTOR OF ASSESSMENT AND TAXATION
 EX-OFFICIO COUNTY CLERK

BY: [Signature]
 DEPUTY

STATE OF OREGON }
 COUNTY OF WASHINGTON }
 I DO HEREBY CERTIFY THAT THIS SUBDIVISION PLAT WAS RECEIVED FOR
 RECORD ON THIS 15 DAY OF June, 2023
 AT 1:10 O'CLOCK P.M. AND RECORDED IN THE COUNTY CLERK
 RECORDS.

BY: [Signature]
 DEPUTY COUNTY CLERK



PREPARED FOR
 LAURELWOOD DEVELOPMENT, LLC
 P.O. BOX 61426
 VANCOUVER, WA, 98666

JOB NAME:	LAUREL WOODS
JOB NUMBER:	4536
DRAWN BY:	GP
CHECKED BY:	MSK
DRAWING NO.:	4635PH8 PLAT

AKS
 AKS ENGINEERING & FORESTRY, LLC
 12965 SW HERMAN RD, STE 100
 VANCOUVER, OR 97062
 503.563.6561
 WWW.AKS-ENG.COM

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

REMAINING CORNER MONUMENTATION
 IN ACCORDANCE WITH O.R.S. 92.010, THE EXISTING BENCHMARKS OF THIS SUBDIVISION HAVE
 BEEN CORRECTLY SET WITH THE PROPER MONUMENTS. AN AFFIDAVIT HAS BEEN PREPARED
 REGARDING THE SETTING OF SAID MONUMENTS AND IS RECORDED IN DOCUMENT
 NO. _____, WASHINGTON COUNTY RECORDS.

APPROVED THIS _____ DAY OF _____
 WASHINGTON COUNTY SURVEYOR



AKS ENGINEERING & FORESTRY
12965 SW Herman Road, Suite 100, Tualatin, OR 97062
P: (503) 563-6151 F: (503) 563-6152

AKS Job #5669

EXHIBIT A

City of Cornelius Annexation

A tract of land located in the Southeast One-Quarter of Section 3, Township 1 South, Range 3 West, Willamette Meridian, Washington County, Oregon, and being more particularly described as follows:

Beginning at the southeast corner of Lot 709 of the plat of "Laurel Woods No. 9" also being on the westerly right-of-way line of SW 345th Avenue (20.00 feet from centerline); thence along said westerly right-of-way line, South 02°49'41" West 593.39 feet to south line of said Section 3; thence along said south line, North 88°02'22" West 532.99 feet to the southeast corner of Tract 'JJ' of the Plat of "Laurel Woods No. 8", also being on the City of Cornelius City Limits line; thence along the easterly line of said Tract 'JJ' on said City Limits line, North 02°56'15" West 380.16 feet to an angle point; thence continuing along said easterly line and said City Limits line, North 01°43'06" East 211.26 feet to an angle point; thence along the south lines of the Plats of "Laurel Woods No. 8" and "Laurel Woods No. 9", and said City Limits line, South 88°22'02" East 575.33 feet to the Point of Beginning.

The above described tract of land contains 7.60 acres, more or less.

5/16/2024
REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JANUARY 12, 2016
MICHAEL S. KALINA
89558PLS
RENEWS: 6/30/25

ANNEXATION CERTIFIED

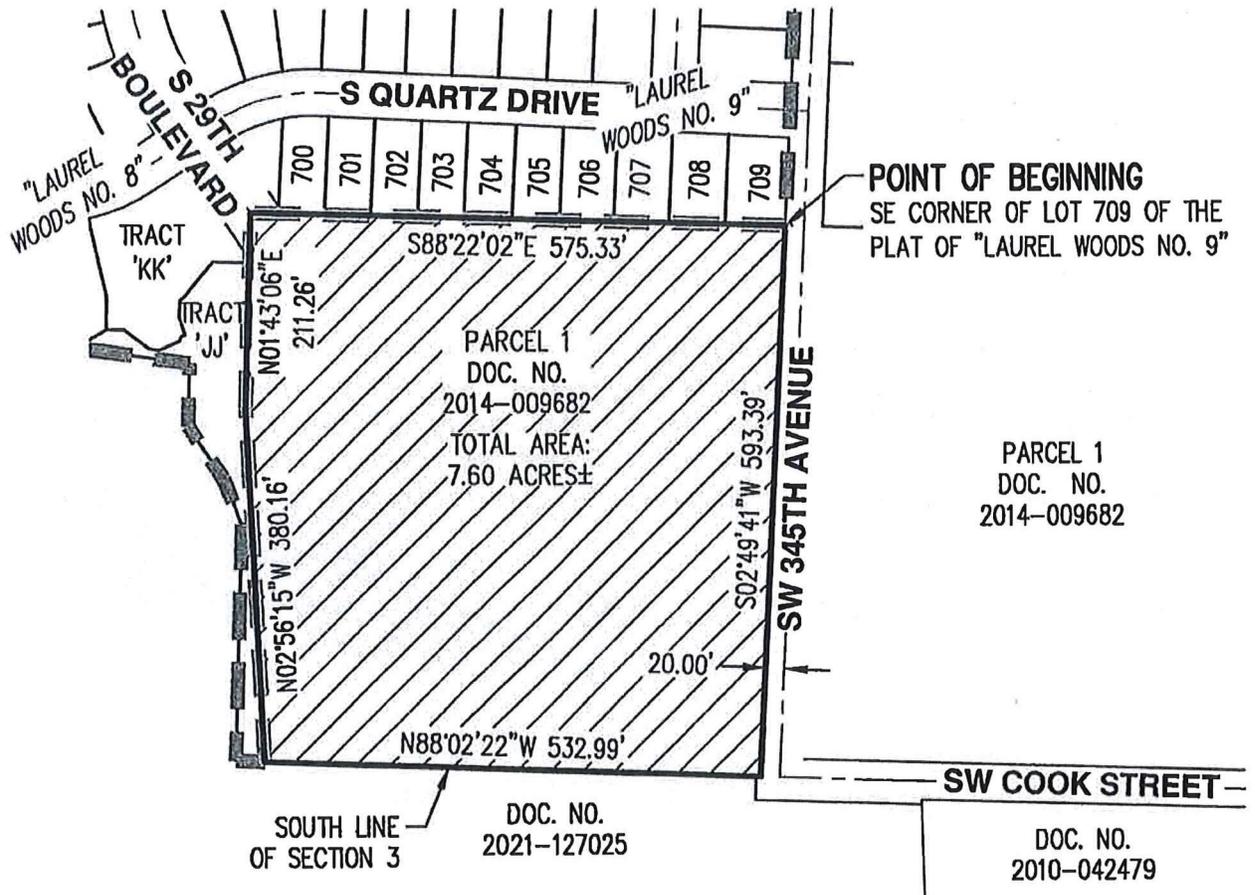
BY VF

MAY 30 2024

WASHINGTON COUNTY A & T
CARTOGRAPHY

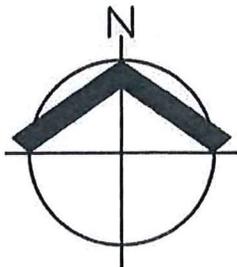
EXHIBIT B

A TRACT OF LAND LOCATED IN THE SOUTHEAST 1/4 OF SECTION 3,
TOWNSHIP 1 SOUTH, RANGE 3 WEST, WILLAMETTE MERIDIAN,
WASHINGTON COUNTY, OREGON

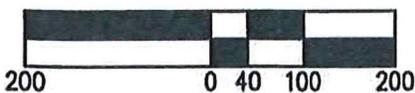


LEGEND

— CITY OF CORNELIUS CITY LIMITS LINE



SCALE: 1" = 200 FEET



5/16/2024
REGISTERED
PROFESSIONAL
LAND SURVEYOR

Michael S. Kalina

OREGON
JANUARY 12, 2016
MICHAEL S. KALINA
89558PLS
RENEWS: 6/30/25

ANNEXATION CERTIFIED

BY VF

MAY 30 2024

WASHINGTON COUNTY A & T
CARTOGRAPHY

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
503.563.6151 WWW.AKS-ENG.COM



CITY OF CORNELIUS
ANNEXATION

DATE:	
DRWN: KLH	CHKD: MSK
AKS JOB: 5669	EXHIBIT B



STATE OF OREGON)
)
COUNTY OF WASHINGTON)

AFFIDAVIT OF MAILING

I, FORBERA FRYER, being first duly sworn, depose and say:

That I served upon the persons shown on Exhibit A, attached hereto and by this reference incorporated herein, a copy of a Notice of City Council Decision, marked Exhibit B, attached hereto and by this reference incorporated herein, by mailing to them a true and correct copy of the original hereof. I further certify that said envelopes were prepared to receive postage by city staff and to be placed in the United States Mail at Cornelius, Oregon.

Dated this 17 day of June, 2024

[Signature]
Signature

SUBSCRIBED AND SWORN TO before me this 17 day of June, 2024.

Rachael Bateman
Notary Public for Oregon

My commission expires: May 5, 2026



Exhibit A

Company Name	Department	Name	Address Line 1	City	State	ZIP Code
City of Cornelius			1355 N Barlow St	Cornelius	OR	97113
City of Forest Grove		Attn: Kate McGuire, Senior Planner	PO Box 326	Forest Grove	OR	97116
City of Hillsboro			150 E Main St	Hillsboro	OR	97123
Clean Water Services		Attn: Jackie Humphreys	250 SW Hillsboro Hwy	Hillsboro	OR	97124
Comcast Cable Communications			11308 SW 68th Parkway	Tigard	OR	97223
Cornelius Rural Fire Protection Dist.			1355 N Barlow St	Cornelius	OR	97113
CPO 12C		c/o Joseph Auth	325 NW 334th Ave	Hillsboro	OR	97124
CPO Coordinators		Carol Renaud	155 N 1st Ave, Suite 370 M-S 20	Hillsboro	OR	97124
Department of Economic Development			775 Summer St, NE	Salem	OR	97301
Department of Energy			550 Capitol St NE FL 1	Salem	OR	97301
DEQ			700 NE Multnomah St Ste. 600	Portland	OR	97232
Dept of Land Conservation and Development		Attn: Laura Kelly	635 Capitol Street NE, Suite 15C	Salem	OR	97301
Dept of Land Use & Transportation	County Surveyors Office	Attn: Scott Young	155 N 1st Ave. Ste #350-15	Hillsboro	OR	97124
District 18 Watermaster			1400 SW Walnut St. #240, MS 49	Hillsboro	OR	97124
Evergreen Disposal & Recycling		Attn: Dawn Lucinio	PO Box 5069	Aloha	OR	97006
Forest Grove School District			1728 Main St	Forest Grove	OR	97116
Hillsboro School District		Attn: Saideh Haghughu Khochkhoh	4901 SE Witch Hazel RD	Hillsboro	OR	97123
Home Builders Association		Attn: Preston Korst	15555 SW Bangy Road Suite 301	Lake Oswego	OR	97035
METRO Parks		Attn: Will Duyck, President of the Board	600 NE Grand Ave	Portland	OR	97232
Metro Regional Services	Compliance Coordinator		600 NE Grand Ave.	Portland	OR	97232
Metro Regional Services	Senior Transportation Planner	Attn: Caleb Winter	600 NE Grand Ave.	Portland	OR	97232
NW Natural Gas Company		Attn: Ileene Hyatt	250 SW Taylor St.	Portland	OR	97204
Washington Service Center	NW Regional Education Services District		5825 NE Ray Cir	Hillsboro	OR	97124
ODOT Rail Division			555 13th St. NE Suite 3	Salem	OR	97301
ODOT Region 1	Development Review Program		123 NW Flanders	Portland	OR	97209
Oregon State Dept of Fish & Wildlife			4034 Fairview Industrial Dr SE	Salem	OR	97302
Oregon State Division of State Lands			775 Summer Street NE	Salem	OR	97301
Port of Portland			P.O. Box 3529	Portland	OR	97208
Portland & Western Railroad, Inc.			1200 Howard Dr SE	Albany	OR	97321
Portland General Electric		Attn: Grant Howell	121 SW Salmon St	Portland	OR	97204
Portland General Electric			121 SW Salmon St	Portland	OR	97204
Tri-Met			4012 SE 17th Ave	Portland	OR	97202
Tualatin Soil and Water Conservation District			7175 NE Evergreen Pkwy, #40C	Hillsboro	OR	97124
Tualatin Valley Irrigation Dist			2330 Elm St	Forest Grove	OR	97116
US Army Corps of Engineers			P.O. Box 2946	Portland	OR	97208
USPS		Attn: Post Master	1330 SW Walnut Street	Hillsboro	OR	97123
Washington County	Assessment and Taxation Dept.		155 N 1st Ave	Hillsboro	OR	97124
Washington County	Enhanced Sheriff's Patrol Dist.		215 SW Adams Ave., MS-32	Hillsboro	OR	97123
Washington County	Health & Human Services		155 N 1st Ave, Ste. 170 MS-23	Hillsboro	OR	97124
Washington County	Housing Authority		161 NW Adams Ave, Suite 2000 MS 63	Hillsboro	OR	97124
Washington County	Vector Control District		155 N 1st Ave, Ste. 170 MS-23	Hillsboro	OR	97124
Washington County Land Use & Transportation	Urban Road Maintenance District		1400 SW Walnut St. #241	Hillsboro	OR	97123
Washington County Land Use & Transportation	Planning Division	Attn: Paul Schaeffer, Sen or Planner	155 N 1st Ave. Ste#350 MS 14	Hillsboro	OR	97124
Washington County Land Use & Transportation	Planning & Development Services	Attn: Principal Planner	155 N 1st Ave. Ste. 350, MS 14	Hillsboro	OR	97124
WCCCA 9-1-1	Data Services	Attn: Ian Crawford	5900 NE Pinefarm Ct	Hillsboro	OR	97124
Ziply Fiber			4155 SW Cedar Hills Blvd	Beaverton	OR	97005
MCI Metro Access Transmission Services Corp	Undeliverable	Notice Return on 2/3/2024, 3/2/2024, 3/6/2024	2250 NE Alcielek Dr	Hillsboro	OR	97124

TLNO	OWNERNAME	OWNERADDR	OWNERADDR2	OWNERCITY	OWNERSTATE	OWNERZIP
1S303DD18700	LAURELWOOD DEVELOPMENT LLC	BY HOLT HOMES	1301 TECH CENTER DR STE 150	VANCOUVER	WA	98683
1S3100000890	ESTATE OF JOHN C BUCHANAN	JOHN CHARLES BUCHANAN GREENDALE	17751 NW LAKEWAY CT	BEAVERTON	OR	97005
1S303DD11100	RACHEL ELAINE SAVILLE	ELLIOT ROBERT HOLDMAN	2901 S PALMETTO ST	CORNELIUS	OR	97113
1S303DD21200	CITY OF CORNELIUS	BY CITY RECORDER	1355 N BARLOW ST	CORNELIUS	OR	97113
1S303DD00100	LAURA VANESSA HEAVEN	ZACHARY JAMES CHRONISTER	2877 S QUARTZ DR	CORNELIUS	OR	97113
1S303DD10900	JESSE EDWARD & HEATHER NOEL MONTANO	1725 S 29TH BLVD		FOREST GROVE	OR	97116
1S3110001100	FOUR BOYS LLC	40840 NW OSTERMAN RD		PORTLAND	OR	97232
1S303D000501	METRO	600 NE GRAND AVE		PORTLAND	OR	97232
1S303DD11200	MICHAEL GILBERT	MARSDEN, RACHEL	2911 S PALMETTO ST	CORNELIUS	OR	97113
1S302C000300	HERING FAMILY JOINT TRUST	BY DAVID D & KELLY M HERING TRS	34005 SW COOK RD	HILLSBORO	OR	97123
1S3110001101	WILLIAM E & BARBARA L DUYCK	3050 SW 331ST AVE		HILLSBORO	OR	97123
1S303DD10800	LOKESH TIGULLA	2896 S QUARTZ DR		CORNELIUS	OR	97113
1S302C000291	HERINCX FAMILY JOINT TRUST	BY RICHARD F HERINCX TR	1570 SW 345TH AVE	HILLSBORO	OR	97123
1S303DD11300	JENNIFER MAGUIRE	2923 S PALMETTO ST		CORNELIUS	OR	97113
1S303DD00200	RENEE LYNN SELDEN-ANDRADE	ISIDRO ANDRADE-TAFOLLA	2875 S QUARTZ DR	CORNELIUS	OR	97113
1S3100000100	COLUMBIA LAND TRUST	850 OFFICERS' ROW		VANCOUVER	WA	98661



Exhibit B

Notice Date: 06-17-2024

NOTICE IS HEREBY GIVEN that the Cornelius City Council is scheduled to adopt a decision on an application for an expedited annexation on Monday, **August 5, 2024 at 7:00 pm** in the City Council Chambers, 1355 N Barlow Street, Cornelius, Oregon. Instructions on how to participate using the Zoom Webinar platform are listed on the back page of this notice.

The expedited annexation request will be considered as part of the City Council’s Regular Agenda, without a public hearing, unless a written objection to the annexation is filed by a necessary party by 2:00 pm on August 2, 2024.

Case File No. AN-01-24

- Project Name:** Laurel Garden Annexation
- Applicant:** The Holt Group, INC
- Site Address:** No site address
- Legal Description:** Parcel 1 of Partition Plat No. 2024-014; Township 1 South, Range 3 West, Map 2C; that portion of Tax Lot 300 lying west of SW 345th Avenue
- Zone:** Washington County Future Development -20 Acre – FD-20
- Applicable Criteria:** Metro Urban Growth Management Functional Plan (Metro Code Section 3.09.045); Cornelius Comprehensive Plan Amendment Chapter 2, Policies 4(a)(1 through 3).

Comments: Necessary Parties, which include Clean Water Services, Cornelius Rural Fire District, Hillsboro School District 1J, NW Regional Education Service District, Metro, Urban Road Maintenance District, Vector Control District, Washington County, TriMet, NW Natural, PGE, Port of Portland, and Tualatin Valley Irrigation District, may submit a written objection to the annexation **BY August 2, 2024 at 2:00 PM**. If a written objection is not filed, the City Council may approve the annexation without a hearing or consideration of comments.

If a written objection is filed, it must describe the reason the necessary party is objecting to the annexation and how the annexation is inconsistent with applicable review criteria, including urban service area agreements.

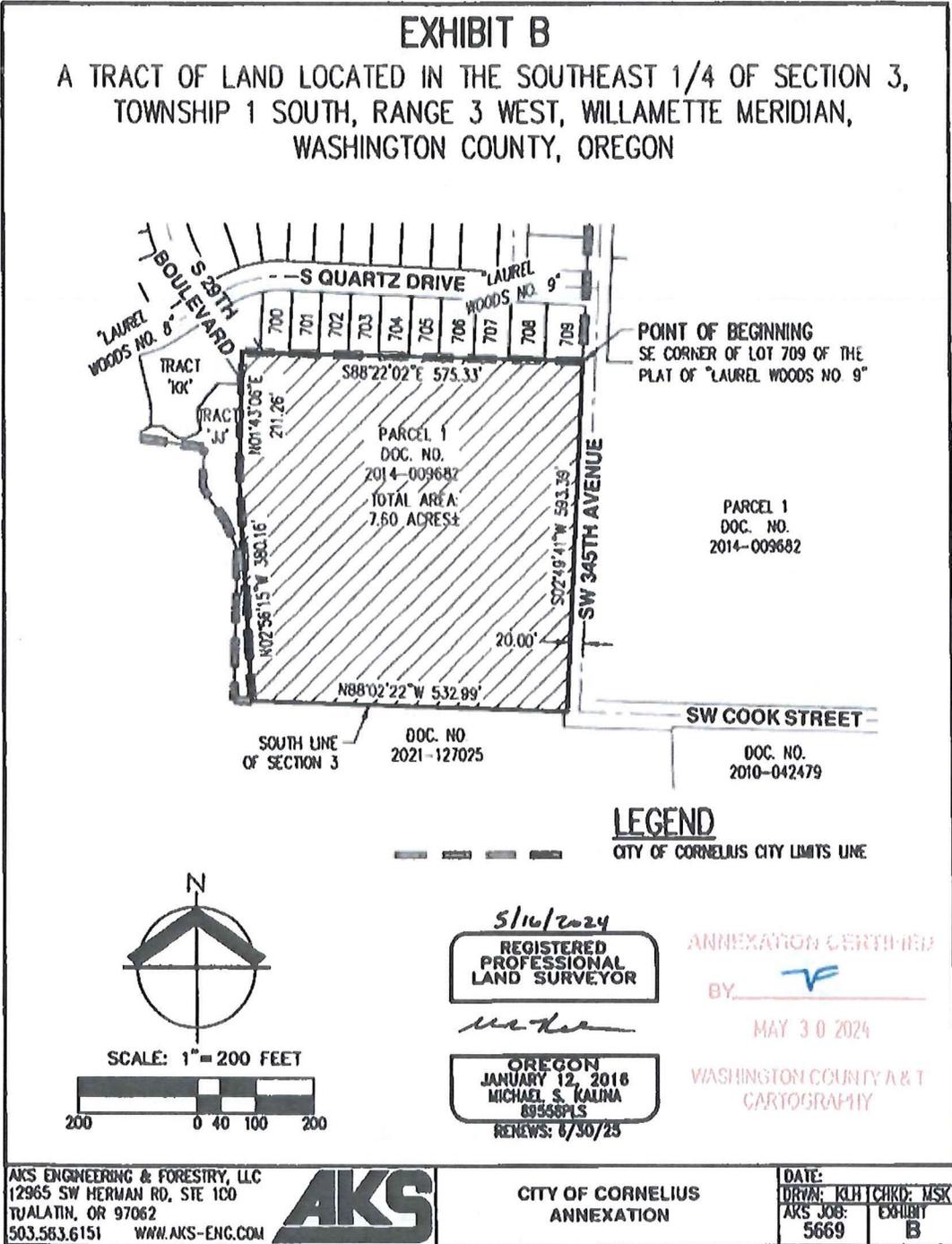
Written objections and comments may be submitted to Barbara Fryer, Community Development Director, by mail at 1355 North Barlow Street, Cornelius, OR 97113, or by email at barbara.fryer@corneliusor.gov.

Application Materials: The staff report and all application materials will be available on July 29, 2024, at the Cornelius Community Development Department 1300 S. Kodiak Circle and on the City of Cornelius Web page at <https://www.ci.cornelius.or.us>. Copies are available for purchase.

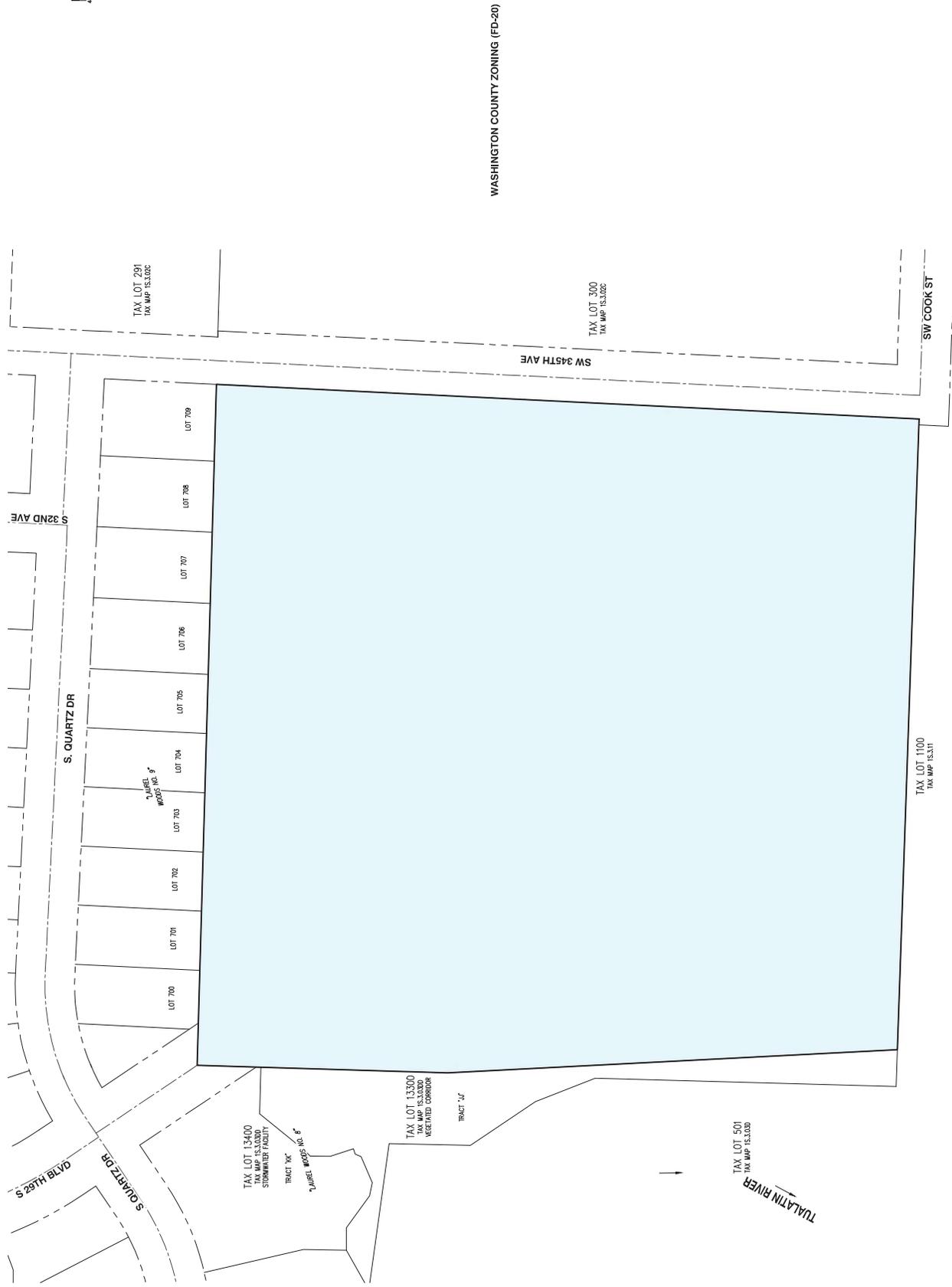
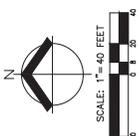
For more information on the application, contact: Barbara Fryer, Community Development Department Director, at 503 357 3011 or by email at Barbara.Fryer@corneliusor.gov.

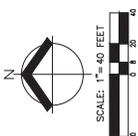
Join us

In-Person at the City Council Chambers at 1355 N Barlow Street;
 Virtually at [Zoom.us/Join Meeting ID: 834 7940 8874](https://zoom.us/join) and **Passcode: 215546**.
 You can also call in to listen to the meeting by dialing 1-253-215-8782.



Attachment 5: Existing and Proposed Zoning Maps





DENSITY CALCULATIONS

DISTRICT	GROSS AREA (SF)	GROSS AREA (ACRES)	NET AREA (ACRES)*	MAX. DENSITY (DU/ACRE)	MIN. DENSITY (DU/ACRE)	CALCULATED MAX DENSITY (UNITS)	CALCULATED MIN DENSITY (UNITS)
R-7	94,078	2.2	1.3	5	4	7	5
A-2	237,079	5.4	2.7	14	8	18	22
TOTAL	331,157	7.6	4.0			45	27

PLANNED # OF UNITS: 27
 DU/ACRE: 6.75

* ASSUMES CALCULATED NET AREA THAT EXCLUDES VEGETATED CORRIDOR, OPEN SPACE & RIGHT OF WAY AREA.

- █ SINGLE-FAMILY (R-7)
- █ MULTI-FAMILY (A-2)

Attachment 6: Fair Housing Council of Oregon Comment Letter



February 13, 2025

City of Central Cornelius Planning Commission

1355 N Barlow Street

Cornelius, OR 97113

RE: Zone change from Washington County FD-20 to City of Cornelius R-7 (low density residential) and A-2 (multi-unit residential) (ZC-01-24)

Dear Commission Members:

This letter is submitted jointly by Housing Land Advocates (HLA) and the Fair Housing Council of Oregon (FHCO). Both HLA and FHCO are non-profit organizations that advocate for land use policies and practices that ensure an adequate and appropriate supply of affordable housing for all Oregonians.

Both HLA and FHCO commend the City for their work on ZC-01-24. Planning staff created an insightful and detailed staff report which clearly showed how the proposed zone change will meet the City's acknowledged housing need. This will be used as a good example for other jurisdictions.

Thank you for your consideration of our comments.

Sincerely,

John Miller

A handwritten signature in black ink that reads "John Miller". The signature is written in a cursive, flowing style.

John Miller

Executive Director

Fair Housing Council of Oregon

Cc: Ethan Stuckmayer, DLCD

1221 SW Yamhill Street, Portland, Oregon 97205