

PLANNING COMMISSION

Meeting Agenda

Monday, January 8, 2018

7:00 PM

City Council Chambers – 222 NE 2nd Avenue

Commissioner John Savory (Chair)

Commissioner Larry Boatright (Vice Chair)

Commissioner John Serlet

Commissioner Derrick Mottern

Commissioner Tyler Hall

Commissioner Shawn Varwig

Commissioner Andrey Chernishov

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1. **CALL TO ORDER**
 - a. Invocation and Pledge of Allegiance
 - b. Chair & Vice-Chair Nominations
 2. **CITIZEN INPUT ON NON-AGENDA ITEMS**
 3. **MINUTES**
 - a. Approval of Planning Commission Minutes for December 11, 2017.
 4. **NEW BUSINESS**
 5. **PUBLIC HEARING**
 - a. Consider a request for an Annexation, Zone Map Amendment, and to adopt the South West Canby Development Concept Plan for seven different parcels located in the southwest portion of the City of Canby's Urban Growth Boundary in the vicinity of S Fir Street, west of Hope Village, and the west side of S Ivy Street, south of Hope Village. (**ANN 17-02/ZC 17-03 Southwest Canby/Stafford**).
 6. **FINAL DECISIONS**

(Note: These are final, written versions of previous oral decisions. No public testimony.)

 - a. Annexation, Zone Map Amendment, and to adopt the South West Canby Development Concept Plan for seven different parcels located in the southwest portion of the City of Canby's Urban Growth Boundary in the vicinity of S Fir Street, west of Hope Village, and the west side of S Ivy Street, south of Hope Village. (**ANN 17-02/ZC 17-03 Southwest Canby/Stafford**).
 7. **ITEMS OF INTEREST/REPORT FROM STAFF**
 - a. Next regularly Planning Commission Meeting scheduled for Monday, January 22, 2018.
 - b. One-year Extension of Development Agreement and Conceptual Master Plan for Phase 4, Northwood Estates Subdivision
 8. **ITEMS OF INTEREST/GUIDANCE FROM PLANNING COMMISSION**
 9. **ADJOURNMENT**

The meeting location is accessible to persons with disabilities. A request for an interpreter for the hearing impaired or for other accommodations for person with disabilities should be made at least 48 hours before the meeting at 503-266-7001. A copy of this agenda can be found on the City's web page at www.canbyoregon.gov. City Council and Planning Commission Meetings are broadcast live and can be viewed on OCTS Channel 5. For a schedule of the playback times, please call 503-263-6287.



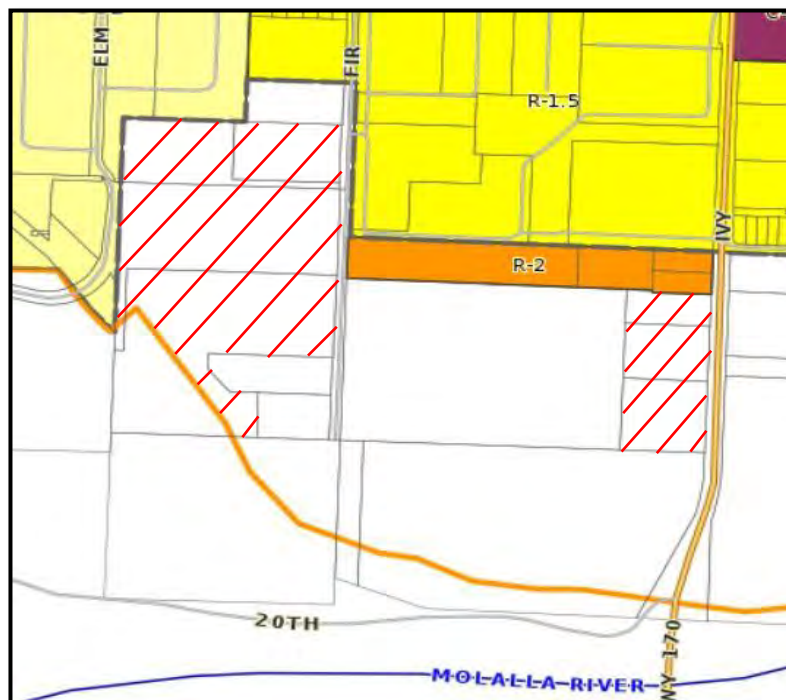
City of Canby

ANNEXATION AND ZONE CHANGE STAFF REPORT

FILE #: ANN 17-02/ZC 17-03

Prepared for the January 8, 2018 Planning Commission Meeting

LOCATION: The west side of S. Fir Street extending west to the vicinity of S. Elm Street and situated approximately 700 feet south of SE 13th Avenue and also on the west side of S. Ivy approximately 1300 feet south of SE 13th Avenue.



ANNEXATION PROPERTY SIZE: The site is 23.76 gross acres, 20.25 net acres, (minus S. Ivy St. and S. Fir St. ROW and portion outside Urban Growth Boundary)

TAX LOTS: Tax Lots 41E04CA01500, 1600 and 41E04C01401, 1500 and 41E04D01400, 1500, 1600

COMPREHENSIVE PLAN DESIGNATION: Low & Medium Density Residential, and Residential Commercial (LDR, MDR, RC)

CURRENT ZONING DESIGNATION: Clackamas County: Exclusive Farm Use (EFU)

PROPOSED ZONING: Low and Medium Density Residential (R-1, R-1.5) and Residential/Commercial (C-R)

OWNER: Roger and Cheryl Steinke (41E04CA01500), Rodney and Carol Beck (41E04CA01600, 41E04C01401), Nadine Beck (41E04C01500), Brian Christensen (41E04D01400), Hope Village (41E04D01500), Rita Schmeiser (41E04D01600)

APPLICANT: Stafford Development Company, LLC – Gordon Root

APPLICATION TYPE: Annexation/Zone Change (Type IV)

CITY FILE NUMBER: ANN 17-02/ZC 17-03

I. PROJECT OVERVIEW & EXISTING CONDITIONS

The property owners of seven different parcels located in the southwest portion of the City of Canby's Urban Growth Boundary (UGB) propose annexation into the city limits. The property owners also propose a zone change application to change the current zoning from the Clackamas County EFU, Exclusive Farm Use designation to City of Canby's R-1, Low Density Residential, R 1.5, Medium Density Residential, and C-R Residential/Commercial Zones. The subject parcels are not all contiguous but separated by intervening properties that are not included in this annexation. Four tax lots are located on the west side of S. Fir Street and the three remaining parcels are situated approximately 950 feet to the east and on the west side of S. Ivy Street. Property owners of tax lots 41E04CA01500, 01600, 41E04C01401, and 41E04D01600 request to zone their parcels R-1.5, tax lot 41E04C01500 R-1, and tax lots 41E04D01400, 01500 C-R. The properties are currently in residential, open space, and agriculture uses.

The City of Canby's annexation ordinance requires a Concept Development Plan for properties that are a part of an annexation request when located in a Development Concept Area as indicated on the City of Canby Annex Development Map. The Southwest Canby Development Concept Plan (SCDCP) for properties in the area was developed by Stafford Land Development with input from The Mayberry Group, Inc. who is doing a separate annexation application in the same DCP area and also with input from the property owners within the SCDCP. However, the plan has yet to be adopted by the Canby City Council and must be in conjunction with approval to annex any properties within the DCP area.

The existing annexation area is located within the City of Canby's Urban Growth Boundary. The City of Canby Comprehensive Plan has envisioned the ultimate urbanization of this area and its intended land use, and the Comprehensive Plan Map for these particular lots indicates a mixture of Low Density Residential, Medium Density Residential, and Residential Commercial uses. These designations correspond to the zone changes requested by the applicants. The area is currently within Clackamas County's jurisdiction and is presently zoned as Exclusive Farm Use (EFU). This zone change is to rezone the properties involved to the City zoning of R-1, R-1.5, and C-R zones in accordance with the corresponding City Comprehensive Plan Map land use designation. The zone designations will take effect when the properties are annexed as indicated in this application.

The Southwest Canby Development Concept Plan (SCDCP) is intended to address City of Canby infrastructure requirements for the southwest Canby area. The SCDCP is not a specific development proposal, but a design concept that provides an understanding and framework prior to annexation of how the properties must be developed when brought into the City.

II. ATTACHMENTS

- A.** Application Forms
- B.** Submitted Written Narrative and materials
- C.** Chart of Available Platted Lot Supply in Canby
- D.** Chart of Available lots and Permits Issued in Last Ten Years
- E.** Neighborhood Meeting Notes/Attendance List/Notification Letter
- F.** Pre-Annexation application Meeting Minutes
- G.** Consent to Annexation Petition

- H. Survey of Property to Be Annexed and Legal Description of Private Property and adjacent S. Fir St. and S. Ivy St. Right-of-Way to be Annexed
- I. Tax Lot Ownership Survey
- J. Maps: Aerial Vicinity Map, Assessor Map, Canby Comprehensive Plan Map, Proposed Annexation Area Map
- K. Development Concept Plan Submittal Packet
- L. Traffic Analysis - contracted by applicant with City's Consulting Traffic Engineer
- M. Agency/Citizen Comments

III. APPLICABLE REVIEW CRITERIA & FINDINGS

Major approval criteria used in evaluating this application include the following Chapters from the *City of Canby's Municipal Code including the Land Development and Planning Ordinance* (Title 16):

- 16.84 Annexations
- 16.54 Amendments to Zoning Map
- 16.89 Application and Review Procedures
- 16.16 R-1 Low Density Residential Zone
- 16.18 R-1.5 Medium Density Residential Zone
- 16.24 C-R Residential/Commercial Zone

City of Canby Comprehensive Plan Policies and Implementation Measures
Clackamas County/City of Canby Urban Growth Management Agreement (UGMA)
State Statutes- ORS 195.065 and 222

Chapter 16.84 Annexation Compliance

16.84.040. A.1.b. Annexation Development Map.

A. *The following criteria shall apply to all annexation requests.*

1. *The City of Canby Annexation Development Map shall determine which properties are required to submit either (See Figure 16.84.040):*

a. *A Development Agreement (DA) binding for all properties located within the boundaries of a designated DA area as shown on the City of Canby Annexation Development Map. The terms of the Development Agreement may include, but are not limited to:*

- 1.** *Timing of the submittal of an application for zoning*
- 2.** *Dedication of land for future public facilities including park and open space land*
- 3.** *Construction of public improvements*
- 4.** *Waiver of compensation claims*
- 5.** *Waiver of nexus or rough proportionality objections to future exactions*
- 6.** *Other commitments deemed valuable to the City of Canby*

For newly annexed properties that are within the boundaries of a DA area as designated on the City of Canby Annexation Development Map: A Development Agreement shall be recorded as a covenant running with the land, binding on the landowner's successors in interest prior to the City Council granting a change in zoning classification.

b. A Development Concept Plan (DCP) binding for all properties located within the boundaries of a designated DCP area as shown on the City of Canby Annexation Development Map. A Development Concept Plan shall address City of Canby infrastructure requirements including:

- 1. Water*
- 2. Sewer*
- 3. Storm water*
- 4. Access*
- 5. Internal Circulation*
- 6. Street Standards*
- 7. Fire Department requirements*
- 8. Parks and open space*

For newly annexed properties that are within the boundaries of a DCP area as designated on the City of Canby Annexation Development Map: A Development Concept Plan shall be adopted by the Canby City Council prior to granting a change in zoning classification. (Ord. 1294, 2008)

Findings: A copy of the Southwest Canby Development Concept Plan (SCDCP) is included in the file. The SCDCP provided an extensive packet of information to address City of Canby future infrastructure requirements for the area, and engineering level work has gone into planning for how the concept plan defined area would best be developed and served by all necessary infrastructure.

A traffic analysis of the entire subject area was incorporated into the plan to address traffic impacts associated with anticipated full development of the properties in accordance with the applicable zoning designation. DKS Engineering provided a TIA, dated September 29, 2017 that summarized how the requirements of Oregon Administrative Rule (OAR) 660-012-0060, the Transportation Planning Rule (TPR), are met for the subject properties as well as the SCDCP area. The surrounding roadways and intersections were found to have sufficient capacity to accommodate the proposed annexation, zone change, and for the development concept plan. The Transportation Planning Rule requirements of State Statute were determined to have been met as documented in the TIA.

All necessary utility services are generally available or can be made available through service line extensions to the annexation area. The Concept Plan maps, along with the Concept Plan & Infrastructure narrative, indicate the options for necessary infrastructure to serve this area. Stormwater was discussed in the SCDCP, and stormwater management for street runoff will be handled with the installation of new public underground injection wells and the associated catch basins and pollution control manholes for water quality treatment. Private property runoff will be handled on-site with infiltration facilities on each lot within the individual yard areas.

The SCDCP proposed three “pocket parks” and a 2,500 foot trail that will extend along the south boundary of the concept area. Based on calculations included in the concept plan the park acres to dwelling units ratio requires 5.24 acres of parks or open space. The proposed parks and trail area results in 3.65 acres, and the plan indicates that the remaining 1.59 acres will be collected by the City as a fee in lieu as a park system development charge. The basic strategy recommended for park appropriation is that Parks SDC fees paid by property owners who are not dedicating land be collected into a “Parks SDC Account” or similar, and that these funds be used to compensate property owners who dedicate land. In order for this mechanism to work, the value of property owners’ land contributions needs to be established by appraisal. A more detailed explanation of this process is located in the SCDCP. This criterion can be met.

Criteria 16.84.040.A.2 *Analysis of the need for additional property within the city limits shall be provided. The analysis shall include the amount of developable land (within the same class of zoning – low density residential, light industrial, etc.) Currently within the city limits; the approximate rate of development of those lands; and how the proposed annexation will affect the supply of developable land within the city limits. A supply of developable residential land to provide for the anticipated population growth over the following three years is considered to be sufficient.*

Findings: A land needs analysis is required with all annexations to assess the current amount of developable land within the same zone designation of that requested in the application. A 3-year supply of developable R-1, R 1.5, and C-R zoned land is to be considered sufficient. The City Council previously provided a defined policy direction to staff that stated, analysis of actual number of platted lots based on a reasonable assessment of expected consumption rate moving forward, is the appropriate metric to utilize in determining the adequacy of the developable land supply. The applicant included in the file an analysis indicating the deficiency of Canby’s 3-year supply of developable land based on population data and existing available platted lots. The study determined that currently forty-six R-1 zoned vacant platted lots remain as inventory within the city limits, no R-1.5 zoned vacant lots, and one C-R zoned vacant lot. The city has had an average absorption rate of nearly 45 lots per year for the last 10 years. The information stated that, based on a three year average of 2017, 2018, and 2019, a total of 379 single-family platted lots needed through 2020 with 46 currently available which leaves a deficiency of 333 lots. This indicates the supply of readily available platted lots with all necessary infrastructures is below a three-year supply. The applicant also provided an additional analysis that included subdivisions that are preliminarily approved and have yet to record platted lots. The consideration of the additional lots still left a deficiency of 80 lots. If annexed, this property would add to the buildable land supply. It will likely take 2 to 3 years for this land to be fully platted and the lots made available. Staff concludes that information indicates this criterion is met.

Criteria 16.84.040.A.3 *Statement of potential physical, aesthetic and related social effects of the proposed development on the community as a whole and on the neighborhood of which it will become a part; and proposed actions to mitigate identified concerns, if any. A neighborhood meeting is required as per Table 16.89.020 of the City of Canby Land Development and Planning Ordinance.*

Findings: Future development is anticipated to develop the site at a higher net density per acre. However, potential traffic generation has been shown to be within the capabilities of the surrounding road system with no mitigation necessary. The addition of three new small neighborhood parks and a walking trail along the UGB boundary will be located within the SCDCP, will add to the social and aesthetic effects of development on the subject properties and the future development of the neighborhood livability. Staff does not foresee any significant impacts from the proposal or need to mitigate any identified concerns. Staff agrees the annexation and future development of the subject parcels is consistent with development indicated by the Development Concept Plan and appropriate in this area of Canby. This criterion is satisfied.

Criteria 16.84.040.A.4 *Statement of availability, capacity and status of existing water, sewer, drainage, transportation, park and school facilities*

Findings: The Southwest Canby Development Concept Plan provides maps that demonstrate how utility infrastructure will be made available, and unmanageable capacity issues were not identified by City departments and agencies during the SCDCP review process. The proposed public parks and trail will be beneficial in serving this area of Canby. There are significant tree resources available for the park area and the conceptual plan provides easy direct access from the subject properties to the park trails and facilities. This criterion can be met at the time of development.

Criteria 16.84.040.A.5 *Statement of increased demand for such facilities to be generated by the proposed development, if any, at this time*

Findings: Staff finds that the information contained in the SCDCP infrastructure section is sufficient, and the applicable criteria can be met. Full development of the SCDCP area will require the City to build a new sewer pump station at the southeast corner of the DCP area to serve a large portion of the DCP.

Criteria 16.84.040.A.6 *Statement of additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand.*

Findings: This staff report incorporates the infrastructure sections of the SCDCP as findings. All necessary utility extensions are available to serve this area when development occurs after annexation. The infrastructure section of the SCDCP indicates that connections to existing facilities are available and preferred depending on the development project. However, the City Engineer commented that a new pump station and pressure main construction will be required. Staff finds that with appropriate conditions of approval, the SCDCP information is sufficient and this criterion is or can be met.

Criteria 16.84.040.A.7 *Statement outlining method and source of financing required to provide additional facilities, if any.*

Findings: The applicant will pay the necessary costs of their own development. Information in the SCDCP indicated that most infrastructure facilities in the southwest Canby area are expected to be built by individual developers. The exception is the proposed park that can be

likely funded with City capital improvements project funds from SDC fees. Staff finds that information in the SCDCP is sufficient for this case, and the applicable criteria can be met.

Criteria 16.84.040.A.8 *Statement indicating the type and nature of any comprehensive plan text or map amendments or zoning text or map amendments that may be required to complete the proposed development.*

Findings: The applicant intends to follow the low density residential, medium density residential, and residential commercial zoning designation of the Comprehensive Plan. The only change is a zoning map amendment to change the zone to R-1, R-1.5, and C-R and the Zone Map Change Application that accompanies this annexation request to satisfy the Development Concept Plan. Staff finds that the criterion in **16.84.040.A.8** can be met.

Criteria 16.84.040.A.9 *Compliance with other applicable city ordinances or policies*

Findings: Based on available information, staff concludes that the proposal complies with all other city ordinances and policies.

Criteria 16.84.040.A.10 *Compliance of the application with the applicable sections of Oregon Revised Statutes Chapter 222*

Findings: Oregon Revised Statutes (ORS) Chapter 222 provides regulation of city boundary changes and other development requirements. Staff concludes that this proposal complies with all applicable provisions in the Oregon Revised Statutes. The applicable criteria can be met.

Chapter 16.54 Amendments to the Zoning Map Analysis

The assignment of an appropriate zoning district is a part of any annexation application within the City of Canby. The approval criteria are similar to that for approval of an annexation.

16.54.010 & 0.20 & 0.30 Amendments to the Zoning Map

Findings:

16.54.010 – Authorization to initiate amendments: The property owners have authorized initiation of the proposed annexation and map amendment by signing an application form and Consent to Annex Form. This criterion has been met.

16.54.020 – Application and Fee: The map amendment application and associated fee were received from the applicant. This criterion has been met.

16.54.030 – Public Hearing on Amendment: This criterion will be met when the Planning Commission holds a public hearing and makes a recommendation to the City Council and when the City Council conducts its own hearing and issues a decision.

16.54.040 Standards and criteria

In judging whether or not the zoning map should be amended or changed, the Planning Commission and City Council shall consider:

A. The Comprehensive Plan of the city, giving special attention to Policy 6 of the land use element and implementation measures therefore, and the plans and policies of the county, state and local districts in order to preserve functions and local aspects of land conservation and development;

Findings: The subject properties and the SCDCP are not identified as being in an “Area of Special Concern” that is delineated in Policy 6 of the Comprehensive Plan. Additionally, the proposed zone for the properties is consistent with the zone designation on the Comprehensive Plan Map. Staff concludes that the request meets provisions in Policy 6 and the Comprehensive Plan.

B. Whether all required public facilities and services exist or will be provided concurrent with development to adequately meet the needs of any use or development which would be permitted by the new zoning designation. (Ord. 749 section 1(B), 1984; Ord.740 section 10.3.85(D), 1984)

Findings: Problems or issues in the extension of utility services have not been raised by City service providers that would prevent services at the time of development. It appears that future development of the properties can meet standards for adequate public facilities.

16.08.150 Traffic Impact Study (TIS)

A. Determination based on information provided by the applicant about the proposed development, the city will determine when a TIS is required and will consider the following when making that determination.

- 1. Changes in land use designation, zoning designation, or development standard.*
- 2. Changes in use or intensity of use.*
- 3. Projected increase in trip generation.*
- 4. Potential impacts to residential areas and local streets.*
- 5. Potential impacts to priority pedestrian and bicycle routes, including, but not limited to school routes and multimodal street improvements identified in the TSP.*
- 6. Potential impacts to intersection level of service (LOS).*

Findings: The Transportation Planning Rule within State Statute (OAR 660-12-0060-9) requires that there be a record of traffic generation findings which are consistent with the City’s Transportation System Plan with any Comprehensive Plan Map Amendment or Zoning Map Amendment. As previously mentioned, DKS Engineering provided a section of the SCDCP that confirmed the proposed annexation met provisions of the TPR. Additionally, a Traffic Analysis was incorporated in the SCDCP to discuss any future traffic impacts when development occurred with zone change proposals. The findings of the analysis determined that the zone change contemplated and the resulting traffic, if developed as allowed, was assumed for trip modeling in the 2010 Canby Transportation System Plan, and therefore, the Transportation Planning Rule requirements are met. The zone change from the proposed annexation would not have a significant effect on the surrounding transportation network, and no mitigation measures would be required to satisfy TPR requirements. This review criterion is met.

Chapter 16.89.060 Process Compliance

16.89.060 Type IV Decision

For certain applications, the City Council makes a final decision after a recommendation by the Planning Commission. These application types are referred to as Type IV decisions.

A. Pre-application conference. A pre-application conference may be required by the Planning Director for Type IV applications.

B. Neighborhood meetings. The applicant may be required to present their development proposal at a neighborhood meeting (see Section 16.89.070). Table 16.89.020 sets the minimum guidelines for neighborhood review but the Planning Director may require other applications to go through neighborhood review as well.

C. Application requirements. Type IV applications shall be made on forms provided by the Planning Director. The application shall be accompanied by all required information and fees.

D. Public notice and hearings. The public notice and hearings process for the Planning Commission's review of Type IV applications shall follow that for Type III applications, as provided in subsections 16.89.050.D and 16.89.050.E.

E. Decision process.

1. Approval or denial of a Type IV decision shall be based on the standards and criteria located in the code.
2. The hearings body shall issue a final written order containing findings and conclusions recommending that the City Council approve, approve with conditions, or deny the application.
3. The written decision shall explain the relevant criteria and standards, state the facts relied upon in rendering the decision, and justify the decision according to the criteria, standards, and facts.
4. In cases involving attorneys, the prevailing attorney shall prepare the findings, conclusions, and final order. Staff shall review and, if necessary, revise, these materials prior to submittal to the hearings body.

F. City Council proceedings:

1. Upon receipt of the record of the Planning Commission proceedings, and the recommendation of the Commission, the City Council shall conduct a review of that record and shall vote to approve, approve with conditions, or deny the recommendation of the Planning Commission.
2. The City Council may question those individuals who were a party to the public hearing conducted by the Planning Commission if the Commission's record appears to be lacking sufficient information to allow for a decision by the Council. The Council shall hear arguments based solely on the record of the Commission.

3. The City Council may choose to conduct public hearings on Comprehensive Plan amendments, amendments to the text of this title, zone map amendments, and annexations. If the Council elects to conduct such hearings, it may do so in joint session with the Planning Commission or after receiving the written record of the Commission. (Ord. 1080, 2001)

Findings: Annexations are processed as a Type IV “quasi-judicial” process which is considered through a public hearing at the Planning Commission that forwards a recommendation to the City Council. The City Council also holds a public hearing and issues a final decision. The notice requirements are the same as for Type III applications.

In this particular case, the annexation request will not be scheduled for a public vote. On March 15, 2016, the Governor signed Senate Bill SB1573 that mandates some properties, meeting certain criteria, to file for annexation without going through a public vote process that might otherwise currently be in effect through local City Charter provisions and adopted code. This application meets the criteria stated in SB1573, and a public vote will not be held for this annexation application.

Notice of this application and the Planning Commission and Council Hearing dates was made to surrounding property owners on November 21, 2017, at least 20-days prior to the hearing. Prior notification and neighborhood meetings were completed during the Southwest Canby Development Concept Plan process. The site was posted with a Public Hearing Notice sign by December 28, 2017. A notice meeting ordinance requirements of the public hearings was published in the Canby Herald on December 27, 2017. A pre-application meeting was held March 9, 2017. These findings indicate that all processing requirements have been satisfied with this application to date.

Public Testimony Received

Notice of this application and opportunity to provide comment was mailed to owners of lots within 500 feet of the subject properties and to all applicable public agencies and City departments on November 21, 2017. Complete comments are documented in the file. As of the date of this Staff Report, the following comments were received by City of Canby from the following persons/agencies:

Persons/Agency/City Department Comments.

Comments were received from the following persons/agencies/city departments:

- Canby Fire
- Tom Scott
- Canby City Engineer

Conclusion Regarding Consistency with the Standards of the Canby Municipal Code

Staff concludes, as detailed in the submittal from the applicant and as indicated here in this staff report, including all attachments hereto, that:

1. The applications and proposed use is in conformance with applicable sections of the City’s

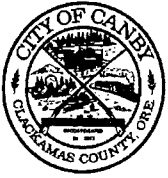
Comprehensive Plan and Land Development and Planning Ordinance when the determinations contained in this staff report are applied.

2. A City **adopted** Development Concept Plan and explanatory narrative must be submitted detailing how all necessary infrastructures to the properties proposed to be annexed will serve the area as required by the annexation ordinance.
3. The proposed annexation can meet the approval criteria set forth in CMC 16.84.040.A.
4. The zoning of the property, if annexed, should be R-1, R-1.5, and C-R as indicated in the application and pursuant to the approval criteria set forth for map amendments in CMC 16.54.040.
5. The proposed annexation's requested zoning district of R-1, R-1.5, and C-R is in conformance with the Comprehensive Plan Land Use Plan Map.
6. The application complies with all applicable Oregon Revised Statutes.
7. There are sufficient public and private agency utility and service capacity to serve the site at the anticipated development intensity.
8. In accordance with the UGMA with Clackamas County, this proposed annexation application includes a description of the adjacent S. Fir Street and S. Ivy Street road right-of-way with the properties proposed for annexation.
9. It has been determined that existing land available is below a three-year supply of developed R-1, R-1.5, and C-R zoned lots within the City limits. Therefore, the supply does not exceed a three-year supply and there is a "need" for low density residential zoned land for development at this time.

16.89 Recommendation

Based on the application submitted and the facts, findings and conclusions of this report, but without benefit of a public hearing, staff recommends that the Planning Commission recommend to the City Council that:

1. ANN 17-02/ZC 17-03 be approved and,
2. Upon annexation, the zoning of the subject properties be designated as R-1, R-1.5, and C-R as indicated by the Southwest Canby Development Concept Plan Map and the Canby Comprehensive Plan Map.



City of Canby
 Planning Department
 222 NE 2nd Avenue
 PO Box 930
 Canby, OR 97013
 (503) 266-7001

LAND USE APPLICATION

ANNEXATION Process Type IV

APPLICANT INFORMATION: (Check ONE box below for designated contact person regarding this application)

Applicant Name: Gordon Root, Stafford Development Co. LLC Phone: 503-720-0914
 Address: 486 South State Street Email: gordonroot@aol.com
 City/State: Lake Oswego, Oregon Zip: 97034

Representative Name: Ryan O'Brien, Planning Consultant Phone: 503-780-4061
 Address: 1862 NE Estate Drive Email: ryanobrien1@frontier.com
 City/State: Hillsboro, Oregon Zip: 97124

Property Owner Name: See Attached Signature Forms Phone: _____
 Signature: _____
 Address: _____ Email: _____
 City/State: _____ Zip: _____

Property Owner Name: _____ Phone: _____
 Signature: _____
 Address: _____ Email: _____
 City/State: _____ Zip: _____

NOTE: Property owners or contract purchasers are required to authorize the filing of this application and must sign above

- ❶ All property owners represent they have full legal capacity to and hereby do authorize the filing of this application and certify that the information and exhibits herewith submitted are true and correct.
- ❷ All property owners understand that they must meet all applicable Canby Municipal Code (CMC) regulations.
- ❸ All property owners hereby grant consent to the City of Canby and its officers, agents, employees, and/or independent contractors to enter the property identified herein to conduct any and all inspections that are considered appropriate by the City to process this application.

PROPERTY & PROJECT INFORMATION:

<u>Southwest Canby - See attached list</u>	<u>20.26 net acres</u>	<u>See attached list</u>
Street Address or Location of Subject Property	Total Size of Property	Assessor Tax Lot Numbers
<u>See attached list</u>	<u>See attached</u>	<u>See attached list</u>
Existing Use, Structures, Other Improvements on Site	Zoning	Comp Plan Designation

Residential subdivisions and a residential/commercial development

Describe the Proposed Development or Use of Subject Property

STAFF USE ONLY				
<u>ANN 17-02</u>	<u>10/19/17</u>	<u>[Signature]</u>	<u>#1384</u>	
FILE #	DATE RECEIVED	RECEIVED BY	RECEIPT #	DATE APP COMPLETE

20 17-03

4845.60

Visit our website at: www.canbyoregon.gov
 Email Application to: PlanningApps@canbyoregon.gov



City of Canby
 Planning Department
 222 NE 2nd Avenue
 P.O. Box 930
 Canby, OR 97013
 Ph: 503-266-7001
 Fax: 503-266-1574

CHECKLIST

ANNEXATION – TYPE IV

All required application submittals detailed below must also be submitted in ELECTRONIC FORMAT on a CD, flash drive, FTP site, or via email to: PlanningApps@canbyoregon.gov

Applicant City
 Check Check

- One (1) copy of this application packet. The City may request further information at any time before deeming the application complete.
- Payment of appropriate fees: Cash, check or credit card. Checks should be made out to the *City of Canby*.
- One (1) electronic copy of mailing addresses in either an EXCEL SPREADSHEET or WORD DOCUMENT** for all property owners and all residents within 500 feet of the subject property. If the address of a property owner is different from the address of a site, an address for each unit on the site must also be included and addressed to "Occupant." A list of property owners may be obtained from a title insurance company or from the County Assessor's office.
- One (1) copy of a written statement and an electronic copy in **WORD** format describing the property to be annexed, including all existing improvements on the land, and detailing how the annexation and proposed zoning meet the approval criteria, and availability and adequacy of public facilities and services. **Ask staff for applicable Municipal Code chapters and approval criteria.** Applicable Code Criteria for this application includes:

CMC 16.84, Canby Comprehensive Plan, UGMA with Clackamas County, ORS195 and 222

- One (1) copy in written format of the minutes of the neighborhood meeting is required by Municipal Code 16.89.020 and 16.89.070. The minutes shall include the date of the meeting and a list of attendees.
- One (1) copy in written format of the minutes of the pre-application meeting
- One (1) copy of a written statement, signed by at least 51% of the owners of land in the territory to be annexed that states, pursuant to ORS 222.170: "Consent to annex is hereby given by the undersigned, who represent more than half the owners of land in the territory, and who also own more than half of the land and real property in the contiguous territory, which represents more than half of the assessed value of all real property in the contiguous territory."
- One (1) copy of the full quarter-section tax assessor's map with the subject property outlined.

- One (1) copy of the legal description of the property to be annexed, and a boundary survey certified by a registered engineer or surveyor containing bearings and one half of the adjacent street right-of-way, if applicable.
- One (1) copy of a Traffic Impact Study (TIS), conducted or reviewed by a traffic engineer that is contracted by the City and paid for by the applicant (payment must be received by the City before the traffic engineer will conduct or review a traffic impact study). Ask staff to determine if a TIS is required.
Note: A traffic impact analysis is not required if all the property to be annexed is located within the boundaries of an approved Development Concept Plan and a traffic impact analysis was completed for the Development Concept Plan.
- If the property to be annexed is located inside a "Development Concept Area" identified on the Annexation Development Map, Figure 16.84.040 of Canby Municipal Code Chapter 16.84, then submit one (1) copy of an approved Development Concept Plan.
- If the property to be annexed is located inside a "Development Agreement Area" identified on the Annexation Development Map, Figure 16.84.040 of Canby Municipal Code Chapter 16.84, then submit one (1) copy of a Development Agreement intended to be approved and recorded with the property.

ANNEXATION APPLICATION – TYPE IV: APPLICATION PROCESS

1. Prior to submitting an application, all applicants are encouraged to request a pre-application meeting with the City, or the City Planner may determine that a pre-application meeting is necessary after an application has been discussed or upon receipt of an application by the City. To schedule a pre-application meeting, an applicant must submit a completed pre-application form and 2 paper copies of the preliminary plans to the City Planner, and all submittal materials must be submitted in electronic format. The City Planner shall forward the pre-application materials to the Canby Public Works Department to schedule the pre-application meeting. The fee for a pre-application meeting for an annexation is indicated in the City of Canby Master Fee Schedule for Pre-Application Conferences for Type III and IV applications.
2. Prior to submitting an application, all applicants must hold a neighborhood meeting with surrounding property owners and any recognized neighborhood association representative, pursuant to the procedures described in Canby Municipal Code Section 16.89.070. In certain situations, the Planning Director may waive the neighborhood meeting requirement.
3. At the time an application is submitted to the City, payment of required application processing fees is required. An application will not be accepted without payment of fees. City Staff can provide you with information concerning application fees.
4. Staff will check the application, making sure that it is complete and all fees are paid. Copies of the application materials are routed to various City/State/County departments, as applicable, for their comments. Along with the comments received from others, the application is reviewed for completeness. The City Planner will accept or return the application with a written list of omissions within thirty (30) calendar days of the submittal.
5. Staff investigates the application, writes a staff report, issues public notice, notifies surrounding property owners, and makes all facts relating to the request available to the Planning Commission and all interested parties.
6. Prior to the public hearing, the City will prepare notice materials for posting on the subject property. This material will be posted by staff at least ten (10) days before the public hearing.

7. The staff report will be available to all interested parties seven (7) days prior to the hearing.
8. The Planning Commission holds a public hearing. The staff report is presented to the Commission. Testimony is presented by the applicant, proponents and opponents, followed by rebuttal from the applicant. Based on the information received during the public hearing, the Planning Commission issues a recommendation to City Council concerning what zoning designation should be applied to the property if it is annexed, and recommends that the annexation be approved, modified, or denied based on conformance with review criteria.
9. The City Council then holds a second public hearing. The Planning Commission's recommendation is presented to the Council. Testimony is presented by the applicant, proponents and opponents, followed by rebuttal from the applicant. Based on the information received during the public hearing, the Council decides what zoning designation should be applied to the property if it is annexed, and decides whether the annexation should be approved, modified, or denied.

ANNEXATION APPLICATION – TYPE IV: APPROVAL CRITERIA

Pursuant to Section 16.54.040 of the Canby Municipal Code, the Planning Commission and City Council must find that the requested zoning meets the following criteria in order to approve the zoning designation requested:

- A. The Comprehensive Plan of the city, giving special attention to Policy 6 of the land use element and implementation measures therefore, and the plans and policies of the county, state and local districts in order to preserve functions and local aspects of land conservation and development; and
- B. Whether all required public facilities and services exist or will be provided concurrent with development to adequately meet the needs of any use or development which would be permitted by the new zoning designation.

(Note: if the zoning that is requested in conjunction with the annexation is not consistent with the property's comprehensive plan designation, then the applicant must also apply for a Comprehensive Plan Amendment.)

Pursuant to Section 16.84.040 of the Canby Municipal Code, the Planning Commission and City Council must find that the annexation application meets the following criteria in order to approve the Annexation request:

- A. The City of Canby Annexation Development Map shall determine which properties are required to submit either (See Figure 16.84.040):
 - a. A Development Agreement (DA) binding for all properties located within the boundaries of a designated DA area as shown on the City of Canby Annexation Development Map. The terms of the Development Agreement may include, but are not limited to:
 - i. Timing of the submittal of an application for zoning
 - ii. Dedication of land for future public facilities including park and open space land
 - iii. Construction of public improvements
 - iv. Waiver of compensation claims
 - v. Waiver of nexus or rough proportionality objections to future exactions
 - vi. Other commitments deemed valuable to the City of Canby

For newly annexed properties that are within the boundaries of a DA area as designated on the City of Canby Annexation Development Map: A Development Agreement shall be recorded as a covenant

running with the land, binding on the landowner's successors in interest prior to the City Council granting a change in zoning classification.

- b. A Development Concept Plan (DCP) is binding for all properties located within the boundaries of a designated DCP area as shown on the City of Canby Annexation Development Map. A Development Concept Plan shall address City of Canby infrastructure requirements including:
 - i. Water
 - ii. Sewer
 - iii. Stormwater
 - iv. Access
 - v. Internal Circulation
 - vi. Street Standards
 - vii. Fire Department requirements
 - viii. Parks and open space

For newly annexed properties that are within the boundaries of a DCP area as designated on the City of Canby Annexation Development Map: A Development Concept Plan shall be adopted by the Canby City Council prior to granting a change in zoning classification.

- B. Analysis of the need for additional property within the city limits shall be provided. The analysis shall include the amount of developable land (within the same class of zoning – low density residential, light industrial, etc.) currently within the city limits; the approximate rate of development of those lands; and how the proposed annexation will affect the supply of developable land within the city limits. A supply of developable residential land to provide for the anticipated population growth over the following three years is considered to be sufficient;
- C. Statement of potential physical, aesthetic and related social effects of the proposed development on the community as a whole and on the neighborhood of which it will become a part; and proposed actions to mitigate identified concerns, if any. A neighborhood meeting is required as per Table 16.89.020 of the City of Canby Land Development and Planning Ordinance.
- D. Statement of availability, capacity and status of existing water, sewer, drainage, transportation, park and school facilities;
- E. Statement of increased demand for such facilities to be generated by the proposed development, if any, at this time;
- F. Statement of additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand;
- G. Statement outlining method and source of financing required to provide additional facilities, if any;
- H. Statement indicating the type and nature of any comprehensive plan text or map amendments or zoning text or map amendments that may be required to complete the proposed development.
- I. Compliance with other applicable city ordinances or policies;
- J. Compliance of the application with the applicable sections of Oregon Revised Statutes Chapter 222.

**PETITION FOR A CONSENT ANEXATION
TO THE CITY OF CANBY, OREGON**

Pursuant to ORS 222.170

Tax Map: 41E04C Tax Lot: 1401 Size of Property: 6.25 acres

Tax Map: 41E04CA Tax Lot: 1600 Size of Property: 2.45 acres

Current Zoning: EFU, Clackamas County Voting Precinct: 333

Canby Comprehensive Plan Designation: MDR - Medium Density Residential and
LDR - Low Density Residential

Number of Property Owners: 2 Property Assessed Value: \$371,539

Number of Registered Voters: 2

Use of Property: One SFR House, Storage Buildings and Agriculture

Property Owner Signatures



Rodney J. Beck - OV - 1555 S. Fir Street, Canby, Oregon 97013



Carol M. Beck - OV - 1555 S. Fir Street, Canby, Oregon 97013

PO - Property Owner

RV - Registered Voter

OV - Owner Voter

**PETITION FOR A CONSENT ANEXATION
TO THE CITY OF CANBY, OREGON**

Pursuant to ORS 222.170

Tax Map: 41E04C Tax Lot: 1500 Size of Property: 8.75 acres

Current Zoning: EFU, Clackamas County Voting Precinct: 333

Canby Comprehensive Plan Designation: LDR - Low Density Residential

Number of Property Owners: 2 Property Assessed Value: \$187,649

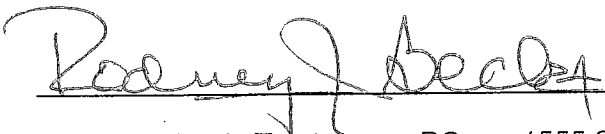
Number of Registered Voters: 2

Use of Property: One SFR House, Storage Buildings and Agriculture

Property Owner Signatures



Nadine J. Beck, Trustee - OV - 1715 S. Fir Street, Canby, Oregon 97013



Rodney J. Beck, Trustee - PO - 1555 S. Fir Street, Canby, Oregon 97013

PO - Property Owner

RV - Registered Voter

OV - Owner Voter

**PETITION FOR A CONSENT ANEXATION
TO THE CITY OF CANBY, OREGON**

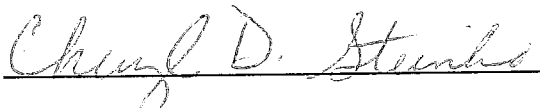
Pursuant to ORS 222.170

Tax Map: 41E04CA Tax Lot: 1500 2.00 acres
Current Zoning: EFU, Clackamas County Voting Precinct: 333
Canby Comprehensive Plan Designation: MDR - Low Density Residential
Number of Property Owners: 2 Property Assessed Value: \$365,410
Number of Registered Voters: 2
Use of Property: One SFR House and Storage Buildings

Property Owner Signatures



Roger Alan Steinke - OV - 1547 S. Fir Street, Canby, Oregon 97013



Cheryl D. Steinke - OV - 1547 S. Fir Street, Canby, Oregon 97013

PO - Property Owner

RV - Registered Voter

OV - Owner Voter

**PETITION FOR A CONSENT ANEXATION
TO THE CITY OF CANBY, OREGON**

Pursuant to ORS 222.170

Tax Map: 41E04D Tax Lot: 1500 Size of Property: 1.47 acres

Current Zoning: EFU, Clackamas County Voting Precinct: 333


Canby Comprehensive Plan Designation: RC - Residential Commercial

Number of Property Owners: 1 Property Assessed Value: \$226,590

Number of Registered Voters: 2

Use of Property: One SFR House and Storage Buildings

Property Owner Signatures

 6/7/2017

Hope Village, Inc. an Oregon nonprofit corporation, by Craig Gingerich, Executive Director

PO - 1535 S. Ivy Street, Canby, Oregon 97013

PO - Property Owner

RV - Registered Voter

OV - Owner Voter

**PETITION FOR A CONSENT ANEXATION
TO THE CITY OF CANBY, OREGON**

Pursuant to ORS 222.170

Tax Map: 41E04D Tax Lot: 1500 Size of Property: 1.47 acres

Current Zoning: EFU, Clackamas County Voting Precinct: 333

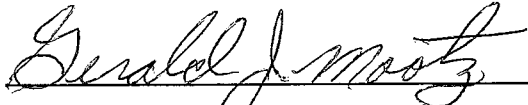
Canby Comprehensive Plan Designation: RC - Residential Commercial

Number of Property Owners: 2 Property Assessed Value: \$226,590

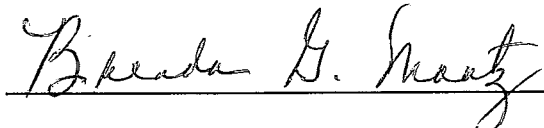
Number of Registered Voters: 2

Use of Property: One SFR House and Storage Buildings

Property Owner Signatures



Gerald J. Mootz, Trustee - RV - 1735 S. Ivy Street, Canby, Oregon 97013



Brenda G. Mootz, Trustee - RV - 1735 S. Ivy Street, Canby, Oregon 97013

PO - Property Owner

RV - Registered Voter

OV - Owner Voter

**PETITION FOR A CONSENT ANEXATION
TO THE CITY OF CANBY, OREGON**

Pursuant to ORS 222.170

Tax Map: 41E04D Tax Lot: 1400 Size of Property: 0.87 acres

Current Zoning: EFU, Clackamas County Voting Precinct: 333

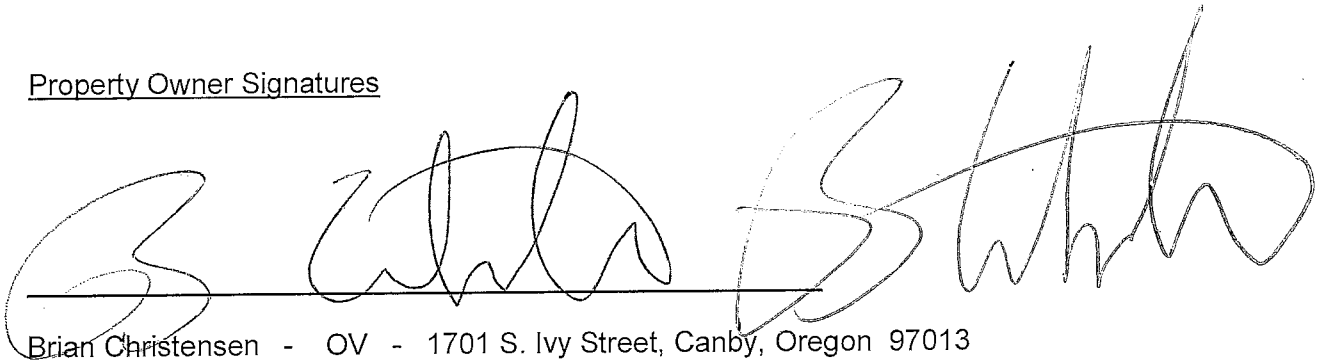
Canby Comprehensive Plan Designation: RC - Residential Commercial

Number of Property Owners: 1 Property Assessed Value: \$239,846

Number of Registered Voters: 1

Use of Property: One SFR House, Storage Buildings and Business

Property Owner Signatures

The image shows three handwritten signatures in black ink, written over a solid horizontal line. The signatures are cursive and appear to be of the same person, likely Brian Christensen as mentioned in the text below.

Brian Christensen - OV - 1701 S. Ivy Street, Canby, Oregon 97013

PO - Property Owner

RV - Registered Voter

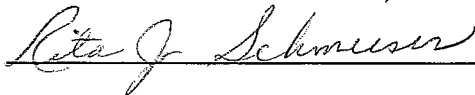
OV - Owner Voter

**PETITION FOR A CONSENT ANEXATION
TO THE CITY OF CANBY, OREGON**

Pursuant to ORS 222.170

Tax Map: 41E04D Tax Lot: 1600 Size of Property: 1.93 acres
Current Zoning: EFU, Clackamas County Voting Precinct: 333
Canby Comprehensive Plan Designation: MDR - Medium Density Residential
Number of Property Owners: 1 Property Assessed Value: \$252,159
Number of Registered Voters: 1
Use of Property: One SFR House and Storage Buildings

Property Owner Signature



Rita J. Schmeiser - OV - 1841 S. Ivy Street, Canby, Oregon 97013

PO - Property Owner

RV - Registered Voter

OV - Owner Voter



City of Canby
 Planning Department
 222 NE 2nd Avenue
 PO Box 930
 Canby, OR 97013
 (503) 266-7001

LAND USE APPLICATION

Zone Map Change Application

APPLICANT INFORMATION: (Check ONE box below for designated contact person regarding this application)

Applicant Name: Gordon Root, Stafford Development Co. LLC Phone: 503-720-0914
 Address: 486 South State Street Email: gordonroot@aol.com
 City/State: Lake Oswego, Oregon Zip: 97034

Representative Name: Ryan O'Brien, Planning Consultant Phone: 503-780-4061
 Address: 1862 NE Estate Drive Email: ryanobrien1@frontier.com
 City/State: Hillsboro, Oregon Zip: 97124

Property Owner Name(s)*: See attached list Phone: _____
 Signature: _____
 Address: _____ Email: _____
 City/State: _____ Zip: _____

NOTE: Property owners or contract purchasers are required to authorize the filing of this application and must sign above

* All property owners represent they have full legal capacity to and hereby do authorize the filing of this application and certify that the information and exhibits herewith submitted are true and correct.

PROPERTY & PROJECT INFORMATION:

Southwest Canby - See attached list 20.26 acres See attached list
 Street Address or Location of Subject Property Total Size of Property Assessor Tax Lot Numbers

See attached list See attached See attached list
 Existing Use, Structures, Other Improvements on Site Zoning Comp Plan Designation

See attached list
 Brief description of proposed development or use

Residential subdivisions and residential/commercial developments are proposed.

The annexed property will be rezoned in accordance with the Canby Comprehensive Plan. The portion of the Tax Lots outside of the UGB will be excluded from the annexation and zone change and retain county zoning.

<u>ANN 17-02</u>		STAFF USE ONLY	
<u>ZC 17-03</u>	<u>10/19/17</u>	<u>JH</u>	<u>#1384</u>
FILE #	DATE RECEIVED	RECEIVED BY	RECEIPT #
			DATE APP COMPLETE

Visit our website at: www.canbyoregon.gov
 Email Application to: PlanningApps@canbyoregon.gov

\$ 4845.60



City of Canby
Planning Department
222 NE 2nd Avenue
P.O. Box 930
Canby, OR 97013
Ph: 503-266-7001
Fax: 503-266-1574

CHECKLIST

ZONE MAP CHANGE

(Amendments to Zoning Map Chapter 16.54)

All required application submittals detailed below must also be submitted in electronic format on a CD, flash drive or via email to: PlanningApps@canbyoregon.gov

Applicant City
Check Check

- One (1) copy of this application packet. The City may request further information at any time before deeming the application complete.
- Payment of appropriate fees – cash or check only. Refer to the city’s Master Fee Schedule for current fees. Checks should be made out to the *City of Canby*.
- Please submit one (1) electronic copy of mailing addresses in either an EXCEL SPREADSHEET or WORD DOCUMENT** for all property owners and all residents within 500 feet of the subject property. If the address of a property owner is different from the address of a site, an address for each unit on the site must also be included and addressed to “Occupant.” A list of property owners may be obtained from a title insurance company or from the County Assessor’s office.
- Comprehensive Plan designation of the property.
- The application shall be accompanied by a written narrative explaining the existing use of the property and the need for the change in zoning.
- Two (2) paper copies of the proposed plans, printed to scale no smaller than 1”=50’ on 11 ½ x 17” paper. The plans shall include the following information:
 - Vicinity Map. Vicinity map at a scale of 1”=400’ showing the relationship of the project site to the existing street or road pattern.
 - Site Plan-the following general information shall be included on the site plan:
 - Date, north arrow, and scale of drawing;
 - Name and address of the developer, engineer, architect, or other individual(s) who prepared the site plan;
 - Property lines (legal lot of record boundaries);
 - Location, width, and names of all existing or planned streets, other public ways, and easements within or adjacent to the property, and other important features;
 - Location of all jurisdictional wetlands or watercourses on or abutting the property;
 - Finished grading contour lines of site and abutting public ways;
 - Location of all existing structures, and whether or not they are to be retained with the proposed development;
 - The location of streets, sewer, water, electric, and other utility services;
 - Major topographic and landscape features.
- One (1) copy of the minutes of the neighborhood meeting as required by Municipal Code 16.89.020 and 16.89.070. The minutes to include the date of the meeting and a list of attendees.

3. Staff will check the application, making sure that it is complete and all fees are paid. Copies of the application

Visit our website at: www.canbyoregon.gov

Email Application to: PlanningApps@canbyoregon.gov

materials are routed to various City/State/County departments, as applicable, for their comments. Along with the comments received from others, the application is reviewed for completeness. The City Planner will accept or return the application with a written list of omissions within thirty (30) calendar days of the submittal.

4. Staff investigates the request, writes a staff report, places a public notice in the newspaper, notifies surrounding property owners, and makes all facts relating to the request available to the Planning Commission and all interested parties.
5. The staff report will be available ten (10) days prior to the hearing.
6. The Planning Commission holds a public hearing after the determination of a complete application. At the hearing the staff report is presented. Testimony is presented by the applicant, proponents and opponents, followed by rebuttal from the applicant.
7. The Commission then issues findings of fact which support approval, modification or denial of the application and passes such recommendation on the City Council for final action within forty (40) calendar days after the close of the hearing.

STANDARDS AND APPROVAL CRITERIA FOR A ZONE CHANGE

In judging whether or not the zoning should be amended or changed, the Planning Commission and City Council shall consider:

- A. The Comprehensive Plan of the City, giving special attention to Policy 6 of the land use element and implementation measures therefore, and the plans and policies of the county, State and local districts in order to preserve functions and local aspects of land conservation and development:
- B. Whether all required public facilities and services exist or will be provided concurrent with development to adequately meet the needs of any use or development which would be permitted by the new zoning designation.

Upon receipt of the record of the Planning Commission proceedings, and the recommendation of the Commission, the City Council shall conduct a review of that record and shall vote to approve, deny, or approve subject to modification, the recommendation of the Planning Commission. The City Council shall hear the arguments based upon the record. Additional or supplemental information not included within the original record shall not be considered. The arguments on the record shall not be conducted as a public hearing.

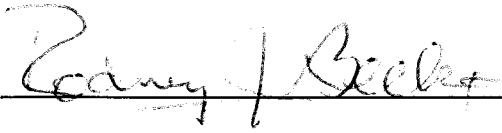
16.54.060 IMPROVEMENT CONDITIONS

- A. In acting on an application for a zone change, the Planning Commission may recommend and the City Council may impose conditions to be met by the proponents of the change before the proposed change takes effect. Such conditions shall be limited to improvements or physical changes to the property which are directly related to the health, safety or general welfare of those in the area. Further, such conditions shall be limited to improvements which clearly relate to and benefit the area of the proposed zone change. Allowable conditions of approval may include, but are not necessarily limited to:
 1. Street and sidewalk construction or improvements.
 2. Extension of water, sewer, or other forms of utility lines;
 3. Installation of fire hydrants.
- B. The City will not use the imposition of improvement conditions as a means of preventing planned development, and will consider the potential impact of the costs of required improvements on needed housing. The Planning Commission and City Council will assure that the required improvements will not reduce housing densities below those anticipated in the Comprehensive Plan.

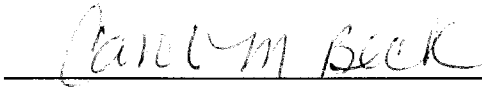
ZONE MAP CHANGE APPLICATION

Tax Map: 41E04C Tax Lot: 1401 Size of Property: 6.25 acres
Tax Map: 41E04CA Tax Lot: 1600 Size of Property: 2.45 acres
Current Zoning: EFU, Clackamas County Proposed Zoning: R-1 and R-1.5
Canby Comprehensive Plan Designation: MDR - Medium Density Residential and
LDR - Low Density Residential
Use of Property: One SFR House, Storage Buildings and Agriculture

Property Owner Signatures



Rodney J. Beck - 1555 S. Fir Street, Canby, Oregon 97013



Carol M. Beck - 1555 S. Fir Street, Canby, Oregon 97013

ZONE MAP CHANGE APPLICATION

Tax Map: 41E04C Tax Lot: 1500 Size of Property: 8.75 acres

Current Zoning: EFU, Clackamas County Proposed Zoning: R-1

Canby Comprehensive Plan Designation: LDR - Low Density Residential

Use of Property: One SFR House, Storage Buildings and Agriculture

Property Owner Signatures



Nadine J. Beck, Trustee - 1715 S. Fir Street, Canby, Oregon 97013



Rodney J. Beck, Trustee - 1555 S. Fir Street, Canby, Oregon 97013

ZONE MAP CHANGE APPLICATION

Tax Map: 41E04CA Tax Lot: 1500 Size of Property: 2.00 acres

Current Zoning: EFU, Clackamas County Proposed Zoning: R-1.5


Canby Comprehensive Plan Designation: MDR - Low Density Residential

Use of Property: One SFR House and Storage Buildings

Property Owner Signatures



Roger Alan Steinke - 1547 S. Fir Street, Canby, Oregon 97013



Cheryl D. Steinke - 1547 S. Fir Street, Canby, Oregon 97013

ZONE MAP CHANGE APPLICATION

Tax Map: 41E04D Tax Lot: 1500 Size of Property: 1.47 acres

Current Zoning: EFU, Clackamas County Proposed Zoning C-R

Canby Comprehensive Plan Designation: RC - Residential Commercial

Use of Property: One SFR House and Storage Buildings

Property Owner Signatures

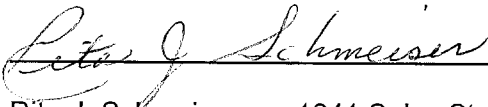
 6/7/2017

Hope Village, Inc., and Oregon nonprofit corporation by Craig Gingerich, Executive Director
1535 S. Ivy Street, Canby, Oregon 97013

ZONE MAP CHANGE APPLICATION

Tax Map: 41E04D Tax Lot: 1600 Size of Property: 1.93 acres
Current Zoning: EFU, Clackamas County Proposed Zoning: R-1.5
Canby Comprehensive Plan Designation: MDR - Medium Density Residential
Use of Property: One SFR House and Storage Buildings

Property Owner Signature

A handwritten signature in cursive script, reading "Rita J. Schmeiser", is written over a solid horizontal line.

Rita J. Schmeiser - 1841 S. Ivy Street, Canby, Oregon 97013

ZONE MAP CHANGE APPLICATION

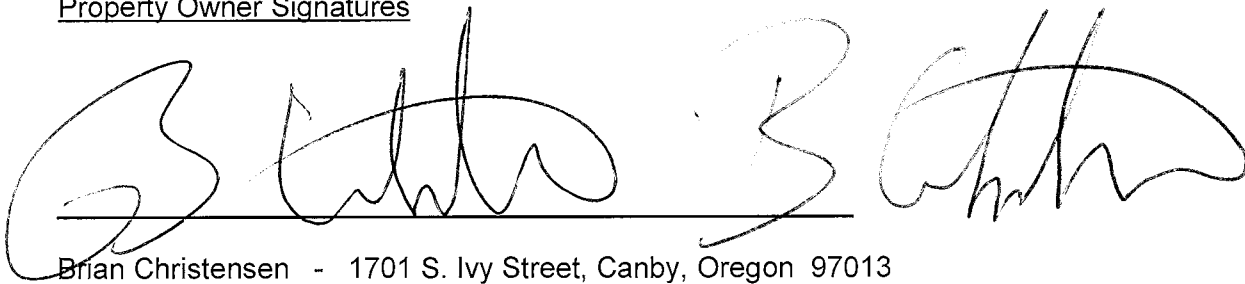
Tax Map: 41E04D Tax Lot: 1400 Size of Property: 0.87 acres

Current Zoning: EFU, Clackamas County Proposed Zoning C-R

Canby Comprehensive Plan Designation: RC - Residential Commercial

Use of Property: One SFR House and Storage Buildings

Property Owner Signatures

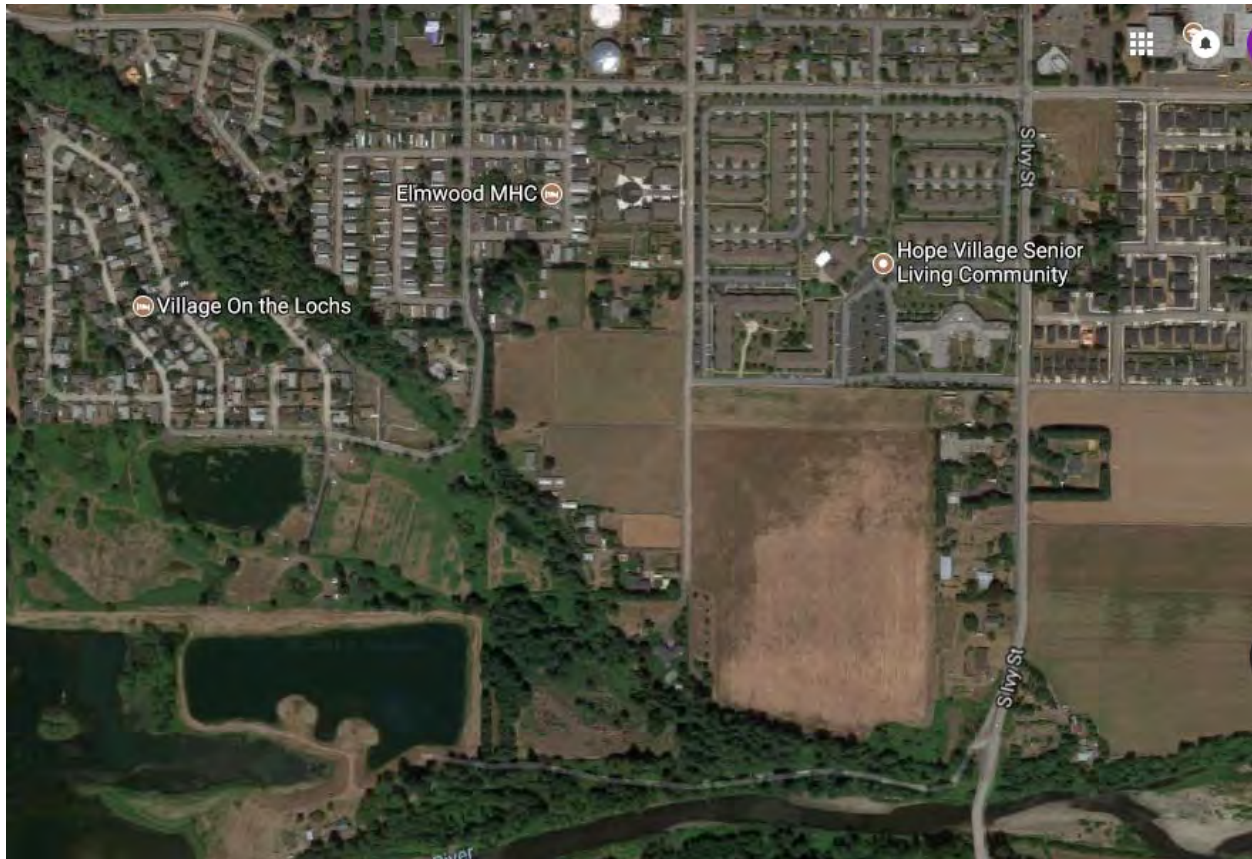


Brian Christensen - 1701 S. Ivy Street, Canby, Oregon 97013

SOUTHWEST CANBY ANNEXATION & ZONE CHANGE APPLICATION

Submitted: October 19, 2017

Revised: November 10, 2017



PREPARED BY

Planning & Land Design, LLC
1862 NE Estate Drive
Hillsboro, OR 97124
Ryan O'Brien, Planner
ryanobrien1@frontier.com
(503) 780-4061

APPLICANT

Stafford Development Company, LLC
485 South State Street
Lake Oswego, OR 97034
Levi Levasa, Project Manager
levi@staffordlandcompany.com
(971) 206-8614

PROPERTY OWNERS

Rodney & Carol Beck
Roger & Cheryl Steinke
Brian Christensen
Hope Village, Inc.
Rita Schmeiser

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4. Beck and Steinke Existing Conditions and Topography Map
5. Southwest Canby DCP Area Master Plan
6. Southwest Canby Water Line Master Plan
7. Southwest Canby Sanitary Sewer Master Plan
8. Pre-Application Meeting Minutes
9. Neighborhood Meeting Materials
 - a. Neighborhood Association Map
 - b. Neighborhood Meeting Notice
 - c. Neighborhood Meeting Sign-In Sheet
 - d. Neighborhood Meeting Minutes
10. U.S. Census Bureau Data
 - a. 2010 Demographic Profile Data
 - b. 2010 Census Summary File 1
 - c. 2016 Population Estimates
11. Southwest Canby Development Concept Plan

I. Introduction

The purpose of this application is to request approval for the Annexation of the subject properties from unincorporated Clackamas County into the City of Canby and apply local zoning designations, consistent with the Comprehensive Plan, through the process of a Zoning Map Amendment.

TABLE 1: SUBJECT PROPERTIES

Property Owner	APN	Tax Map	Tax Lot	Gross Acres	Net Acres	Comp Plan Designation	Proposed Zoning
Roger & Cheryl Steinke	01002417	4-1E-4CA	1500	2.00	2.00	MDR	R-1.5
Rodney & Carol Beck	01002426	4-1E-4CA	1600	2.45	2.45	MDR	R-1.5
Rodney & Carol Beck	01002195	4-1E-4C	1401	6.25	6.04	MDR	R-1.5
Nadine Beck (Te)	01002202	4-1E-4C	1500	8.75	5.50	LDR	R-1
Brian Christensen	01002603	4-1E-4D	1400	0.87	0.87	RC	C-R
Hope Village Inc.	01002612	4-1E-4D	1500	1.47	1.47	RC	C-R
Rita Schmeiser	01002621	4-1E-4D	1600	1.93	1.93	MDR	R-1.5
				<u>23.72</u>	<u>20.26</u>		

The subject properties make up a large portion of the southwest Canby Development Concept Plan (DCP) Area as identified on the City of Canby Annexation Development Map (Exhibit 1). The Applicant and property owners have determined that annexation of the subject properties is prudent and will address the need for residential land in the City of Canby as suggested by the evidence presented later in this application. Subject to approval of annexation, the subject properties are proposed to be rezoned from the Clackamas County designation of Exclusive Farm Use (EFU) to existing City of Canby designations that are consistent with the Comprehensive Plan as shown in the table above.

With the intent to subdivide and develop the three Beck properties, the Applicant engaged the surrounding property owners in the southwest DCP area to determine who would like to have their property included in this application. Although some property owners have decided to defer annexation or turn in a separate application, they were involved in the planning efforts to meet the requirements of the DCP. The creation of the Development Concept Plan for this area is a requirement of this annexation and is addressed in greater detail in Exhibit XX. The Master Plan map for the southwest Canby DCP is attached to this portion of the application as Exhibit 5. The following narrative and exhibits are a result of a collaborative effort between the Applicant and property owners included in this annexation and zone change application and/or within the DCP area.

This application will provide explanatory material and address the relevant sections of the Canby Municipal Code (CMC) and the subsequent provisions of the Canby Comprehensive Plan and Oregon Revised Statutes (ORS). The relevant sections of these controlling documents will be quoted throughout the application and followed by a comment from the Applicant to exemplify the compliance of this application and proposal with the applicable criteria. To be concise, text from certain sections and subsections have been omitted as they are either explanatory in nature or not applicable.

II. Site Description

The subject properties identified in Exhibit 2 are located within the southwest Canby DCP area (Exhibit 3) as identified on the City of Canby Annexation Development Map (Exhibit 1). The boundary of the DCP and annexation area follows the Urban Growth Boundary (UGB), which is set at the 18% break in slope identified in several of the Exhibits. The location of the UGB boundary bisects five of the properties within the DCP and two of the properties that are the subject of this annexation application. The resulting net annexation area of the subject properties is equal to 20.26 net acres, which excludes 3.46 acres that are beyond the 18% break in slope and UGB. Also not included in the 20.26 net acres is the right-of-way along the frontage of S Fir and Ivy Streets that will be annexed as a part of this application. Existing conditions of the DCP area and annexation properties can be seen in Exhibit 3.

The annexation area includes groups of properties on the eastern and western edges of the DCP area. The eastern group includes the Hope Village, Christensen, and Schmeiser properties. The western group includes the Beck properties and Steinke property. Property owned by McMartin Farms, LLC is located between the two groupings included in this application. The McMartin property owners have elected to submit their own annexation application, which will also be subject to the DCP that is a part of this application.

The eastern grouping of the Christensen, Hope Village, and Schmeiser properties is located on the western frontage of South Ivy Street and surrounded by farm land. To the west is the McMartin Farms property and to the east of S Ivy St. is primarily farm land. Adjacent property to the north is controlled by Hope Village and is anticipated to develop in the near future. Further to the north/northwest is the Hope Village Assisted Living facility. To the northeast is the recently completed Dinsmore Estates subdivisions.

The western grouping of the Beck (3 parcels) and Steinke (1 parcel) properties is located between South Fir and South Elm Streets. Single-family homes are currently sited on 3 of these 4 parcels. This area is very flat, with an elevation change of only 2 feet from the near the northwest corner (168 ft.) to the southeast corner (170 ft.). A detailed topographical survey of the western group properties can be seen in Exhibit 4. Development to the north and west of these properties consists primarily of manufactured home communities with private streets. To the east/northeast is the Hope Village Senior Living Community. Property to the east/southeast is vacant farm land. Property to the south, and within the DCP area, consists of 3 single-family homes on large lots with only 1 to 2 acres within the UGB. Development potential on these properties is limited and the owners have elected to keep their properties in Unincorporated Clackamas County. To the south/southwest is land outside of the UGB and along the Molalla River corridor. Further expansion of the UGB to the south/southwest is not likely to occur due to the steep slopes and natural features in the vicinity.

Access to the property is available with 3 north/south streets; Elm, Fir and Ivy Streets. These streets connect to 13th Avenue to the north, an east/west arterial street. Most urban infrastructure has been extended to the edge of the annexation area. Local services and facilities will be available for the proposed annexation area or can be made available through short service extensions.

The subject properties and other properties in the DCP area have characteristics typical of a rural area with single-family residences located on large and acreage lots with some engaging in farming operations or home-based businesses. This is consistent with other undeveloped properties in the south Canby area. Opportunities for additional single-family residential developments are limited in the nearby surrounding areas, especially near the western grouping of these annexation properties.

III. Facilities and Services

Annexation of the subject properties with R-1, R-1.5, and C-R zoning is a reasonable expansion of the City of Canby based on the level of development in the surrounding area and the existing facilities and services that are available to serve the DCP area. The City of Canby staff indicated at a pre-application meeting that all utility service providers and utilities are available in the DCP area or can be made available through development of the site. Pre-application meeting minutes are attached as Exhibit 8.

Water: Reference Exhibit 6: DCP Water Line Master Plan

Water is provided through Canby Utility's Water Department. A 10-inch water line is available in Fir Street, a 12-inch line in Ivy Street and an 8-inch line in Elm Street. All 3 water lines will be extended into the DCP area. The 12-inch water line will be constructed in the east-west streets between Ivy and Fir Streets (17th and 18th Avenues) and possibly between Fir and Elm Streets (16th Avenue) based on a final water line flow and pressure calculations (See Exhibit 6). The rest of the streets will have looped 8-inch water lines which connect to the existing 10-inch and 12-inch water lines as shown by Exhibit 6. Public water lines will be located in all the public streets. If Hope Village builds private streets in their development, their water lines may be private rather than public.

Sanitary Sewer: Reference Exhibit 7: DCP Sanitary Sewer Master Plan

Sanitary sewer is provided by the City of Canby. Three existing sewer lines are available to this DCP area. The **first** existing sewer line is 8-inches in diameter and located to the north at the intersection of 16th Avenue and Ivy Street. The invert elevation is XXXX feet. It can be extended approximately XXX feet to the south along Ivy Street as shown by Exhibit 7. The ground elevation of the DCP along Ivy Street is about 178 to 179 feet. Shallow sewer lines extending to the existing sewer lines will conflict with the water lines with only 3 feet of cover. The pump station will be required to lower the depth of the sewer lines to 6 to 8 feet as shown by Exhibit 8.

At the pre-application conference, city staff indicated the city will not plan for or fund the pump station until the city knows for sure development will occur. Construction of the pump station and the associated force main will be paid for with City Systems Development Fees collected by the City. Gravity mains are paid by the developers of the subdivisions. Annexation of property will not trigger the need for the pump station. It will be constructed by the City when the McMartin property and Hope Village properties are approved for development by the City.

The **second** sewer line is 8-inches in diameter and located in Fir Street at the northeast corner of the Steinke property, Tax Lot 1500, Map 4-1E-4CA. The invert elevation is 163.68 feet. This sewer line will serve the northeastern portion of the Beck property as show by Exhibit 7.

The **third** sewer line is 8-inches in diameter and located in Elm Street at the north-west corner of the Beck property, Tax Lot 1401, Map 4-1E-4C. The invert elevation is 161.57. This sewer line will serve all of the remaining Beck property.

Storm Drainage:

Roof drains from homes within the subdivision will drain to privately owned and maintained infiltration facilities on each individual lot. Street drainage will be directed to sumped catch basins and pollution control manholes for

water quality treatment and then to dry wells located throughout the development area for disposal through underground injection. All street storm drainage facilities are proposed to be public facilities consistent with the newly adopted City of Canby Stormwater Master Plan and the Canby Public Works Design Standards. When development proposals are submitted, the issue of storm water management and drywell location can be discussed in greater detail.

Private Utilities:

Private utilities providing service for telephone, natural gas, cable, garbage, recycling collection and wave broadband are all available in Elm, Fir and Ivy Streets. These utilities generally operate on a franchise basis. Electrical power is provided through Canby Utility’s Electrical Department in conjunction with PGE. Dry utilities such as power, communications and natural gas are available north of the DCP area. Extension of these utility lines will occur with each development phase.

Fire Protection:

Fire protection for the local neighborhood is currently provided by Canby Fire Department, which serves the City of Canby and the surrounding area. Service to this site could come from the existing fire facilities within the city. Canby Fire has indicated that it can serve the property when annexed. If the property is developed consistent with adopted standards, the Canby Fire Department will be able to serve future development. Specific Fire Department comments regarding service are withheld until the detailed development plans are submitted to the city for review.

Police Protection:

Police protection is currently provided by the Clackamas County Sherriff’s Department. The service will transfer to the Canby Police Department when the property is annexed to the city.

Schools:

The entire DCP area is within the Canby School District. The schools are very close to the subject properties. Lee Elementary and Ackerman Middle Schools are located at the northeast corner of Ivy Street and 13th Avenue. Canby High School is located at the southeast corner of Highway 99E and 4th Avenue. These schools have athletic fields which provide active recreational opportunities on weekends, during summers, and when school is not in session.

Parks: Park facilities in the city are administered by the Canby Parks Department. New park facilities will be provided as shown on the SW Canby DCP. The new park facilities are assumed to be owned by the City and will be for use by all residents and visitors. The existing City parks that are close to the DCP area are as follows:

1. Legacy Park is located at 1200 SE 13th Avenue next to Ackerman Middle School and features playgrounds, soccer fields, a picnic shelter and a meditation garden.

2. Community River Park is located at 1348 S. Berg Parkway southwest of Canby High School. This is a natural park with picnic facilities, barbecue pits, playground equipment, ball fields and a fishing pond for youth age 17 and under.
3. The Community Swim Center is located at 1150 S. Ivy Street just north of 13th Avenue.
4. The Adult Center is located at 1250 S. Ivy Street at the northeast intersection of 13th Avenue and Ivy Street.
5. Three new pocket parks and a trail along the Molalla River corridor are shown on the DCP Master Plan Map (Exhibit 5). The pocket parks next to the trail can take advantage of the large stand of trees located along the south side of the trail. The trees provide shade for passive recreational opportunities such as walkways, picnic tables, and benches. Additional recreational opportunities include nature walks, playground equipment and picking. The pocket parks will be used as rest stops along the trail. Park improvements may be constructed by the project developer or developed by the City of Canby. See Section VI (Park Dedication) of the Development Concept Plan for additional information.

IV. Neighborhood Meeting

One of the requirements of submitting for annexation is holding an informative neighborhood meeting. The purpose of the meeting is to inform neighbors within 500 feet of the subject property about the intent to annex the subject property to the city and rezone in accordance with the Canby Comprehensive Plan. The notice to the neighbors included a potential Master Plan for the property and proposed zoning for each tax lot. The mailing list was prepared by a title company and was based on Clackamas County Assessor's records.

The Applicant held a neighborhood meeting in compliance with the requirements of CMC 16.89.070 on Tuesday, April 18, 2017 from 7 to 8 pm at the Canby Adult Center located at 1250 S. Ivy Street. The notice was sent to all property owners and occupants within 500 feet of the SW Canby DCP area and the representative of the SW Canby Neighborhood Association. Approximately 30 people attended, but not everyone signed in. Exhibit 9 contains the materials associated with the neighborhood meeting including the following:

- A map showing the boundaries of the Neighborhood Association.
- A copy of the Notice letter and preliminary master plan that was mailed.
- The sign-up sheet with approximately 22 names.
- And the Minutes for the meeting.

The Applicant gave a presentation and explained the proposed annexation and the subsequently required Development Concept Plan and project and answered questions. The majority of the owners that are a party to this application and included in the annexation were invited to join during the neighborhood meeting.

The requirement to host a neighborhood meeting has been satisfied by the Applicant.

V. Approval Criteria

This section will address the applicable standards and criteria for approval of annexation into the City of Canby and a Zoning Map Amendment and the subsequent criteria of the Comprehensive Plan, Urban Growth Management Agreement between Clackamas County and the City of Canby, and the Oregon Revised Statutes. Code sections will be quoted in italic, followed by a comment from the applicant Evidencing the compliance of this request and proposal. Text from certain sections of the quoted codes have been omitted because they are explanatory in nature, are not the responsibility of the Applicant, or do not apply to this application.

Canby Municipal Code

DIVISION VI. – CHAPTER 16.84 – ANNEXATIONS

16.84.005 Background [omitted]

16.84.010 Purpose [omitted]

16.84.020 State regulations

The regulations and requirements of Oregon Revised Statutes Chapter 222 are adopted by reference and made a part of this division. (Ord. 740 section 10.6.20, 1984)

COMMENT:

These regulations are addressed on page XX of this application.

16.84.030 Filing procedure [omitted]

16.84.040 Standards and criteria.

A. The following criteria shall apply to all annexation requests.

1. The City of Canby Annexation Development Map shall determine which properties are required to submit either (See Figure 16.84.040):

a. A Development Agreement (DA) binding for all properties located within the boundaries of a designated DA area as shown on the City of Canby Annexation Development Map. The terms of the Development Agreement may include, but are not limited to: [portions of this subsection omitted for brevity]

COMMENT:

The subject properties are not within a Development Agreement area as identified on the City of Canby Annexation Development Map. This criterion is not applicable.

b. A Development Concept Plan (DCP) binding for all properties located within the boundaries of a designated DCP area as shown on the City of Canby Annexation Development Map. A Development Concept Plan shall address City of Canby infrastructure requirements including:

- 1. Water*
- 2. Sewer*
- 3. Stormwater*
- 4. Access*
- 5. Internal Circulation*
- 6. Street Standards*
- 7. Fire Department requirements*
- 8. Parks and open space*

For newly annexed properties that are within the boundaries of a DCP area as designated on the City of Canby Annexation Development Map: A Development Concept Plan shall be adopted by the Canby City Council prior to granting a change in zoning classification. (Ord 1294, 2008)

COMMENT:

The subject properties are part of a Development Concept Plan (DCP) area as identified on the City of Canby Annexation Development Map (Exhibit 1). The Applicant has prepared a DCP for the southwest Canby DCP area and included a narrative and exhibits addressing the infrastructure requirements. The DCP can be found in Exhibit 11 of this application. The Development Concept Plan has been inserted as the final Exhibit so it can function independent of this application if approved and contains its own exhibits. A review of the DCP will show that these criteria have been met.

2. Analysis of the need for additional property within the city limits shall be provided. The analysis shall include the amount of developable land (within the same class of zoning - low density residential, light industrial, etc.) Currently within the city limits; the approximate rate of development of those lands; and how the proposed annexation will affect the supply of developable land within the city limits. A supply of developable residential land to provide for the anticipated population growth over the following three years is considered to be sufficient;

COMMENT:

The applicant has reviewed available data and determined that the City of Canby has an insufficient supply of developable land in the same class of zoning that would be applied to the subject properties upon Annexation and approval of a zone change. Forecasted population growth outweighs the current and anticipated availability of lots within the R-1 (Low Density), R-1.5 (Medium Density), and C-R (Residential Commercial) zones that are ready for development. The following tables and analysis will detail the availability of buildable lots for each of the proposed designations of the subject properties.

Population Growth and Housing Needs

Population growth is the driving force behind increased demand for housing of all types. As such, the Applicant has analyzed historic data and projections, actual conditions, and recent population growth forecasts. In addition, the Applicant considers the impacts of other market conditions, including the average household size.

The Applicant has considered a few different sources in measuring and projecting the population and housing market conditions, including data and analysis from the U.S. Census Bureau and the City of Canby Comprehensive Plan. Data tables from U.S. Census Bureau used in these analyses can be found in Exhibit 10. The following tables exhibit the different population measurements and forecasts used in this analysis and note the source of the information.

TABLE 2: CITY OF CANBY POPULATION ESTIMATE

U.S. Census Bureau, Population Division

Year	Population	Annual Growth Rate (calculated)
2010	16,668	-
2011	16,730	0.37%
2012	16,808	0.47%
2013	16,950	0.84%
2014	17,191	1.42%
2015	17,425	1.36%
2016	17,653	1.31%
2017*	17,884	1.31%

Source: U.S. Census Bureau - Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2016

* Calculated estimate based on the most recent annual growth rate

Based on the above data from the U.S. Census Bureau’s Annual Estimates of the Resident Population for the City of Canby, it can be determined that the recent annual growth rate of the population in the City of Canby was between 1.31% and 1.42% from 2013 to 2016. This determination is consistent with estimates made by Clackamas County and the State of Oregon Office of Economic Analysis. Using the calculated annual growth rate of 1.31% we can make an estimate that the population in the City of Canby is around 17,884 in the year 2017 as calculated in the last row of Table 2 above. This population estimate will be used as the 2017 population of Canby.

The next table shows the data relevant to determining the average household size to be used in this analysis.

TABLE 3: CITY OF CANBY POPULATION & HOUSEHOLD SIZE

Multiple Sources

Data Year	Population	Household Units	Average Household Size	Source
1970	3,758	1,308	2.87	Canby Comprehensive Plan, Page 145 (US Census)
1980	7,659	2,861	2.68	Canby Comprehensive Plan, Page 146 (US Census)
2010	15,829	5,647	2.80	U.S. Census Bureau, 2010 Demographic Profile
2015	16,951	6,134	2.76	U.S. Census Bureau, 2015 ACS Survey
2016	17,653	Unavailable	2.80	U.S. Census Bureau, 2016 Annual Estimates

The above table lists projections and measurements that largely come from the U.S. Census Bureau, some of which have been used in prior analyses and planning by the City of Canby. For this analysis, the Average Household Size will be assumed to be 2.80 persons per household unit which is justified by the data above. This will be beneficial in projecting additional need for housing based on population growth.

Table 4 below gives the long-range projections for population growth in the City of Canby per the Metro Regional Population and Employment Range Forecasts report that was created in 2009.

TABLE 4: CITY OF CANBY POPULATION FORECAST

Year	Projected Population	
	Low Range	High Range
2010	15,829	15,829
2015	17,998	18,520
2020	20,464	21,668
2025	23,268	25,352
2030	26,456	29,662
2035	30,080	34,705
2040	34,201	40,605

Source: METRO Regional Population and Employment Range Forecasts, 2009 (City of Canby Storm Sewer Master Plan, 2017)

Conveniently, the above projections for the 2020 population can be used in determining the housing needs three years from the date of this application consistent with the criteria of this subsection. However, you can see that even the low range projections from the Metro report for the year 2015 in Table 4 are considerably higher than that of Table 2. The data from the 2016 U.S. Census Bureau’s Annual Estimates shown in Table 2 estimates the population in 2015 to be about 97% of what was forecast by the Metro report. To be conservative in our analysis, we will use only 97% of the 2020 low range population estimate from the Metro report. Thus, the population estimate for the year 2020 that we will use in this analysis is 19,850. This is a key component in projecting housing needs for the anticipated population growth.

The table below consolidates the estimates that have been calculated in the tables above regarding the population growth, household size, and the additional housing units needed over the next three years.

TABLE 5: CALCULATED 3-YEAR POPULATION AND HOUSING FORECAST

Year	Population	Average Household Size	Housing Units
2017	17,884	2.8	6,387
2020	19,850	2.8	7,089
2017-2020 Increase	1,966	2.8	702
Average Annual Increase	655	2.8	234

Based on an average household size of 2.8 persons per unit, an additional 702 housing units will be needed to accommodate the projected population increase of 1,966 residents by the end of 2020. Assuming the growth is spread evenly over the next three years, an additional 234 units will be needed to supply the housing demanded by an additional 655 residents each of the next three years. The needed housing units over the next three years will be supplied in a variety of housing types. Further analysis of the need for the proposed housing types on the subject properties will be provided below.

Single Family Residential Lots:

The availability of developable lots is insufficient to meet the three-year supply needs in the R-1 and R-1.5 zones within the City of Canby. There are currently no developable platted lots within the City of Canby that are zoned R-1.5. As such, we will assume that a non-existent inventory of R-1.5 is insufficient. However, the following analysis that relies primarily on data for R-1 lots will focus on the need for single family residential (SFR) detached housing which is permitted on both R-1 and R-1.5 lots. Additionally, the subject properties zoned R-1.5 are likely to be proposed as detached single-family homes. The following analysis will summarize recent development activity, determine the recent absorption rate of R-1 and R-1.5 lots and the proportion of the new housing units needed that should be accommodated by single family detached housing. Ultimately, the necessary supply to meet the anticipated 2020 demand for detached SFR housing units will be determined.

The following tables exhibit the existing inventory of developable SFR lots within the City of Canby that have recorded by subdivision or partition since 2007 and 2010 respectively, as of September 30, 2017. There are 12 existing platted vacant lots from subdivisions and partition plats recorded prior to these dates. These lots are developed at a rate inconsistent with current market trends for a variety of reasons and as such will be excluded from this portion of the analysis. Recording and Permit info used in the following tables was gathered from the most recent Clackamas County, Title, and City of Canby records available.

TABLE 6-A: AVAILABLE PLATTED LOTS IN CANBY BY SUBDIVISIONS

This data only includes property zoned R-1 and R-1.5 and excludes subdivisions that recorded prior to 2007

Date Recorded	Plat #	Subdivision Name	Zone	Total Lots	Issued Permits	Pending Permits	Remaining Lots
12/2/2014	4396	Northwood Estates No. 2	R-1	33	27	2	4
3/20/2015	4409	Dinsmore Estates - 2	R-1	41	41	0	0
6/26/2015	4422	Pine Meadow	R-1	19	19	0	0
10/26/2015	4433	Faist Addition No. 6	R-1	30	21	2	7
11/17/2015	4436	Dinsmore Estates - 3	R-1.5	10	10	0	0
6/9/2016	4457	Franz Meadow	R-1	18	18	0	0
10/1/2016	4475	Faist Addition No. 7	R-1	6	2	0	4
3/31/2017	4488	Caitlyns Place	R-1	6	4	0	2
9/26/2017	4509	Northwood Estates No. 3	R-1	21	0	0	21
Total Subdivision Plat Lots				184	142	4	38

TABLE 6-B: AVAILABLE PLATTED LOTS IN CANBY BY PARTITIONS

This data only includes property zoned R-1 and R-1.5 and excludes partitions that recorded prior to 2010

Date Recorded	Plat #	Partition Applicant	Zone	Total Lots	Issued Permits	Pending Permits	Remaining Lots
1/14/2015	PP2015-004	White River Homes	R-1	2	1	0	1
9/28/2016	PP2016-098	White River Homes	R-1	2	1	0	1
5/5/2017	PP2017-035	Wild Hare Rentals	R-1	2	1	0	1
6/13/2017	PP2017-044	Allee and Brito	R-1	3	1	0	2
6/20/2017	PP2017-048	Pierce	R-1	3	0	0	3
Total Partition Plat Lots				12	4	0	8

Total Remaining Buildable R-1 Lots 46*

* All remaining buildable lots have an R-1 zoning designation as there are no remaining R-1.5 lots

** Excluding 12 lots platted by subdivision or partition prior to 2007 and 2010 respectively

The data from Tables 6A and 6B above shows that only 46 developable lots remain in the City of Canby to accommodate single family detached housing needs. Additional analysis below will determine the required inventory of buildable lots to accommodate the expected demand through 2020.

The tables below identify the number of recorded lots in each of the past three full years and the number of building permits issued by year to show the rate that the recorded lots are developed. Permit counts for 2017 include those pending as of the date of this applications submittal.

TABLE 7-A: 2014 PLATTED R-1 LOT ABSORPTION

Recording Date:		Dec. 2		Lots Recorded:		33	
Year Permitted	Permit Count	Annual Absorption	Total Absorption				
2014	0	0%	0%				
2015	9	27%	27%				
2016	10	30%	58%				
2017	10	30%	88%				
Vacant	4						

Note: Late year recording date skews absorption rate calculations

TABLE 7-B: 2015 PLATTED R-1 LOT ABSORPTION

Recording Date:		Mar. 20 - Sep. 11		Lots Recorded:		90	
Year Permitted	Permit Count	Annual Absorption	Total Absorption				
2015	47	52%	52%				
2016	31	34%	87%				
2017	5	6%	92%				

Vacant	7
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TABLE 7-C: 2016 PLATTED R-1 LOT ABSORPTION

Recording Date:	Jun. 9 - Oct. 1	Lots Recorded:	24
Year Permitted	Permit Count	Annual Absorption	Total Absorption
2016	15	63%	63%
2017	5	21%	83%
Vacant	4		

Tables 7-A, B & C calculate the rate of absorption for lots recorded in each of the last three years. Since there have only been ten R-1.5 lots recorded in the last several years, they have been excluded from this portion of the analysis. The resulting data above gives us a good idea of the rate at which recorded single family residential lots develop. In general, the above data suggests that over 50% of recorded lots are permitted for home building within 12 months of recording. Additionally, over 80% are permitted by the end of the calendar year following recording. A closer look shows that over 90% of the recorded lots are permitted for homes within 24 months of recording. These numbers are fairly consistent with industry standard for subdivision buildout in the Portland Metro area and Willamette Valley, but are taking slightly longer. This is likely due to single-builder subdivisions.

The following table combines data from the analyses above and calculates the number of SFR lots needed to meet the 3-year lot demand within the City.

TABLE 8: PROJECTED HOUSING NEEDED BASED ON PROJECTED POPULATION INCREASE

Year	Population	Pop. Increase	Growth Rate	Average Household Size	New Housing Needed	SFR Housing Needed (R-1&R-1.5)	SFR Housing as % of Needed Housing
2014	17,191	-	-	-	-	-	-
2015	17,425	234	1.36%	2.76	85	59	70%
2016	17,653	228	1.31%	2.8	81	63	77%
2017	17,884	231	1.31%	2.8	82	Incomplete	
2018	18,539	655	-	2.8	234	161	68.7%
2019	19,194	655	-	2.8	234	161	68.7%
2020	19,849	655	-	2.8	234	161	68.7%
3-Year Housing and SFR Lot Supply Needed					702	482	

Notes: Population forecast for 2018, 2019, and 2020 is based on 97% of the Metro low estimates for 2020 averaged over 3 years.

Bold font number indicates estimated or calculated outcomes based on existing data.

The information from Table 8 shows that in 2015 and 2016 the increase in population (per the U.S. Census Bureau) estimated the need for an additional 85 and 81 housing units respectively based on the average household size at the time. The actual number of housing permits issued in the City of Canby in 2015, including Single Family and Multi-Family Residential units was 85 which matches the calculated estimate. This is a good indicator of accurate calculations. The actual number of those permits issued to properties in the R-1 and R-1.5 zones was 59, which makes up 70% of the housing that was needed in 2015. Continuing with the same calculation methods for 2017 thru 2020 and using population projections based on previous analyses in this report, the average number of housing units needed over each of the next 3 years is 234. Rather than assuming the proportion of SFR housing will continue to be over 70% of the total housing needed, the Clackamas County average of 68.7% Single Family detached housing will be used in our analysis of 2017-2020. This is done to be conservative and to account for the rapid growth that is projected. Typically, rapid growth will shift a larger share of the population from single family detached housing into attached or multifamily housing. Current and future apartment developments, along with the hopeful expansion of the Hope Village Senior Living Community (which is included in the DCP portion of this application) will house a larger share of the population. This is a natural progression in the growth of a city. Using the 68.7% proportion of SFR housing to Total housing, an average of 161 new SFR lots or housing units will be needed over each of the next 3 years, totaling 482, to accommodate the projected population growth through 2020.

The following tables combine the available platted lots inventory from Tables 6A and 6B with pending R-1 and R-1.5 subdivision lots that have recently received preliminary approval. While these pending approvals may not guarantee recordation of lots, including them in this available/existing inventory will allow us to see that additional land is needed regardless of whether those lots record.

TABLE 9: TOTAL AVAILABLE OR PENDING SFR LOTS

Available or Pending Lots	Lot Count
Remaining Subdivision Lots	38
Remaining Partition Lots	8
Pending Subdivision Lots:	
Faist Addition No. 8	24
Faist Addition No. 9	6
Timber Park	105
Tanoak Subdivision	8
Ivy Park	6
Total Available or Pending Lots	195

TABLE 10: ANALYSIS SUMMARY

Description	Lot Count
SFR Housing Needed through 2020	482
Available and Pending SFR Lots	195
Current Deficiency	287

Even including the pending/unrecorded subdivision lots, the City of Canby has a significant deficiency in buildable lots. 195 lots is a 14-month SFR lot supply. Based on the demand for 482 new single family detached residential dwelling units within the City of Canby over the next three years, and the above calculated 195 existing or pending lots, there is currently a deficiency of 287 buildable single-family residential lots as of right now. Based on the analyses above, there is a great need for additional lot supply in the City of Canby to meet the anticipated market demands through 2020. This analysis consistently assumed the lowest growth projections based on existing data and projections, and the need for additional residential land remains evident. To meet the anticipated demand for single family detached housing, additional R-1 and R-1.5 land should be annexed into the City of Canby. The subject properties, and particularly the Beck properties, are the best candidates in the UGB for annexation.

Annexation of the subject properties will not immediately trigger the development of each property. The potential housing units that could be developed on the subject properties is 93. However, the only properties likely to develop in the year or two following annexation includes the Beck properties which, based on the DCP, includes a potential 40 lots zoned R-1.5 and 22 lots zoned R-1. These lots would not likely contribute to the buildable lot supply until the end of 2018 at the earliest. The subject properties in the eastern grouping along S Ivy St. will not be able to develop until the City agrees to build a sanitary sewer pump station which could be beyond the 2020 horizon. No other property owners that could develop without the pump station have immediate plans to develop their property. The R-1.5 housing from the Beck properties would likely be absorbed quickly as there are no other single-family lots of comparable size currently available in the city.

According to the “*Growth Priorities Map*” on page 32 of the Comprehensive Plan, the subject properties make up a portion of a *Priority Area*, where growth is anticipated to take place initially. The annexation of the subject properties is a natural first step in the development of the southwest Canby DCP area as gravity sewer can serve the western group of the subject properties of which the Beck properties will almost certainly develop first.

Residential Commercial Developable Land:

A single parcel in the C-R zone that is 2.59 acres (Taxlot 41E04DA04800), is the only remaining C-R zoned lot in the City limits that has a portion of the property undeveloped. However, there is an existing residence on the lot which significantly lowers the likelihood of development. This single C-R zoned parcel that is underdeveloped does not sufficiently accommodate the variety of development opportunities available to C-R zoned land. In the case of the C-R subject properties, the land is anticipated to be used in the expansion the Hope Village Senior Living Community, adding a potential 6 housing units to the property owned by Hope Village. Hope Village would also be a likely candidate to develop the Christensen property, which could accommodate another 6 units within their community.

Conclusion

This analysis has conclusively shown that the current inventory of developable lots within the City of Canby is insufficient for providing housing to accommodate the anticipated population growth over the next three years. As such, the requested annexation of the subject properties is timely and needed to increase the supply of housing in the City of Canby in each of the R-1, R-1.5, and C-R zones. The requirements of this subsection have been met.

3. Statement of potential physical, aesthetic and related social effects of the proposed development on the community as a whole and on the neighborhood of which it will become a part; and proposed actions to mitigate identified concerns, if any. A neighborhood meeting is required as per Table 16.89.020 of the City of Canby Land Development and Planning Ordinance.

COMMENT:

The Applicant has identified and recognizes the physical and aesthetic changes that may result from future development of the subject properties and believes that the project and associated changes will have an overall positive social and economic effect on the City of Canby. Development of the properties included in this annexation and in the DCP area will be consistent with the existing character of the City of Canby, and more specifically, south Canby. Future development on any of the subject properties will substantially conform to the Development Concept Plan for this area which has been submitted as a part of this application.

The recent phases of the Dinsmore Estates and Faist Addition projects on the east side of S Ivy St., and on the south and north sides of 13th avenue respectively, are good examples of what the proposed R-1 and R-1.5 properties will look like when fully developed. The housing type, streetscape, and landscaping will all be very similar to the nearby subdivision. The main difference will be that the subject properties will have a greater proportion of lots in the R-1.5 zone. The greater proportion of R-1.5 land in future developments of the subject properties and DCP properties will help address the need for medium density residential housing types that is evidenced in the Applicant's response to the previous subsection.

The development pattern of the existing Hope Village community is a good example of what the subject properties proposed for the C-R zoning will look like when fully developed. Hope Village has been very involved in this planning process and hopes to expand their community to include the subject properties in the C-R zones in addition to the High Density Residential portion of the McMartin Property. The positive social and economic impacts of the other nearby subdivisions and communities will continue with the development of the southwest Canby area as the market supports the continued growth of Canby.

Southwest Canby is a unique area in Canby because of its potential for future residential development. Southwest Canby is the best place for expansion because of the large lots controlled by few land owners and has the ability to absorb a significant amount of development. The City should recognize and encourage this type of growth to provide more options for residential housing in Canby.

The additional needs coincident to any development regarding transportation, park space, and other utility and city services is addressed in detail in other parts of this application and in the DCP.

The Applicant held a neighborhood meeting in compliance with the requirements of CMC 16.89.070 on Tuesday, April 18, 2017. Additional information is available in Section IV of this application.

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

COMMENT:

An analysis regarding the availability of water, sanitary sewer, storm sewer and drainage, transportation, schools, and other necessary facilities is partially covered in Section III of this application and in the attached SW Canby Development Concept Plan (Exhibit 11). The DCP and Section III show that the necessary services, utilities, and facilities can be made available to the subject properties and DCP area and will not inhibit future expansion. For additional information, reference those sections of the application.

The proposed annexation will create additional need and demand for local park facilities. The DCP shows 3.65 acres of park facilities which includes a trail that is 2,500 feet in length and 3 pocket parks. Two of the pocket parks are adjacent to the trail which follows the top of bank 18% slope along the Molalla River corridor.

Additional annexation will have some impact on the capacity of schools, however, the rate and scale of that impact is likely very low. Based on the 2010 census data, around 20% of the population in Canby was between the ages of 5 and 18 years old. Based on a household size of 2.8, that means approximately 45 new potential students between the ages of 5 and 18 would likely move to the annexation properties. That is an average increase of about 3.5 students per grade level. This is a relatively low impact, especially considering that full build out of just the Beck properties would be at least a couple of years away.

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

COMMENT:

Adding an additional 93 housing units at full build out of the subject properties will increase the demand on all facilities. However, after completion of the first 62 units in two or three years from now, there could be a period of time where development of the remaining 31 planned units will be on hold due to a lack of gravity sewer. The increase in demand from future development will have a minimal immediate impact on these facilities. Additional transportation studies have been completed by DKS Associates for the DCP and future Beck developments that indicate there is little concern regarding the capacity of the transportation. Their recommendations can be found in the report included with the DCP in Exhibit 11.

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

COMMENT:

The proposed annexation and development as planned would require increased demand for facilities, services, and utilities. Sanitary sewer, water service, storm drainage management, and street improvements will be constructed by the developers. The Development Concept Plan submitted with this application describes the availability of public facilities and services necessary for the development of the site. These improvements will occur when the site is developed, not with the annexation.

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

COMMENT:

The developers will pay the improvement costs for their own projects. The only exception will be the sanitary sewer pump station required for the 23 houses along Ivy Street. The city of Canby staff indicated the city will pay for the pump station. Development of the Beck property between Elm and Fir Street will not require a pump station. This property has gravity sanitary sewer availability.

8. Statement indicating the type and nature of any comprehensive Plan text or map amendments or Zoning text or map amendments that may be required to complete the proposed development. (Ord 1292, 2008)

COMMENT:

No Comprehensive Plan text or map amendment is requested. The property owners are requesting a zone map amendment to rezone this property with the annexation in accordance with the Comprehensive Plan. The existing Clackamas County zoning is Exclusive Farm Use (EFU).

9. Compliance with other applicable city ordinances or policies;

COMMENT:

Other official documents that are applicable to the requested annexation include Policy 6 of the of the land use element of the Comprehensive Plan; two state statutes (ORS 195.065 and ORS 222); and the Urban Growth Management Agreement (UGMA) between Clackamas County and the City of Canby. These documents are addressed later in this application narrative.

10. Compliance of the application with the applicable sections of Oregon Revised Statutes Chapter 222. (Ord. 740 section 10.6.40, 1984; Ord. 981 section 37, 1997; Ord. 1294, 2008)

COMMENT:

Compliance with ORS 222 is addressed later in this application narrative.

16.84.050 - 16.84.090

[omitted]

DIVISION III. – CHAPTER 16.54 – AMENDMENTS TO ZONING MAP

16.54.010 Authorization to initiate amendments.

An amendment to the zoning map may be initiated by the City Council, by the Planning Commission, or by application of the property owner or his authorized agent. The Planning Commission shall, within forty days after closing the hearing, recommend to the City Council, approval, disapproval or modification of the proposed amendment. (Ord. 740 section 10.3.45 (A), 1984)

COMMENT:

The Applicant requesting an amendment to the zoning map is an authorized agent of the owners of the subject properties. This criterion is met.

16.54.020 Application and fee.

Application procedures shall be as described in Chapter 16.89. (Ord. 740 section 10.3.85(B), 1984; Ord. 981 section 7, 1997; Ord. 1019 section 13, 1999; Ord. 1080, 2001)

COMMENT:

The application for an amendment to the zoning map to apply the R-1, R-1.5, and C-R zoning designations to the subject properties is submitted to the City along with the required fee. The City will follow the procedures set forth in CMC 16.89. This criterion is satisfied.

16.54.030 Public hearing on amendment

Before taking final action on a proposed amendment, the Planning Commission shall hold a public hearing on the amendment following the requirements for advertising and conduct of hearing prescribed in Division VIII. (Ord. 740 section 10.3.85(C), 1984)

COMMENT:

The Planning Commission will schedule a public hearing once the application is deemed complete. Following the Planning Commission’s public hearing and recommendation, the City Council will hold its own public hearing to make a final decision. By holding these public hearings, this criterion will be met.

16.54.040 Standards and criteria.

In judging whether or not the zoning map should be amended or changed, the Planning Commission and City Council shall consider:

- A. *The Comprehensive Plan of the city, giving special attention to Policy 6 of the land use element and implementation measures therefore, and the plans and policies of the county, state and local districts in order to preserve functions and local aspects of land conservation and development;*

COMMENT:

This zone change will allow the subject properties to be developed with primarily single family detached houses and a few attached senior housing units. Policy 6 is addressed in the Comprehensive Plan section below. This proposed development will be an integral part of the Canby community. Housing development is consistent with plans, goals and policies of the city, county, state and local districts. This development will be efficient and compact in compliance with function and land conservation goals.

B. Whether all required public facilities and services exist or will be provided concurrent with development to adequately meet the needs of any use or development which would be permitted by the new zoning designation. (Ord. 749 section 1(B), 1984; Ord.740 section 10.3.85(D), 1984)

COMMENT:

The SW Canby DCP demonstrates that all required public facilities and services can be made available to serve the subject property.

16.54.050 (Ord. 740 section 10.3.85(E), 1984 [omitted]

16.54.060 Improvement conditions.

A. In acting on an application for a zone change, the Planning Commission may recommend and the City Council may impose conditions to be met by the proponents of the change before the proposed change takes effect. Such conditions shall be limited to improvements or physical changes to the property which are directly related to the health, safety or general welfare of those in the area. Further, such conditions shall be limited to improvements which clearly relate to and benefit the area of the proposed zone change. Allowable conditions of approval may include, but are not necessarily limited to:

- 1. Street and sidewalk construction or improvements;*
- 2. Extension of water, sewer, or other forms of utility lines;*
- 3. Installation of fire hydrants.*

B. The city will not use the imposition of improvement conditions as a means of preventing planned development, and will consider the potential impact of the costs or required improvements on needed housing. The Planning Commission and City Council will assure that the required improvements will not reduce housing densities below those anticipated in the Comprehensive Plan. (Ord. 749 section 1(C), 1984: Ord. 740 section 10.3.85 (F). 1984)

COMMENT:

The developers will provide reasonable improvement of public and private facilities and services for the subject property when a development is approved by the city. The developers will pay for those improvements if required. When oversizing or “late-comers agreements” are appropriate, the developers will request a pay back of some funds expended for expansion of facilities and services when the improvements are more than required for the development of the subject property. The requirements of this subsection will be satisfied when Conditions of Approval are imposed by the City with approval of a development application. No

improvements are required or necessary as a result of this zone change application. Required improvements will not cause a reduction of the housing densities anticipated by the Comprehensive Plan. These criteria can be met.

16.54.070 Record of amendments.

[omitted]

Next section on the following page

Comprehensive Plan Policies

LAND USE ELEMENT

GOAL: To guide the development and uses of land so that they are orderly, efficient, aesthetically pleasing, and suitably related to one another.

COMMENT:

The proposed development of the subject property will be compatible with existing development in the area. Since the subject property is within the UGB, and contiguous to the existing city limits, annexation of the property is a natural step in the development of Canby. The property is in a designated DCP area and should be the first property to annex to the city.

Policy No. 1:

“Canby shall guide the course of growth and development so as to separate conflicting or incompatible uses while grouping compatible uses”

COMMENT:

The proposed annexation of the subject property is a result of the guidance from the City of Canby planning documents. The adjacent land is already developed with urban uses. The goal of this Policy will be realized by the annexation and development of the subject properties.

Implementation Measure H:

“Continue to work towards a gradual increase in the density and intensity of development allowed within the City, discouraging wasteful development practices and designs.”

COMMENT:

Fulfillment of this Policy and Implementation Measures is the goal of the Applicant’s development plans.

Policy No. 2:

Canby shall encourage a general increase in the intensity and density of permitted development as a means of minimizing urban sprawl.

Implementation Measure A:

Continue to implement the policies of the Housing Element to increase the range of housing opportunities and diversify housing types.

Implementation Measure C:

Continue to utilize density bonuses and other inducements to encourage development to improve designs and utilize Planned Unit Development procedures.

COMMENT:

This annexation and zone change and subsequent development will increase the low, medium and high-density housing opportunities and diversity of housing types in compliance with the above Policy and Implementation Measures above. Development of the southwest Canby area will help diversify the current housing stock and intensify the density.

Policy No. 3:

Canby shall discourage any development which will result in overburdening any of the community's public facilities and services.

COMMENT:

The Development Concept Plan and this report identify the availability of adequate infrastructure to allow development of the subject property. Therefore, the proposed annexation, zone change, and subsequent development are in compliance with this Policy.

Policy No. 4:

Canby shall limit development in areas identified as having an unacceptable level of risk because of natural hazards.

COMMENT:

The subject site is not within any area identified as a natural hazard area. Therefore, this policy does not apply. However, geotechnical studies will be required to determine building setbacks from the 18% slope along the Molalla River Corridor.

Policy No. 5:

Canby shall utilize the land use map as the basis of zoning and other planning or public facility decisions.

Implementation Measure B:

Rezone properties, as necessary, to conform with the Land Use Map.

COMMENT:

The "Residential and Residential Commercial" Comprehensive Plan designations and the commensurate R-1, R-1.5 and C-R zoning allow for annexation and development in keeping with the City's Comprehensive Plan.

Policy No. 6:

Canby shall recognize the unique character of certain areas and will utilize the following special requirements, in conjunction with the requirements of the land development and planning ordinance, in guiding the use and development of these unique areas.

COMMENT:

The property is not in an area of special concern. Therefore, this policy does not apply.

Next section on the following page

Urban Growth Management Agreement (UGMA)

The UGMA between Canby and Clackamas County is codified as part of Resolution 519, dated Sept. 23, 1992, and requires certain actions and procedures for a variety of action relative to lands within the Urban Growth Management Boundary area. The UGMA contains seven specific issues on which the City of Canby and Clackamas County agree. Rather than quote each of the seven issues, they will be identified by title and addressed:

1. *Boundary*

COMMENT:

The subject site is within the Urban Growth Boundary of Canby, thus satisfying this criterion.

2. *Comprehensive Planning, Plan Amendments and Public Facilities Planning for Lands in Unincorporated UGMB;*

COMMENT:

The subject site is within the UGB, and has been included in long range planning for land use, traffic, services and facilities, utilities, and all similar and appropriate elements. The planning designation proposed for this site is consistent with the designated on the Canby Comprehensive Plan map (Low and Medium Density Residential and Residential Commercial). Proposed zoning (R-1, R-1.5 and C-R) is consistent with the Comprehensive Plan. Upon annexation, the city will assume all planning responsibilities for the subject property. Once the site is annexed to the city by final legislative action, Clackamas County will have no further jurisdiction over or interest in the subject property. Therefore, this criterion is fulfilled.

3. *Development Proposals for Unincorporated UGMB Areas;*

COMMENT:

This criterion does not apply because the property will already be annexed to the city before development applications are submitted to the city for review.

4. *County Notice to and Coordination with the City;*

COMMENT:

This criterion is not applicable because any development action will occur within the City of Canby and not in the jurisdiction of Clackamas County.

5. *City Notice to and Coordination with the County;*

COMMENT:

Because this is a proposed annexation and zone change, the City is required under Subsection A to notify Clackamas County of the impending action.

6. *City Annexation and Sewer, Water and Road Service;*

COMMENT:

Subsection A: The City agrees to undertake any annexations in accordance with process and procedures agreed to by the County. The adjacent right-of-way is required to be included in the annexation and the county will not oppose such annexations.

Subsection B: The city is required to accept jurisdiction of Elm and Fir Streets. The applicant will be required to construct “half street improvements” along the frontage of these streets to current City of Canby standards when development is proposed.

Subsection E: Public water and sanitary sewer are not currently available to the site for use in site development, but can be made available upon approval of the annexation application. This subject site is not, however, a health hazard.

7. *Terms of Agreement*

COMMENT:

This UGMA is between the City of Canby and Clackamas County. However, no part or measure of the proposed annexation of the subject site, nor the subsequent development for approximately 93 residential lots and houses, violates or otherwise circumvents the measures required under this UGMA. Therefore, all criterion of this UGMA have been satisfied and/or fulfilled.

Oregon Revised Statutes

ORS 195

ORS 195.065 requires various agreements between jurisdictions when urban services are to be provided. The Clackamas County Urban Growth Management Agreement (UGMA) states what agency will provide which services. While the applicants will benefit from the existence of such an agreement, the proposed annexation will not create any special or heretofore unforeseen circumstances where the provisions of the UGMA will not apply. The proposed annexation is exactly in keeping with what the City of Canby envisioned within its urban growth area. No new agreements, or any deviation from the provisions of the existing UGMA, will be required for this proposed annexation of this 20.26 acre site.

ORS 222

ORS 222 requires several issues be considered prior to an annexation becoming effective. For example, ORS 222.040 provides that an annexation shall not become effective until an election has been conducted. Part of the process of applying for an annexation is meeting the application deadline in order that internal actions by the Planning Commission and City Council take place prior to the election. The city will provide proper notice as required, and agreements with local service providers will be enacted regarding inclusion of the subject site for service purposes after annexation (ORS 222.005).

The procedures specified under ORS 222.111 will be followed by the city, which is the city's duty rather than one assigned to the applicant. Other sections such as ORS 222.130 (Annexation election; notice); ORS 222.150 (Election results); ORS 222.160 (Procedure when annexation is submitted to city vote); ORS 222.177 (Filing of annexation records with Secretary of State); and ORS 222.180 (Effective date of annexation) are all parts of the process the city must follow for any annexation.

Sections ORS 222.510 through ORS 222.830, as applicable, deal with the change of service jurisdiction for properties serviced with urban services (water, sanitary sewer, fire protection, etc.) which may have been provided by other non-urban area providers when the property is in the jurisdiction of Clackamas County. The heading of this Section is "Annexation of Public Service Districts" and deals with the transfer of service rights and obligations once a property is annexed. Whatever is required under these sections will be accomplished as part of the city's annexation process.

This annexation does not involve a merger of cities, or health abatement, as included in sections included in ORS 222.700's; ORS 222.800's; or ORS 222.900's. Therefore, the proposed annexation complies with, meets, or otherwise fulfills all specific requirements contained in the appropriate and applicable sections of ORS, Ch. 222. However, an "Island" will be created by the exclusion of Tax Lot 1400, Tax Map 4-1E-4CA. This property is owned by the Wenrick Trust. The property owners were contacted on several occasions and they have not responded to the request to be included in the annexation and zone change applications. To eliminate this island, the city needs to include this property in the annexation and zone change applications.

MEMORANDUM

To: City of Canby Planning Department

From: Levi Levasa, Project Manager, Stafford Development Company, LLC

Date: December 14, 2017

Subject: Southwest Canby Annexation – City File ANN 17-02/ZC 17-03

The purpose of this memo is to provide supplemental information and analysis to the Annexation and Zoning Map Amendment applications submitted by Stafford Development Company, LLC on October 19th, 2017, which was deemed complete on November 22, 2017.

Upon review of the submitted applications, City of Canby staff found that population data collected by Portland State University’s Population Research Center (Exhibit A) should be considered in the Applicant’s response to Section 16.84.040(A)(2) of the Canby Municipal Code, which begins on page 7 of the application narrative, and analyzes the need for additional residential land in the City of Canby.

The Applicant’s original analysis of the need for additional housing used population and housing data from sources including the *U.S. Census Bureau*, *METRO Regional Population and Employment Range Forecasts*, and *City of Canby Storm Sewer Master Plan*. These sources will still be used in the following analysis, but population data collected by the Population Research Center (PRC) will replace population estimates for 2015, 2016, and 2017. While this new data is useful in understanding the recent history of the Canby population, a population forecast is not provided. Therefore, the same methodology used in the application narrative will be used in this analysis.

The data collected by the PRC is summarized in Table 1M below.

TABLE 1M: POPULATION ESTIMATE - PSU POPULATION RESEARCH CENTER (PRC)

Year	PRC Population Est.	Metro Low Estimate	PRC % of Metro Est.
2015	16,010	17,998	89%
2016	16,420	-	-
2017	16,660	-	-
2020	18,204*	20,464	89%

*Calculated based on the ratio of the PRC to Metro Est. in 2015 (PRC Est. = 89% of Metro Est.)

Without projections from the Population Research Center for 2020, the applicant believes using a ratio consistent with each report’s 2015 estimate is the best way to come up with a projection that reflects what has been measured by the Population Research Center. Like the original narrative estimates, the table above calculates the 2020 population estimate by using the low-end projection of the METRO Regional Population and Employment Range Forecasts report for 2020 and reducing it to 89% of the projection, consistent with the disparity between the two reports seen in 2015.

Based on the estimates and calculations from Table 1M above, the population will increase by an average of 514.6 residence per year. Table 2M below indicates the additional housing needed based on an average household size of 2.8 residents per housing unit, which is the same number used by the PRC in their analyses.

TABLE 2M: PROJECTED HOUSING NEEDED BASED ON POPULATION FORECAST (LOW)

Year	Population	Population Increase*	Average Household Size	New Housing Needed	SFR Detached Housing Needed (R-1&R-1.5)	SFR Detached Housing as % of Needed Housing
2017	16,660					
2018	17,174	514	2.8	184	126	68.7%
2019	17,689	515	2.8	184	126	68.7%
2020	18,204	515	2.8	184	126	68.7%
3-Year SFR Detached Lot Supply Needed				551	379	68.7%

* Population Increase is based on Table 1M population estimate for 2020 averaged over 3 years.

Based on the data above, an additional 551 new housing units will be needed over the next 3 years to accommodate the projected increase in population through 2020. Of the 551 new housing units, 379 will need to be single family detached residences consistent with Clackamas County trends and data, which indicate that 68.7% of housing provided countywide are single family detached units. While the 68.7% proportion is lower than recent trends for the City of Canby, this low estimate is used to be conservative in this analysis.

City staff has indicated that, by policy, developable land to be considered in the available inventory should include only lots that have been recorded as part of a plat. The City of Canby currently has 46 buildable single family residential lots per Table 6-A and 6-B of the application narrative. Table 3M below summarizes the current deficiency of platted single family detached lots in Canby.

TABLE 3M: DEFICIENCY OF PLATTED LOTS

Platted Lots Needed Through 2020	379
Available SFR Detached Lots	46
Current Deficiency of SFR Detached Lots	333

Based on the above analysis, the City of Canby is deficient by 333 single family detached platted lots as of the date the application was submitted, and the Applicant’s request for annexation of the subject properties should be approved to meet the demand for housing.

While the deficiency is evident based on platted lot criteria, the Applicant has elected to do additional analysis that includes preliminarily approved subdivisions that have yet to complete construction and record platted lots. Table 4M below summarizes the total number of buildable platted lots, as shown in Table 3M above, and pending lots for projects that received preliminary land use approval. Table 4M is similar to Table 9 from the original application narrative, but includes subdivisions that have been

approved as recently as December 12, 2017 and excludes the recently denied Ivy Park, which included six single family detached lots.

TABLE 4M: TOTAL AVAILABLE OR APPROVED LOTS

Description	Count
Remaining Platted Lots	46
Approved Subdivision Lots:	
Faist Addition No. 8	24
Faist Addition No. 9	6
Timber Park	105
Tanoak Subdivision	8
7-Acres	22
Redwood Landing	88
Subtotal Approved Lots	253
Total Platted or Approved Lots	299

TABLE 3M: DEFICIENCY OF PLATTED OR APPROVED LOTS

Platted Lots Needed Through 2020	379
Available or Approved SFR Detached Lots	299
Current Deficiency of SFR Detached Lots	80

The data and calculations of Tables 4M and 5M are included to further exemplify the current deficiency of platted lots in the City of Canby. If all 253 of the single family detached lots that have been approved were to record a final plat today, there would still be a deficiency of 80 platted single family detached lots. This deficiency alone would justify annexation of the subject properties and more because platted lots will be absorbed quickly and future demand for 2021 will come into the 3-year horizon before the annexation area is ready for development.

The inventory of buildable lots is a dynamic number. As approved subdivisions continue to be developed, plats recorded, and homes constructed, the available inventory of buildable platted lots will fluctuate. Considering the recent rates of absorption, the projected population growth, and the length of time it takes to turn raw land into platted lots, it will be difficult to close the deficiency gap of 333 platted lots, even after the 253 approved lots are platted over the next year.

This memo has considered the new data as requested by city staff and reached the same conclusion as the application narrative. The current inventory of developable single family detached lots within the City of Canby is insufficient for providing housing to accommodate the projected population growth over the next three years. As such, the requested annexation of the subject properties is timely and needed. The requirements of Section 16.84.040(A)(2) of the Canby Municipal Code have been met.

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503-725-3922 tel
503-725-5199 fax
askprc@pdx.edu
www.pdx.edu/prc

– IMPORTANT NOTICE –

Preliminary 2015 Population Estimate

November 15, 2015

To: **Canby city**

Listed below is the preliminary population estimate for July 1, 2015. Also included are the certified 2014 estimate and 2010 Census figure. The July 1, 2015 estimate will be certified by December 15, 2015.

PRELIMINARY POPULATION ESTIMATE:

JULY 1, 2015: **16,010**

CERTIFIED POPULATION ESTIMATE:

JULY 1, 2014: **16,010**

CERTIFIED CENSUS FIGURE:

APRIL 1, 2010: **15,829**

The 2015 CERTIFIED population estimates will be posted to our web site by the close of business December 15, 2015 at the following page URL:

www.pdx.edu/prc/population-estimates-0

If you have any questions, please contact:

Risa S. Proehl
Population Research Center
Portland State University
PO Box 751
Portland, OR 97207-0751

Telephone: (503) 725-5103
E-mail: proehlr@pdx.edu

RECEIVED
NOV 18 2015
CITY OF CANBY

College of Urban and Public Affairs
Population Research Center

Post Office Box 751
Portland, Oregon 97207-0751
780 Urban Center
506 SW Mill Street

503-725-3922 tel
503-725-5199 fax
askprc@pdx.edu
www.pdx.edu/prc

– IMPORTANT NOTICE –

Preliminary 2016 Population Estimate

November 15, 2016

To: **Canby city**

Listed below is the preliminary population estimate for July 1, 2016. Also included are the certified 2015 estimate and 2010 Census figure. The July 1, 2016 estimate will be certified by December 15, 2016.

PRELIMINARY POPULATION ESTIMATE:

JULY 1, 2016: **16,420**

CERTIFIED POPULATION ESTIMATE:

JULY 1, 2015: **16,010**

CERTIFIED CENSUS FIGURE:

APRIL 1, 2010: **15,829**

The 2016 CERTIFIED population estimates will be posted to our web site by the close of business December 15, 2016 at the following page URL:

<http://www.pdx.edu/prc/population-reports-estimates>

If you have any questions, please contact:

Risa S. Proehl
Population Research Center
Portland State University
PO Box 751
Portland, OR 97207-0751

Telephone: (503) 725-5103
E-mail: proehlr@pdx.edu

RECEIVED
NOV 18 2016

City of Canby - City Recorder

College of Urban and Public Affairs
Population Research Center

Post Office Box 751
Portland, Oregon 97207-0751
780 Urban Center
506 SW Mill St

503-725-3922 tel
503-725-5199 fax
askprc@pdx.edu
www.pdx.edu/prc

– IMPORTANT NOTICE –

Preliminary 2017 Population Estimate

November 15, 2017

To: **Canby city**

Listed below is the preliminary population estimate for July 1, 2017. Also included are the certified 2016 estimate and 2010 Census figure. The July 1, 2017 estimate will be certified following the review period on December 15, 2017.

PRELIMINARY POPULATION ESTIMATE:

JULY 1, 2017: 16,660

CERTIFIED POPULATION ESTIMATE:

JULY 1, 2016: 16,420

CERTIFIED CENSUS FIGURE:

APRIL 1, 2010: 15,829

The 2017 CERTIFIED population estimates will be posted to our web site by the close of business December 15, 2017 at the following page URL:

<http://www.pdx.edu/prc/population-reports-estimates>

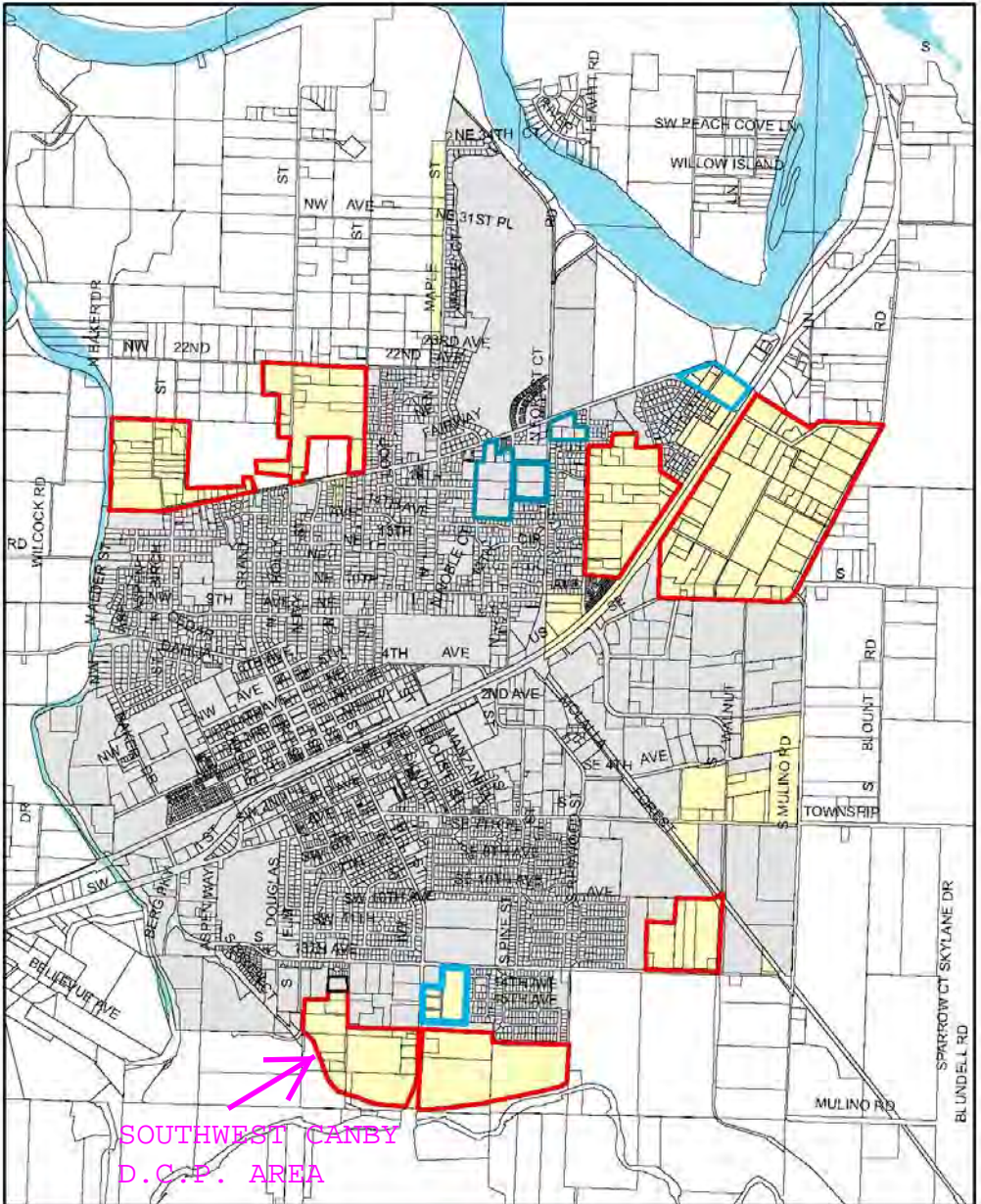
If you have any questions or comments about the preliminary population estimate, please contact:

Charles Rynerson
Population Research Center
Portland State University
PO Box 751
Portland, OR 97207-0751

Telephone: (503) 725-5157

E-mail: rynerson@pdx.edu

City of Canby Annexation Development Map

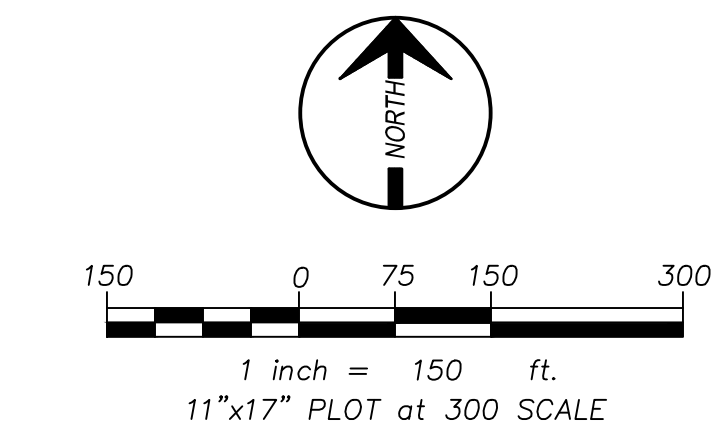
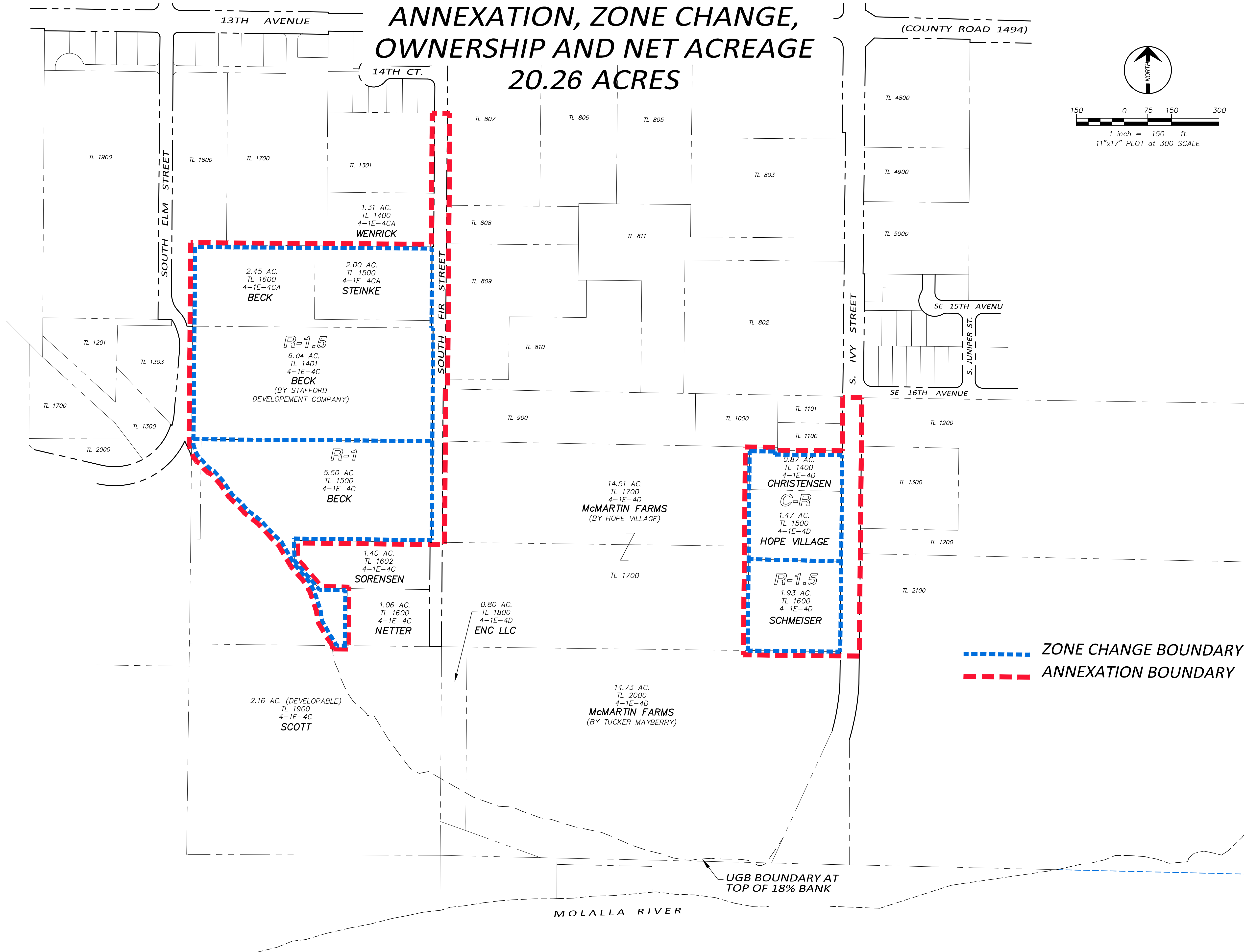


Development Concept Area



Development Agreement Area

ANNEXATION, ZONE CHANGE, OWNERSHIP AND NET ACREAGE 20.26 ACRES



- - - - - ZONE CHANGE BOUNDARY
- - - - - ANNEXATION BOUNDARY

SOUTHWEST CANBY
 TAX MAP T4S, R1E, SECTION 4
SEC. 4C LOTS 1401, 1600, 1602 & 1900
 SEC. 4D LOTS 900, 1000, 1100, 1101, 1400, 1500, 1600, 1700, 1800 & 2000
 SEC. 4CA LOTS 1400, 1500 & 1600
 CITY OF CANBY, OREGON

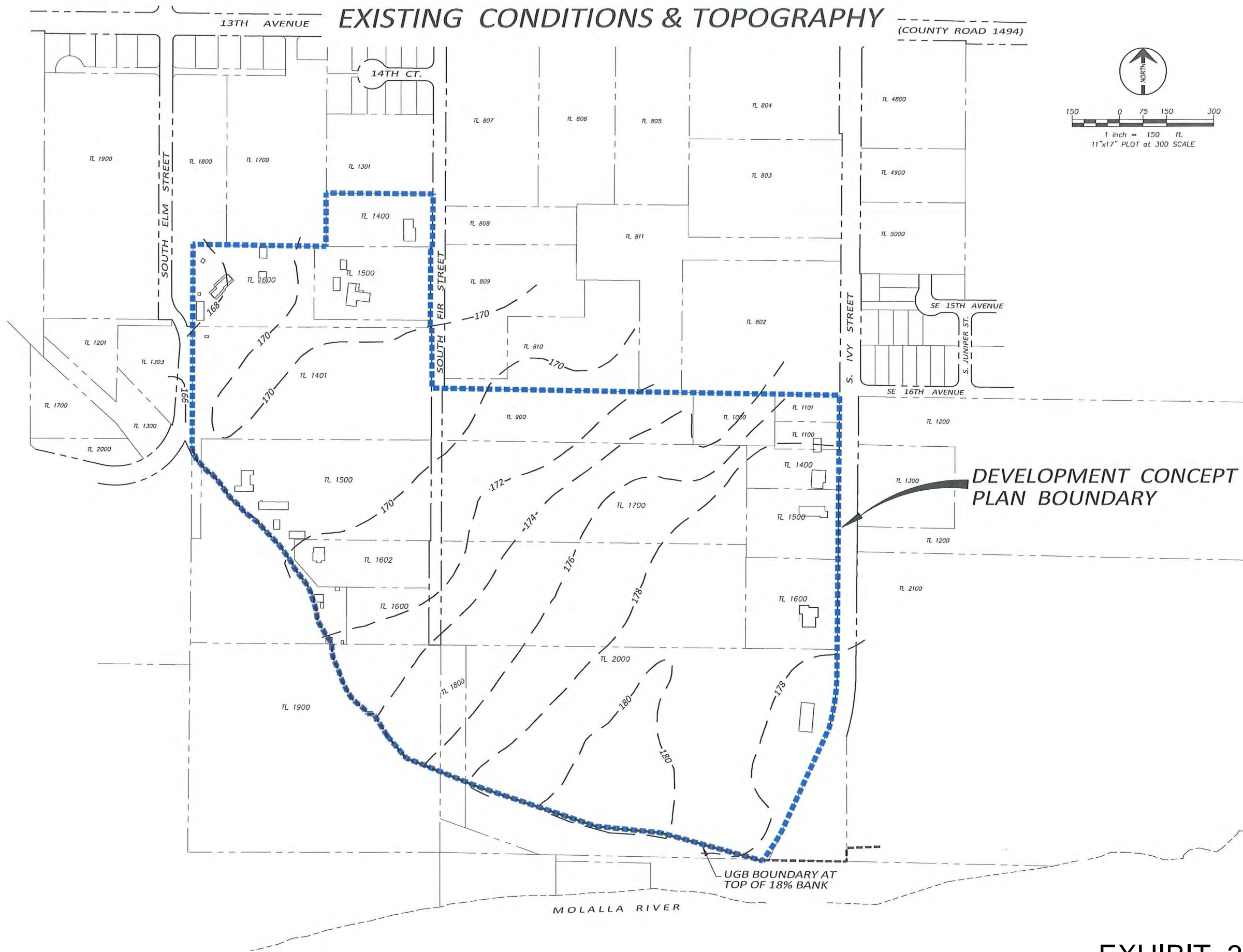
STAFFORD
 DEVELOPMENT COMPANY, LLC
 485 SOUTH STATE STREET
 LAKE OSWEGO, OREGON 97034

ANNEXATION AND
 ZONING CHANGE
 BOUNDARY

NO.	DATE	DESCRIPTION
1	2-12-17	

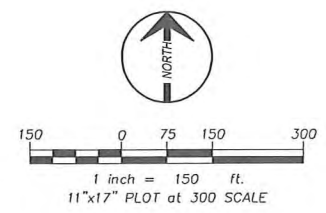
PLANNING & LAND DESIGN
 1862 NE ESTATE DRIVE
 HILLSBORO, OREGON 97124
 RYAN O'BRIEN
 (503) 780-4061

SHEET
 OF



EXISTING CONDITIONS & TOPOGRAPHY

(COUNTY ROAD 1494)



**DEVELOPMENT CONCEPT
PLAN BOUNDARY**

UGB BOUNDARY AT
TOP OF 18% BANK

SOUTHWEST CANBY
TAX MAP T4S, R1E, SECTION 4
SEC. 4C, LOTS 1401, 1600, 1602 & 1900
SEC. 4D, LOTS 900, 1000, 1100, 1101, 1400, 1600, 1602, 1700, 1800 & 2000
SEC. 4CA, LOTS 1401, 1500 & 1600
CITY OF CANBY, OREGON

STAFFORD
DEVELOPMENT COMPANY, LLC
485 SOUTH STATE STREET
LAKE OSWEGO, OREGON 97034

**EXISTING CONDITIONS
& TOPOGRAPHY**

REVISIONS	
NO.	DESCRIPTION
1	DATE 2-12-17

PLANNING & LAND DESIGN
1862 NE ESTATE DRIVE
HILLSBORO, OREGON 97124
RYAN O'BRIEN
(503) 780-4061

SHEET
OF

EXHIBIT 3

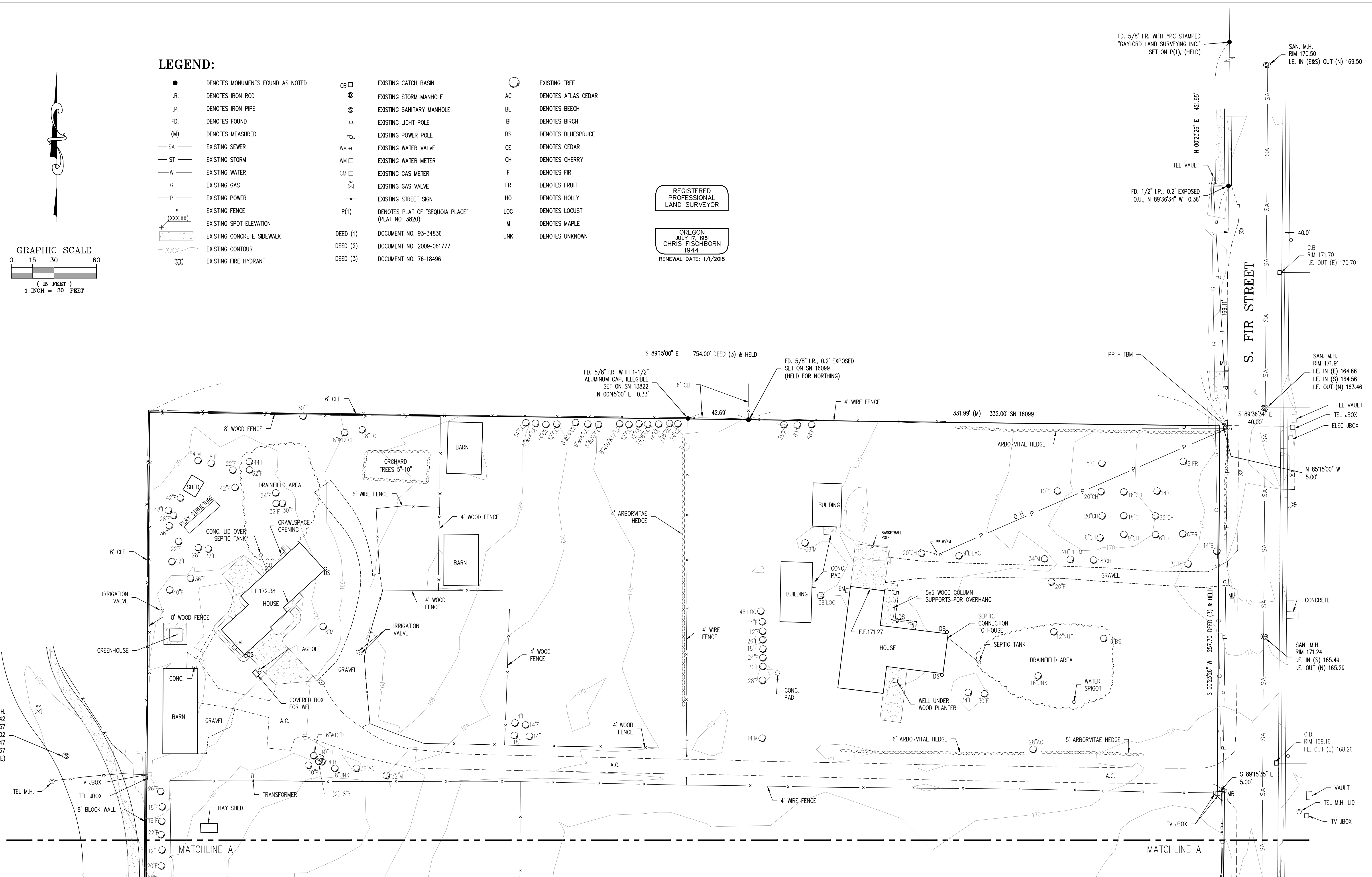
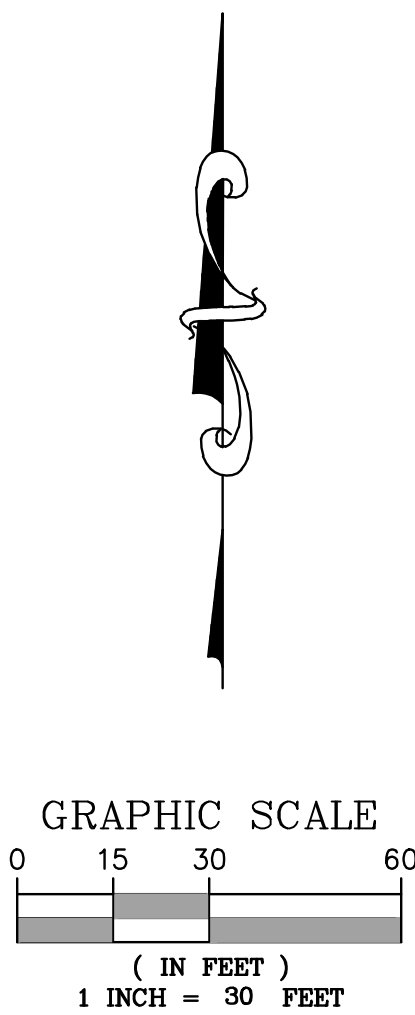
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LEGEND:

- DENOTES MONUMENTS FOUND AS NOTED
- I.R. DENOTES IRON ROD
- I.P. DENOTES IRON PIPE
- FD. DENOTES FOUND
- (M) DENOTES MEASURED
- SA — EXISTING SEWER
- ST — EXISTING STORM
- W — EXISTING WATER
- G — EXISTING GAS
- P — EXISTING POWER
- x — EXISTING FENCE
- (XXX.XX) EXISTING SPOT ELEVATION
- XXX — EXISTING CONCRETE SIDEWALK
- XXX — EXISTING CONTOUR
- ⊗ EXISTING FIRE HYDRANT
- CB □ EXISTING CATCH BASIN
- ⊕ EXISTING STORM MANHOLE
- ⊙ EXISTING SANITARY MANHOLE
- ☆ EXISTING LIGHT POLE
- ⊕ EXISTING POWER POLE
- WV ⊕ EXISTING WATER VALVE
- WM □ EXISTING WATER METER
- GM □ EXISTING GAS METER
- ⊕ EXISTING GAS VALVE
- ⊕ EXISTING STREET SIGN
- P(1) DENOTES PLAT OF "SEQUOIA PLACE" (PLAT NO. 3820)
- DEED (1) DOCUMENT NO. 93-34836
- DEED (2) DOCUMENT NO. 2009-061777
- DEED (3) DOCUMENT NO. 76-18496
- EXISTING TREE
- AC DENOTES ATLAS CEDAR
- BE DENOTES BEECH
- BI DENOTES BIRCH
- BS DENOTES BLUESPRUCE
- CE DENOTES CEDAR
- CH DENOTES CHERRY
- F DENOTES FIR
- FR DENOTES FRUIT
- HO DENOTES HOLLY
- LOC DENOTES LOCUST
- M DENOTES MAPLE
- UNK DENOTES UNKNOWN

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JULY 17, 1981
CHRIS FISCHBORN
1944
RENEWAL DATE: 1/1/2018



SAN. M.H.
RIM 168.42
I.E. IN (S) 163.57
I.E. IN (S) 162.02
I.E. IN (SW) 161.47
I.E. OUT (W) 161.37
ADDER ON EAST SIDE

SAN. M.H.
RIM 171.24
I.E. IN (S) 165.49
I.E. OUT (N) 165.29

C.B.
RIM 169.16
I.E. OUT (E) 168.26

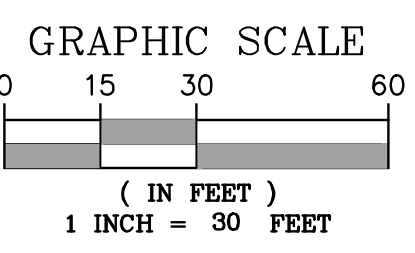
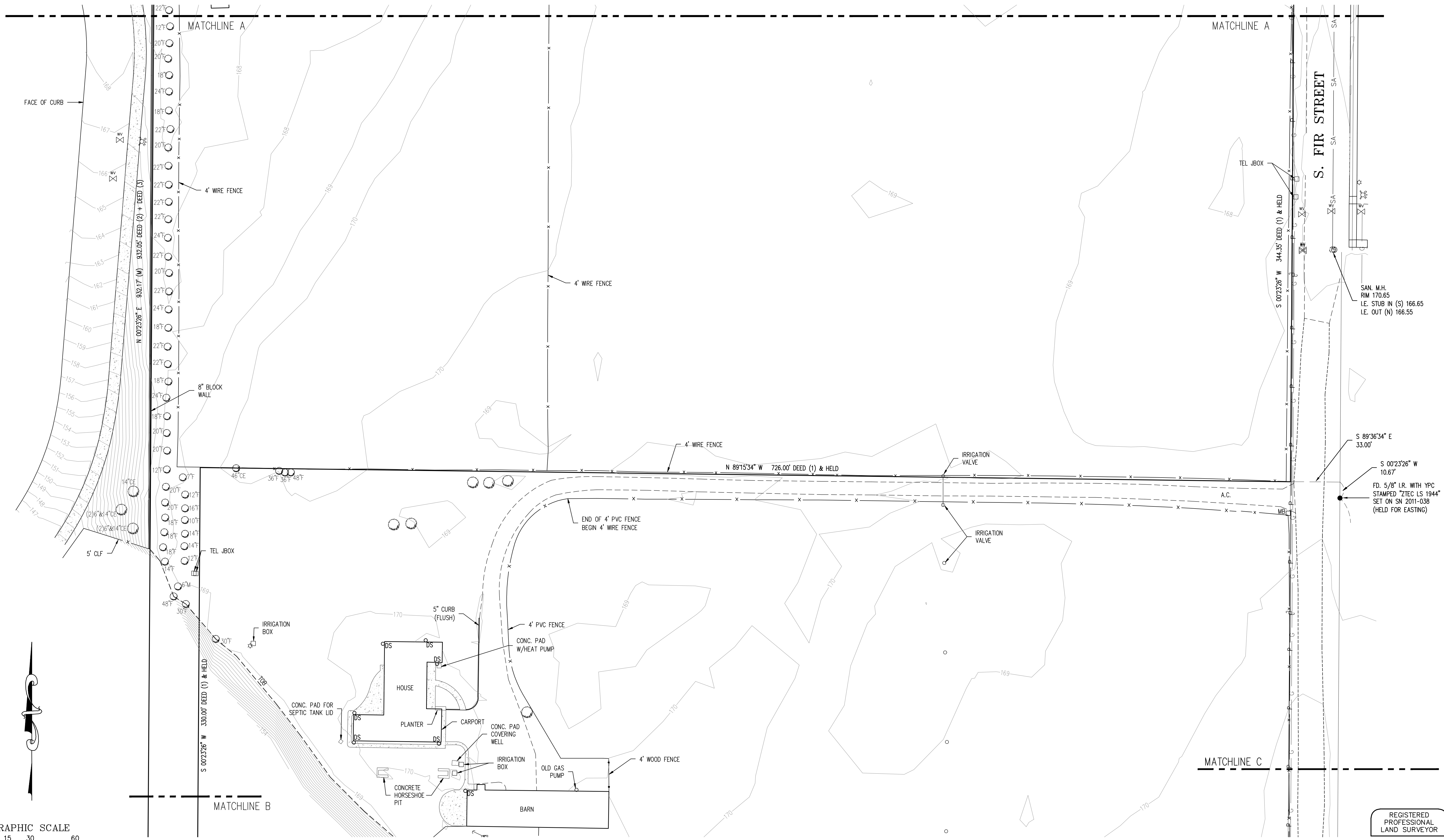
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DRAWN BY	DATE
JHH	6-2-17
CCF	
ENGR.	
CHECKED	

ZTec ENGINEERS INC.
3880 S.E. 8TH AVE., SUITE 280, PORTLAND, OR. 97202
PHONE: (503) 235-8795
FAX: (503) 233-7889
EMAIL: ztec@ztecengineers.com

SUBTITLE: TOPOGRAPHIC SURVEY
TITLE: FOR: STAFFORD LAND DEVELOPMENT
S. FIR ST.
CANBY, OREGON

JOB NO.:	17-4117-1
DWG. NO.:	17-4117-1
SCALE:	1"=30'
SHEET:	1 OF 3



REGISTERED
PROFESSIONAL
LAND SURVEYOR

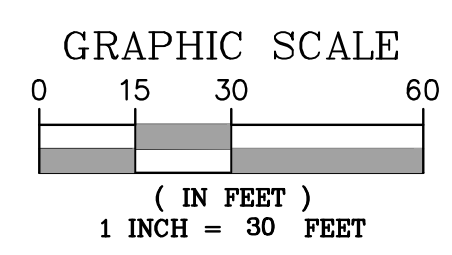
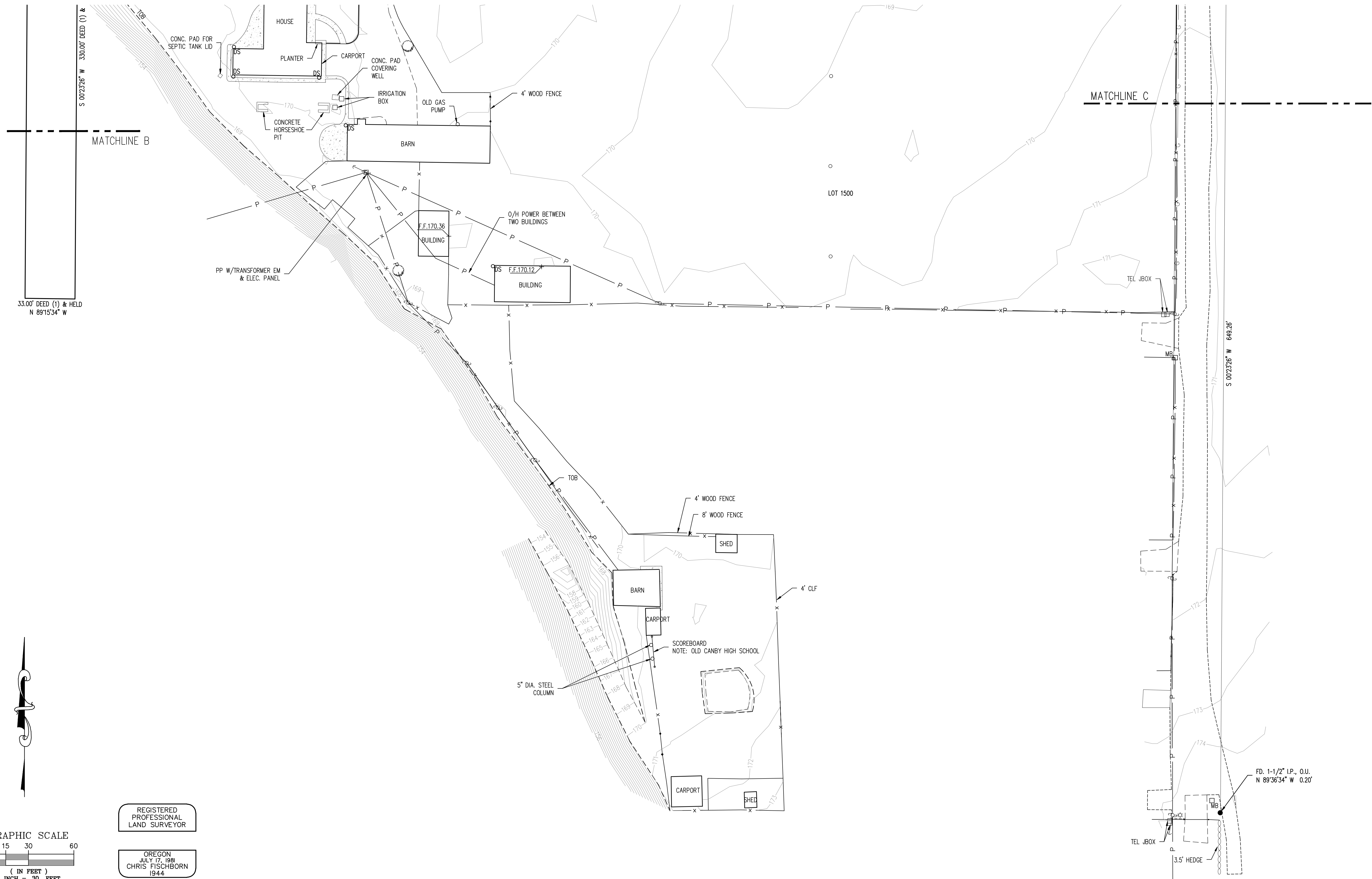
OREGON
JULY 17, 1981
CHRIS FISCHBORN
1944
RENEWAL DATE: 1/1/2018

SYM	REVISION	BY	APPROVED	DATE

DRAWN BY	DATE
JHH	6-2-17
CCF	
ENGR.	
CHECKED	

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 FAX: (503) 233-7889
 EMAIL: ztec@ztecengineers.com

SUBTITLE	JOB NO.:
TOPOGRAPHIC SURVEY	17-4117-1
TITLE	DWG. NO.:
FOR: STAFFORD LAND DEVELOPMENT S. FIR ST. CANBY, OREGON	17-4117-1
	SCALE:
	1"=30'
	SHEET:
	2 OF 3



REGISTERED
PROFESSIONAL
LAND SURVEYOR

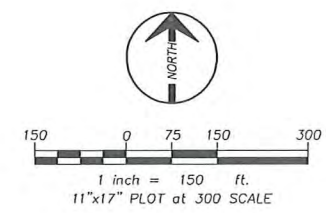
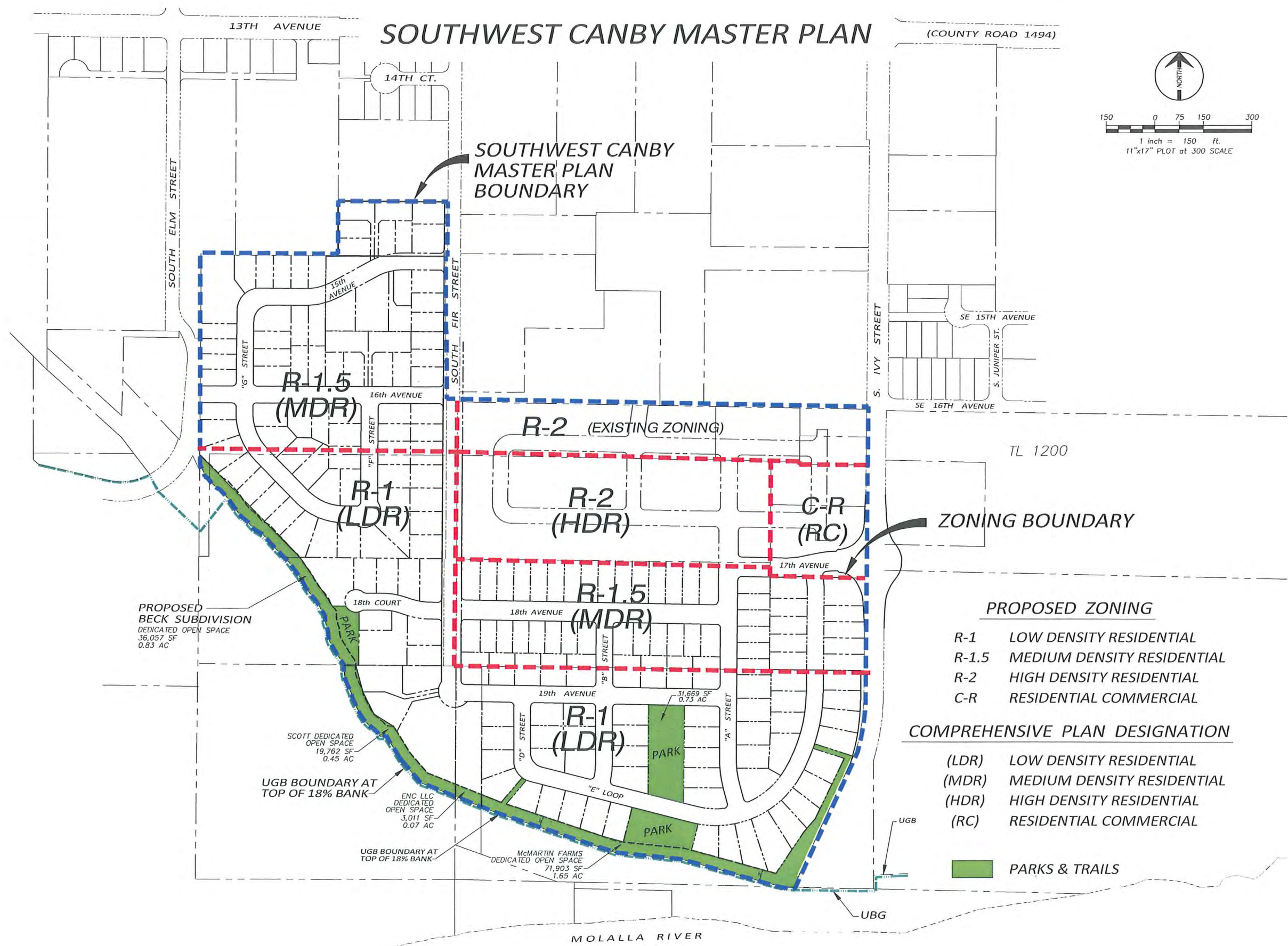
OREGON
JULY 17, 1981
CHRIS FISCHBORN
1944
RENEWAL DATE: 1/1/2018

SYM	REVISION	BY	APPROVED	DATE	DRAWN BY	DATE
					JHH	6-2-17
					CCF	
					ENGR.	
					CHECKED	

ZTec ENGINEERS INC.
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PHONE: (503) 235-8795
FAX: (503) 233-7889
EMAIL: ztec@ztecengineers.com

SUBTITLE	TOPOGRAPHIC SURVEY	JOB NO.:	17-4117-1
TITLE	FOR: STAFFORD LAND DEVELOPMENT S. FIR ST. CANBY, OREGON	DWG. NO.:	17-4117-1
		SCALE:	1"=30'
		SHEET:	3 OF 3

SOUTHWEST CANBY MASTER PLAN



- PROPOSED ZONING**
- R-1 LOW DENSITY RESIDENTIAL
 - R-1.5 MEDIUM DENSITY RESIDENTIAL
 - R-2 HIGH DENSITY RESIDENTIAL
 - C-R RESIDENTIAL COMMERCIAL
- COMPREHENSIVE PLAN DESIGNATION**
- (LDR) LOW DENSITY RESIDENTIAL
 - (MDR) MEDIUM DENSITY RESIDENTIAL
 - (HDR) HIGH DENSITY RESIDENTIAL
 - (RC) RESIDENTIAL COMMERCIAL
- PARKS & TRAILS**

PROPOSED BECK SUBDIVISION
DEDICATED OPEN SPACE
36,057 SF
0.83 AC

SCOTT DEDICATED OPEN SPACE
19,762 SF
0.45 AC

ENC LLC DEDICATED OPEN SPACE
3,011 SF
0.07 AC

McMARTIN FARMS DEDICATED OPEN SPACE
71,903 SF
1.65 AC

31,889 SF
0.73 AC

SOUTHWEST CANBY
TAX MAP T4S, R1E, SECTION 4
SEC. 4C, LOTS 1401, 1600, 1802 & 1800
SEC. 4D, LOTS 900, 1000, 1101, 1400, 1500, 1600, 1700, 1800 & 2000
SEC. 4CA, LOTS 1, 400, 1500 & 1600
CITY OF CANBY, OREGON

STAFFORD
DEVELOPMENT COMPANY, LLC
485 SOUTH STATE STREET
LAKE OSWEGO, OREGON 97034

SOUTHWEST CANBY
MASTER PLAN

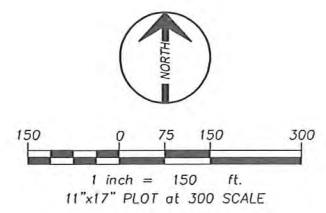
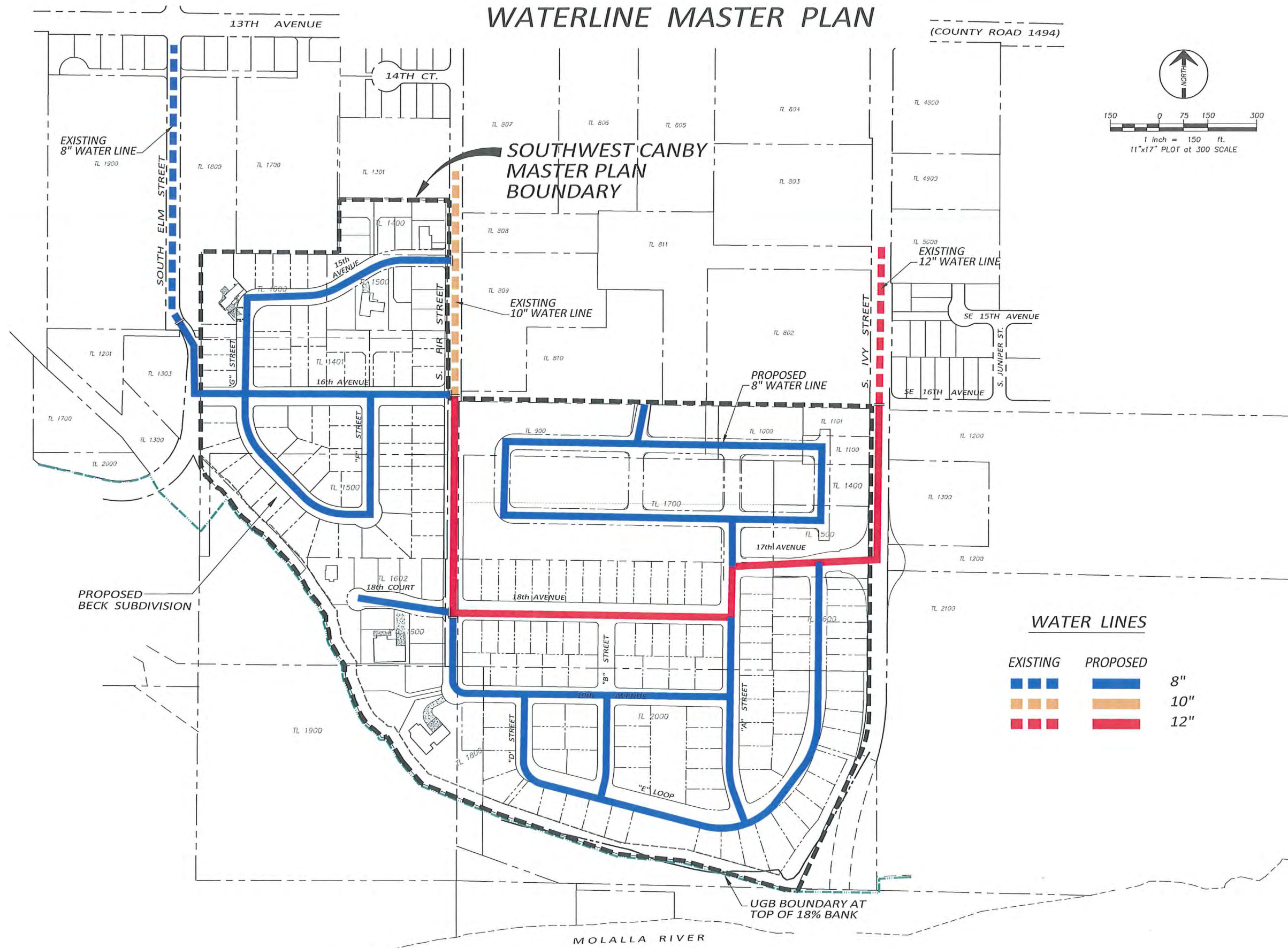
NO.	DATE	DESCRIPTION
1	2-12-17	

PLANNING & LAND DESIGN
1862 NE ESTATE DRIVE
HILLSBORO, OREGON 97124
RYAN O'BRIEN
(503) 780-4061

SHEET
OF

EXHIBIT 5

WATERLINE MASTER PLAN



WATER LINES		
EXISTING	PROPOSED	
		8"
		10"
		12"

SOUTHWEST CANBY
 TAX MAP T4S, R1E, SECTION 4
SEC. 4C, LOTS 1401, 1600, 1602 & 1900
 SEC. 4D, LOTS 900, 1000, 1100, 1101, 1400, 1600, 1600, 1700, 1800 & 2000
 SEC. 4CA, LOTS 1401, 1600, 1602 & 1900
CITY OF CANBY, OREGON

STAFFORD
 DEVELOPMENT COMPANY, LLC
485 SOUTH STATE STREET
 LAKE OSWEGO, OREGON 97034

SANITARY SEWER
MASTER PLAN

NO.	DATE	DESCRIPTION
1	2-12-17	

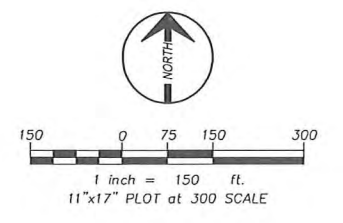
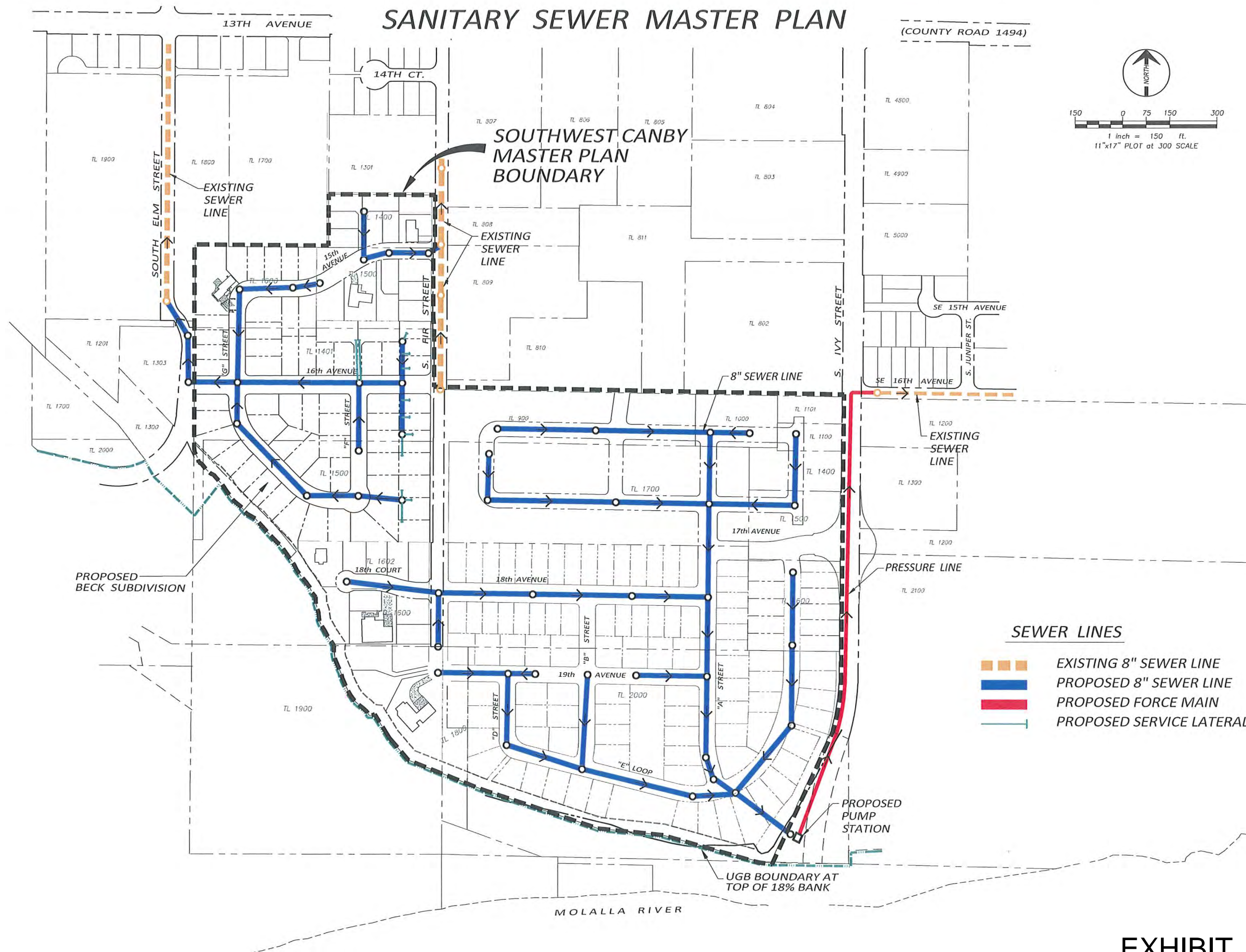
PLANNING & LAND DESIGN
 1862 NE ESTATE DRIVE
 HILLSBORO, OREGON 97124
RYAN O'BRIEN
 (503) 780-4061

SHEET
 OF

EXHIBIT 6

Water_12/22/2017 10:31:20 AM

SANITARY SEWER MASTER PLAN



SEWER LINES

- EXISTING 8" SEWER LINE
- PROPOSED 8" SEWER LINE
- PROPOSED FORCE MAIN
- PROPOSED SERVICE LATERAL

SOUTHWEST CANBY
 TAX MAP T4S, R1E, SECTION 4
SEC. 4C LOTS 1401, 1600, 1602 & 1900
 SEC. 4D LOTS 900, 1000, 1100, 1101, 1400, 1500, 1600, 1700, 1800 & 2000
 SEC. 4CA LOTS 1401, 1600, 1602 & 1900
 CITY OF CANBY, OREGON

STAFFORD
 DEVELOPMENT COMPANY, LLC
485 SOUTH STATE STREET
 LAKE OSWEGO, OREGON 97034

SANITARY SEWER
 MASTER PLAN

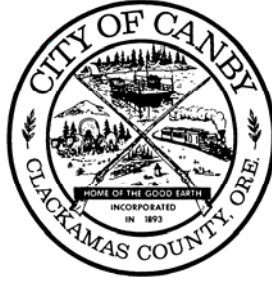
REVISIONS

NO.	DATE	DESCRIPTION
1	2-12-17	

PLANNING & LAND DESIGN
 1862 NE ESTATE DRIVE
 HILLSBORO, OREGON 97124
 RYAN O'BRIEN
 (503)780-4061

SHEET _____ OF _____

EXHIBIT 7



Pre-application Meeting

65 Lot Subdivision
March 9, 2017
10:30 am

Attended by:

Ryan O'Brien, Planning and Land Designs, 503-708-4051
Hassan Ibrahim, Curran-McLeod Engineering, 503-684-3478
Levi Levasa, Stafford Development, 503-250-3651
Doug Quan, Canby Utility, Water Department, 971-563-6314
Tim Gettel, Wave Broadband, 503-307-0029

Bryan Brown, Planning Department, 503-266-0702
Gordon Root, Stafford Development, 503-720-0914
Gary Stockwell, Canby Utility Electric, 503-263-4307
Jim Stuart, Canby Utility, 971-563-1375

This document is for preliminary use only and is not a contractual document.

STAFFORD DEVELOPMENT, Gordon Root

- We are bringing in this property between S Ivy and S Fir Streets and on the west side of S Fir Street. There are multiple properties involved in this project area and I want to clarify with the process of the subdivision application with annexation, can it be concurrent and Bryan said no, you will have to annex first. Gordon gave a list of the properties:
 - Rodney Beck
 - Nadine Beck
 - McMartins
 - Mootz
 - Hope Village

The different zonings will have multiple uses. The R-2 as shown on the master plan is the McMartin's property and Hope Village wants to purchase it and expand their overall site. The Mootz property and Hope Village are presently negotiating to purchase the property and they have tentatively reached an agreement in principal.

- We are thinking of bringing a future extension of SW 17th Avenue connecting S Ivy to S Fir Street. This will be on the southern section of the Mootz's property line and it will be the dividing line between the R-2 HDR property and the lower density residential property.
- We anticipate doing the extension of S Fir Street all the down into and through our project. We have been in discussions with Ed Netter who owns a 1 acre parcel and along with the Beck's. We are trying to get the majority of landowners in the projected area to go along with the annexation.
- Gordon said Hope Village will be coming in for their application and Doug asked if this will be a separate application. Gordon said this will be combined for annexation and the land use application will be separate. Doug said the construction will be separate from yours and the answer was yes, but we will construction SW 17th Avenue.

CANBY UTILITY, ELECTRIC DEPARTMENT, Gary Stockwell

- Are you going to piece meal the construction of the project or annex it all at once? Gordon said it will be driven by the gravity fed sewer mains and we will start with the Beck's property first being fed into S Elm Street.
- Before I will be able to do any electrical design work, even the Beck property, I will need the comprehensive plan and have the city's approval because there will be a lot of infrastructure to serve in its entirety. The master plan will be very important to me to be able to put together an electrical plan. Bryan said you will need to make sure everything has been adopted and Gary agreed. Gary said some of the work to be done will be placing the overhead lines underground for the homes that are staying.
- We have worked together on previous jobs and you know our scope of work. You will provide the trenching, staking, grading and backfill and we will provide the conduit, vaults and transformers.
- Depending on the street section where the transformers and vaults will be located behind sidewalk and we may need addition easement to make it fit, especially in the high density areas.
- On the private streets we no longer offer leased street lighting and the private street lighting will be your responsibility.

CURRAN-MCLEOD ENGINEERING, Hassan Ibrahim

- S Fir Street is currently a county street, but as a result of the annexation it will become a city street. It is classified in the Transportation System Plan (TSP) as a local street and you have proposed a 60 ft right-of-way (ROW). We have 36 ft wide streets and we will continue with the 60 ft ROW, making 18 ft half streets. If the other half is not improved then we need to make sure it will be a 20 ft wide minimum allowable two lanes of traffic.
- S Ivy Street is an arterial county street and it will remain a county street. You will have to go through the process with the county on the access spacing and all permits necessary through them. Hassan handed Ryan a drawing from Dinsmore Estates phase 3 to show what the parameters would be for S Ivy Street and it will need to be continued. It is 23 ft from center line, 46 ft pavement in a 60 ROW.
- Any of the city's streets will have to be built to our current design standards and the cul-de-sac has to be 48 ft to the curb line in a 54 ft ROW. I noticed you have not met the 50 ft minimum tangent point coming out of the intersection before you turn the radius. The minimum radius is 165 ft for the local streets onto local streets we have allowed a 50 ft ROW if you cannot meet the lot minimum size and the sidewalks can be in the easement. Ryan said we will need to have a 6 ft sidewalk and a 4-1/2 ft minimum planter strip with 1/2 foot curb (face of the curb to the front of the walk). Hassan said you will need a larger ROW if we put the sidewalks in the easement. Gary said do not forget the public utility easement (PUE) will be behind the sidewalks and Ryan asked how much and Hassan stated the frontage PUE is 12 ft from the ROW line. Gary said I will need to make sure we have enough PUE for our utilities and typically we will need at least 6 ft behind the sidewalk for trenching and when you come to a property line where we place a transformer you will need to bump out the PUE to 12 ft.

- Clackamas County sent in their comments and due to the large size of the development there will be a traffic study required to see what the impacts are on the signal light on SE/SW 13th Avenue and S Ivy Street. Signal modifications may be required.
- We tentatively think we can serve this area with gravity feed sewers and it is not budgeted to build the pump station yet and until we know for sure this development is going in and it is warranted and needed. We do not want to build the lift station and let it sit. As the project progresses and we move into building this phase here we will budget it and Bryan said what may also trigger it will be Hope Village's development. Hassan said if Hope Village decides to build it the sewers should be deep enough right now at 8 or 9 ft.
- Gordon asked what they were responsible for and Hassan said we will be responsible for the pump station and the forced main and everything else will be the responsibility of the developer and you will need to provide a 15 ft easement. Bryan asked if we needed to purchase the land for the pump station and Hassan said he thought we had adequate ROW in this area. Bryan said this information will need to be put in your narrative when you submit for your annexation and the concept plan. We have to have this service pinned down for the entire concept plan area and show the council we have thought and know about all of the parts can be served and how the financing is going to work. Bryan asked how long does it take for a pump station to be built and Hassan said it usually takes 3 to 4 months normally.
- The storm drainage for each tax lot will stay on site. You will need to figure out the public street stormwater system and if you want to do retention ponds or drywells. The drywells will be at a 26 ft minimum with a 4 ft diameter and it will be preceded by a water quality sedimentation manhole. Ryan asked if we have public works standards and Hassan said they will provide them to you.
- There is a 267 ft restriction radius of placing a drywell near any existing water wells.
- Ryan asked about the sewer treatment plant capacity and Hassan stated we are at 50 percent capacity as of this morning.
- Street lights will be required throughout the project and Canby Utility installs them and Gary said they will be included in the construction costs I will send to you.

CANBY UTILITY, WATER DEPARTMENT, Doug Quan

- The water system will be interesting to say the least since you have multiple developments. Hope Village will be addressed with Hope Village's application because it is not a part of your construction. As far as the Beck property it looks like we may have conflicts with the sewer system and there are standard state requirements for separation between water and sewer. The water line is at a depth of 36 inches with cover and we have specifications in our construction guidelines and if the sewer line for the property is above the water line you will have to use a one piece length of HDPE pipe from cleanout to main. Ryan said this is conceptual and we do not know the exact elevation. Doug said fusion couplings are allowed if you cannot do a 20 ft length of pipe, which is a standard pipe length for most of the 6 inch.
- You can access water in both S Fir (10 inch main) and S Ivy (12 inch main) Streets. All your dead ends will require a hydro guard HD 4 automatic flushing station with dechlorination and piped into the storm system. Gordon asked what water main size are you wanting in SW 17th Avenue and Doug said 12 inch water main.

- Depending on how you want to set the fire hydrant for the cul-de-sac you can reduce the line size going into the cul-de-sac and as long as you meet the fire department's rule for fire suppression.
- Construction standards are on the Canby Utility's website.
- We have gone to a sole source hydrant and we have changed our meter boxes to a poly-meter box that is 20 K rated along with a 20 K rated lid. These will all be located in the planter strips.
- If there are any wells in the area you need to let us know if they will be decommissioned and going away, Canby Utility would like the water rights transferred to the city. If they are not going away because we need to look at the properties they will serve and get the proper back flow devices. Gordon said we plan on keeping the well on the Beck's property and Doug asked if they will remain on the well and the answer was yes. Doug asked if the developer is going to put in a service to the property with the well for future needs and the answer was yes. Ryan asked if the rule for drywells still stand being 267 ft from any existing well and the answer was yes. Gordon stated that could dictate us abandoning the well and Hassan said yes, if the drywell happened to be in the low point and it was within the 267 ft.

WAVE BROADBAND, Tim Gettel

- Let us know when the trenches are open and if we can get a copy of the power schematic it helps us with our plan. Hassan said also in the trench line is DirectLink and NW Natural.

CITY OF CANBY, PLANNING DEPARTMENT, Bryan Brown

- The annexation application is not necessarily including all 15 property owners in the master plan area or are you attempting it? Gordon said he was initially going to do both Beck and McMartin properties, but since then we have decided the Mootz property needs to be in this annexation. Bryan said this further complicates issues and we would need to have our comprehensive plan show the different designations within the projected area and therefore you will be amending the comprehensive plan to make that designation. It is a separate application to be completed. Discussion ensued. Bryan said the annexation is whoever wants to annex now, but the concept development plan is for the whole acreage and it will get adopted and be official for anyone annexing in the future and they have to know they will be conforming to that plan. You will need to contact all the land owners in this projected amendment area and have a neighborhood meeting. You have to have a concept plan that the city feels it is very reasonable and efficient way for this to develop and addresses all the basic criteria in the concept plan.
- It is not in our code right now, but we do not allow 28 ft streets unless you are willing to prohibit parking on one side. Ryan asked how many feet does a street have to be in order to have parking on both sides and Bryan said 34 ft.
- Ryan asked if they needed to do a topographical map to get to the 18 percent line and Bryan said the 18 percent is not an absolute magic number and it is more of a guide we use since our concept plan does not tell us where the top of bluff is. Discussion followed.
- Clackamas County is certainly requiring a traffic study and the city will also. There is a minimum requirement by state law we do a transportation planning rule (TPR) analysis for all the properties being rezoned for an annexation. What this means is the properties you are

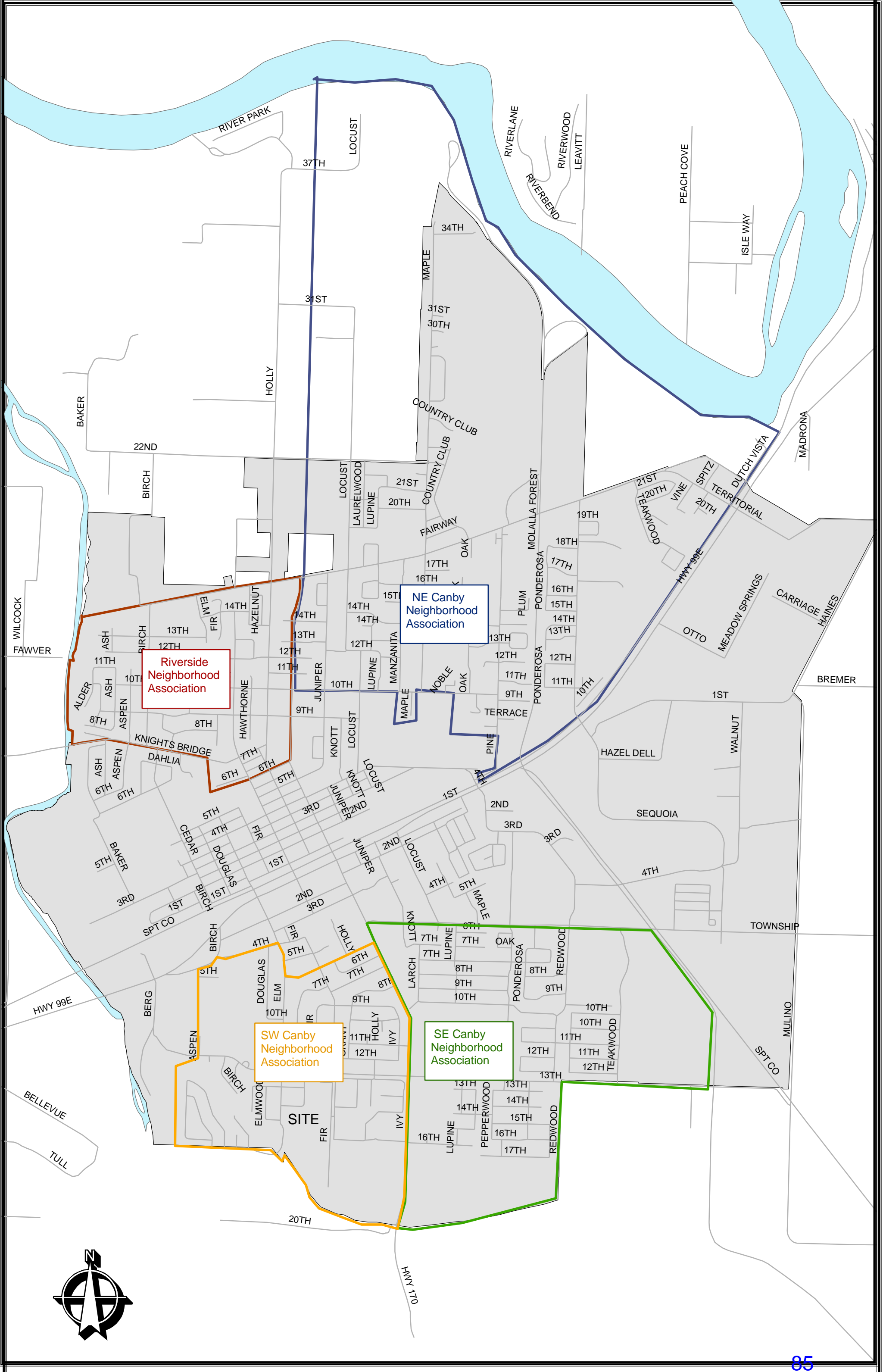
annexing will have to be a part of a traffic analysis demonstrating a conformance with the TPR and it can be in simple terms of traffic studies. If everything was accounted for and you are following the comprehensive zone designations in our adopted transportation system plan (TSP) and our traffic consultants can demonstrate it in a paragraph from the data they have collected during the TSP. We need to satisfy the state requirement by accounting for all the expected traffic if this develops under these scenarios. We will also need some sort of generalized traffic analysis for the entire master plan area and we have the assurance in front of the council stating if this all develops and is annexed as proposed by the master plan, we have an adequate circulatory internal streets and on the edge to handle it. The traffic study should tell us and the county on what impact this development will have on the intersection of SE/SW 13th Avenue and S Ivy Street. The scope of work is for this type of informational studies and even where SW 17th Avenue comes out and I am hopeful you have the best location for it, but sight distances up and down the roadway. Hassan said the county has access spacing requirements on the arterial streets. Bryan said the third item will be a detailed traffic study for the Beck subdivision and since you are following up with it right away, it is possible to have the traffic study with all three components and you do not have to do them separately. You could do a generalized study for the annexation and a TPR and do another focused traffic study for the Beck subdivision when you make that application. One of the main things the professional traffic consultants state in an annexation or a TPR analysis is not the same as a specific development, which is what you are proposing and that kind of study is different on what they look at when they do a generalized reasonable worst case scenario because we do not know how you are going to develop it. You need to get this traffic study started so it does not delay your annexation plans and I would suggest you think about your options and bring us a deposit for \$500 to start the scope. Just for your information once you get approval for annexation it takes the state several months to validate it.

- Gordon asked Bryan about SE 16th Avenue and Bryan said Hope Village had discussed bringing SE 16th Avenue across. Gordon said it would be good to have SE 16th Avenue go across and I will talk to them about making their parking lot a street. Discussion ensued. Bryan said it could come out of the traffic study and Hassan said the county may have a problem with the spacing. Gordon asked what the spacing was and Hassan said his best guestimate was 500 ft. You will have to go to the county on the spacing requirements.
- I need to get some more information on the master plan, the urban growth boundary and how it relates to the river, the actual tax lots and the ownership of the property. I know a couple of years ago the legislature passed a law that would allow the property to be partitioned where an urban growth boundary was. Ryan said you have the option of annexing or partitioning if part of the property is in the city and part is out and you can annex the entire piece of property or they allow you to partition without meeting the code requirements of the EFU zone. Bryan said part of our answer lies in our master parks plan that has our Emerald Trail following the Molalla River and if there are ownerships going out beyond the urban growth boundary and there may be some advantage to have it annexed and dedicated as a conservation easement and/or a pedestrian easement for the city's use. Discussion ensued. Bryan said we need park land in this part of town and we are basically requiring you to dedicate per the ordinance requirements in the code. It will tell you the total acreage of the

master plan you need to dedicate for a park to avoid any system development charges (SDC). We still have to get the acceptance of the city administrator and he knows this project is going through and we are going to have the same issue of park maintenance. I need to get answer on whether we force you to dedicate the required amount of land and if the land can be partly the trail with something internal. There is a question on whether we can build a walking trail on the 18 percent slope and I think it is not a good idea, we need it down at the bottom or right at the top on the UG boundary where we can build it. You need to help us to determine it or we are going to say no because you are not meeting our parks master plan requirements to have a trail connect from S Ivy to S Elm Streets. The easements for the trail system is a minimum of 15 ft wide but 20 ft is better.

- Bryan asked who owned S 20th Avenue adjacent to the Molalla River and Gary said it is a private road for Canby Sand and Gravel and Parker NW Paving Company. Bryan said the properties we are discussing today do not actually go to the Molalla River and the answer was no.
- Ryan asked Bryan about the 3 year supply with an annexation. Bryan said we are using a policy and it is interpreted by a 3 year land supply based upon platted lots. The charts are available to assist you and Gordon said he used Pat Sisul's information for our annexation and Bryan said we can help you also. The council and the Planning Commission look at this information in regards to accepting new annexations for our 3 year supply.
- You are required by the code to have a neighborhood meeting prior to annexation. You will need to get all the names of the property owners within the radius and all the names of the owners within the master plan area. You will need to share with them the master plan and tell them they will have to follow it when they decide to develop or if any one sells their property.
- Timing wise it takes at least three weeks to do a traffic scope and a study could take six weeks. Ryan asked who is our traffic engineer and Bryan said DKS Associates. To get this started you need to send a \$500 deposit to us and by city ordinance the city with help from our traffic engineer is required to produce the scope of work. You have the option to choose another traffic firm to do the study and they will have to follow the task set for them. Our engineer will review the study and make sure they followed the proper procedures and all the tasks. You will need to have the traffic study done to hold the public hearings with the Planning Commission.
- You will need to pin down the parks dedication through the formula in the code, identifying where you are going to put it in the master plan for a trail and it is very important because we need the emerald necklace trail and/or a park.
- Gordon asked what the timing would be for this process and Bryan stated you will need to have a traffic study complete (6 to 8 weeks), a neighborhood meeting, your application reviewing the criteria in the annexation section of the code, Chapter 16.54 are amendments to the zoning map. Once you submit your application and in 45 days you will have a Planning Commission hearing date. We do send a 35-day notice once you have made an application for a proposed re-zone and an annexation. Gordon said 60 days to be deemed possibly complete and Bryan said the Planning Commission meets twice a month. Gordon asked after the Planning Commission what time factor do we have and Bryan said in approximately 25 days you will be in front of the council and they make the final decision and after that a 20

day appeal period. Then we send the annexation and rezoning ordinance to the Secretary of the State's office.



April 3, 2017

RE: Southwest Canby Master Plan – Neighborhood Meeting

Dear Neighbor,

We would like to invite you to a neighborhood meeting to discuss the Master Plan we are proposing for property located in the southwest corner of the Canby Urban Growth Boundary. The properties included in the Master Plan Area are identified on the map on the reverse side of this letter. Before any property in this area can be annexed to the City of Canby and rezoned in accordance with the Canby Comprehensive Plan Map, a Master Plan must be approved by the City of Canby. It is our goal to annex specific properties that we have an interest in within the Master Plan Area. Our application for annexation is also an opportunity for other property owners to join our annexation application if they so desire. Only the property owners that request annexation to the city will be included in the Annexation and Zone Change applications. Property owners that do not want to be annexed to the city can be included in the Master Plan, but are not required to be annexed to the city.

While this Neighborhood Meeting is a requirement for submitting a Master Plan, we think it is a valuable opportunity to provide clarity to the process and our intentions as the applicant and receive feedback and answer questions from community members. The focus of the meeting will be the Southwest Master Plan application and associated Annexation and Zone Change applications. The attached draft Master Plan shows proposed zoning in compliance with the Canby Comprehensive Plan as well as a concept layout depicting a potential development pattern for the near or distant future depending on owner preferences. Each property owner will be able to design plans for their own property which may be different than the attached plan. We hope you will be able to join us for this meeting.

Meeting Location: **Canby Adult Center**
 1250 S Ivy Street
 Canby, OR 97013

Meeting Date & Time: **Tuesday, April 18, 2017 from 7:00pm to 8:00pm**

Please feel free to call or email me with any questions or comments if you are unable to attend this meeting.

Sincerely,

Levi Levasa - Project Manager
Email: Levi@staffordlandcompany.com
Phone: 971.206.8614

NEIGHBORHOOD MEETING ATTENDANCE ROSTER

PROJECT: SOUTHWEST CANBY MASTER PLAN MEETING DATE: 4-18-17

PUBLIC RECORDS LAW DISCLOSURE: This sign-in sheet is a public record of City of Canby and it is subject to public disclosure under Oregon Public Records Law.

PLEASE PRINT LEGIBLY!

PRINTED NAME	FULL MAILING ADDRESS & E-MAIL ADDRESS	CITY, STATE	ZIP CODE	PHONE #
MARY JOHNSON	365 WARNER MILNE RD STE 203 OREGON CITY OR 97045 maryjohnson@mlaw.us	OREGON CITY, OR	97045	503) 656-4444
Nancy Wilmes	PO Box 1204 Canby nawilmes@aol.com	Canby, OR	97013	503 720-1785
Duane McMartin	5743 Arlington Beach Dr	Las Vegas, NV	89139	503 752 9250
JERRY / BRENDA	1735 S. IVY MOOTZ	Canby, OR	97013	503-266-9837
Craig Gingench	1535 S. IVY	Canby, OR	97013	503-266-9816
Red Beck	1555 S Fer	Canby, OR	97013	503-313-9778
Peggy Lauck	384 SE 10 th Ave	Canby, OR	97013	503 310-0499
Andi Allcroft	8479 SW Tyne UP	Tualatin, OR	97062	971-404-5221
Susan Gallagher	25261 S HWY 170	Canby, OR	97013	503 312 5425
Alan Gallagher	_____	_____	_____	503 784-2449

NEIGHBORHOOD MEETING ATTENDANCE ROSTER

PROJECT: SOUTHWEST CANBY MASTER PLAN MEETING DATE: 4-18-17

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PRINTED NAME	FULL MAILING ADDRESS & E-MAIL ADDRESS	CITY, STATE	ZIP CODE	PHONE #
Rita Schmeiser	1841 S Ivy	Canby, OR	97013	503-266-9108
Steve Hughes Sharon Hughes	490 S. Township Rd.	Canby, OR	97013	503-266-5518
Sandra Salmonson	399 S Holly	Canby OR	97013	503-266-2950
Angela Baker	31499 Barlow Rd	Hubbard	97032	266 9943
J. Wolf		Portland		
DAVID R. R. R.	25/30 S. Hwy 170	canby, OR,	97013	5032660368

NEIGHBORHOOD MEETING ATTENDANCE ROSTER

PROJECT: SOUTHWEST CANBY MASTER PLAN MEETING DATE: 4-18-17

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PRINTED NAME	FULL MAILING ADDRESS & E-MAIL ADDRESS	CITY, STATE	ZIP CODE	PHONE #
Ed Netter	1847 S Fir Canby, OR 97013			503 314-8381
DeAnna Ball-Karb	1238 S. Cedar Loop	Canby, OR.	97013	503-984-9650
Roger; Cheryl Steinke	1547 S. Fir Canby, OR 97013			503 2661547

SOUTHWEST CANBY MASTER PLAN NEIGHBORHOOD MEETING MINUTES 4-25-17

The Neighborhood Meeting was conducted on 4-18-17 for the Southwest Canby Master Plan at the Canby Adult Center located at the northwest intersection of Ivy Street and 13th Avenue. The meeting started at 7.05 pm and ended about 9 pm. A total of 24 neighbors attended the meeting. The attached Southwest Canby Master Plan was presented to the properties owners and a copy of the plan was handed out to each property owner at the meeting. Gordon Root with Stafford Development made the presentation to the property owners. The issues discussed at the meeting are as follows:

1. Gordon Root requested property owners to contact him if they want to be included in the annexation application which will result in re-zoning the property. The property owners will not be charged a fee by the City of Canby or Stafford Development Company to be included in the annexation and zone change applications. Gordon indicated that inclusion in the annexation is voluntary and not required. All the properties are included in the Master Plan which is a general concept development plan. More specific plans will be presented to the city for approval for individual developments after the properties are annexed to the city and rezoned in accordance with the Canby Comprehensive Plan. Including individual properties in the Master Plan will not cause those properties to be annexed to the city.
2. The property owners asked questions about the proposed sanitary sewer pump station to be located on the west side of Ivy Street at the south end of the Canby UGB. They wanted to know when the pump station will be built and who will pay for it. Gordon indicated the property between Elm and Fir Streets have gravity sanitary sewer available from the existing sewer line in Elm Street. Most of the property between Ivy and Fir Streets will require connection to the future pump station. The city will determine who will pay for the pump station at a later date. The city will probably not authorize construction of the pump station until most of the properties between Fir and Ivy Streets are annexed into the city and preliminary subdivision plans are approved.
3. A property owner wanted to know what will be approved. Gordon indicated approval of the Master Plan will occur for all the property included in the Concept Plan area. Annexation and Rezoning will only be approved for properties requested by the individual property owners.
4. Gordon indicated the Canby Sewer Treatment Plat has 50% more capacity than needed to serve existing development in the City of Canby. Therefore, adequate capacity is available for development in the Master Plan Area.
5. One property owner was concerned about public access to the Molalla River. She wanted to know if a fence could be constructed along the south side of the potential pedestrian pathway along the 18% slope. Gordon indicated pedestrians will probably stay on the pathway to avoid the steep slopes that extend to the Molalla River. Gordon said that fence height along the north

side of the trail next to the residential lots will be limited to 4 feet in height or be required to be seen through, to provide “eyes on the trail” to control vandalism and other problems.

6. Gordon indicated Canby has a lot of parks but lacks the funds to maintain all the parks. Locations of other parks in the Master Plan Area will be evaluated by the city when specific development plans are submitted to the city for review.

7. One property owners asked if they can advocate for more parks when this Master Plan is reviewed by the city. Gordon indicated it would be appropriate for the residents in the area to provide comments about parks to the Planning Commission and City Council at the public hearings.

8. The property owners indicated Ivy Street has too much traffic. They also identified problems with high speeds and sight distance issues with existing driveways, “S” curves just north of the Molalla River and the vertical curves of Ivy Street. The property owners commented on the large number of accidents on Ivy Street from the constraints identified above. Gordon indicated a general traffic study will be prepared for the Master Plan Area and a detained traffic study for the Beck property between Elm and Fir Streets and will be reviewed by Rick Nys at Clackamas County.

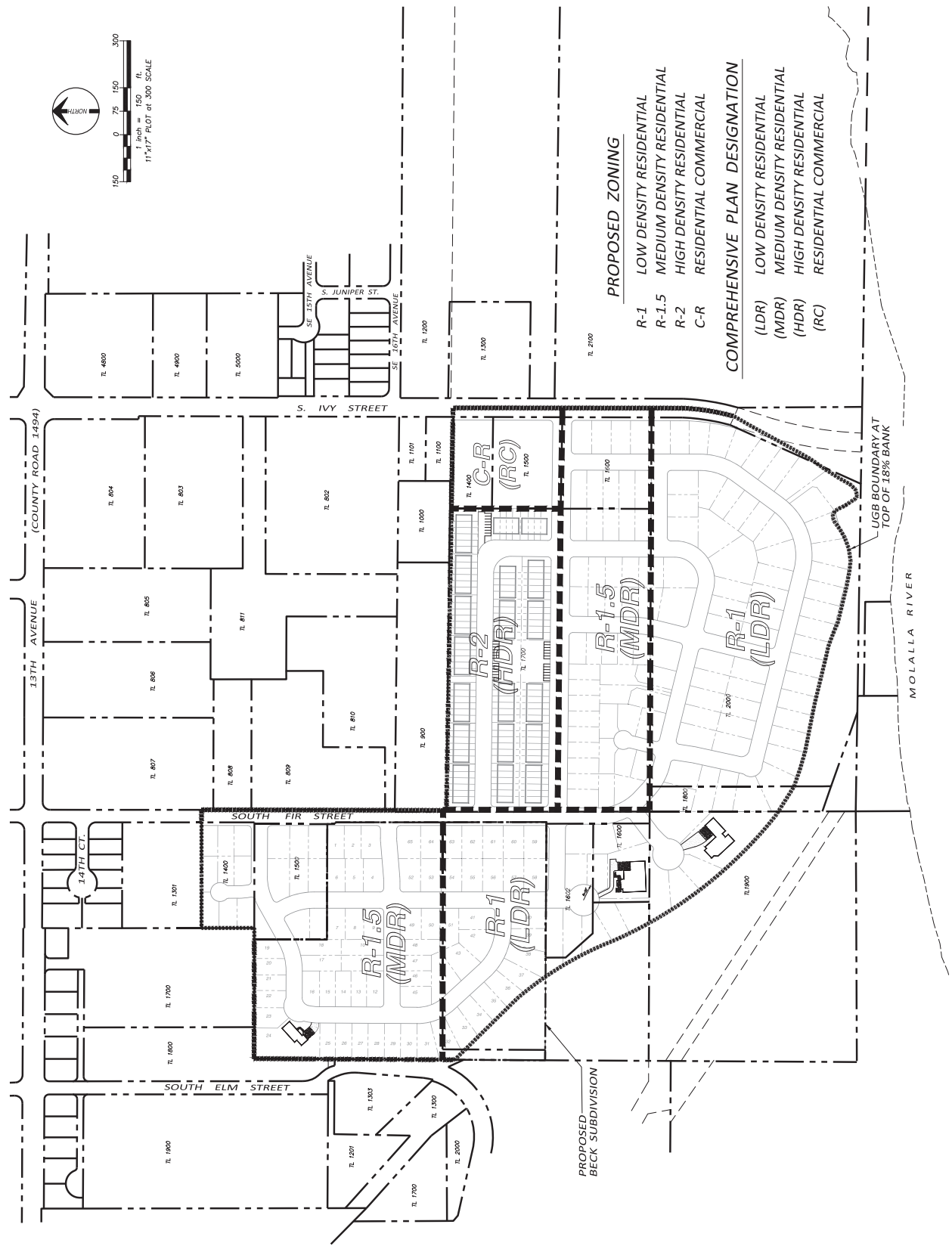
9. The property owner of Tax Lot 1600 on the west side of Ivy Street identified a blind spot on Ivy Street when exiting Tax Lot 1600. Gordon indicated this blind spot will be evaluated with the Traffic Study to determine the best location for a new east/west road between Ivy and Fir Streets. The proposed Master Plan currently shows a new east/west street. This new street will probably be named 17th Avenue.

10. One property owner wanted to know how to determine the value of their property. Gordon indicated they work backwards from the house price, house construction and site development costs. All these costs are fixed. The only variable cost is the land price.

11. Gordon indicated Canby is a commuter city to the Portland Metro Area, Tualatin and Wilsonville.

12. The property owners questioned the jurisdiction of Ivy Street. Is it controlled by the State or Clackamas County? They said ODOT was not very responsive to their concerns about traffic accidents, the safety of Ivy Street and reducing the speed limit. They also questioned the future jurisdiction of the other street in the general area. Gordon indicted the city will probably take jurisdiction of all local streets and ODOT will probably retain jurisdiction of Ivy Street.

13. The property owners asked questions about the Commercial Residential Zone. Gordon will get back to those property owners to answer their questions.





ARIZON NEW MEXICO

OKLAHOMA

ARKANSAS

TENNESSEE

NORTH CAROLINA

SOUTH CAROLINA

DP-1

Profile of General Population and Housing Characteristics: 2010

2010 Demographic Profile Data

NOTE: For more information on confidentiality protection, nonsampling error, and definitions, see <http://www.census.gov/prod/cen2010/doc/dpsf.pdf>.

Geography: Canby city, Oregon

Subject	Number	Percent
SEX AND AGE		
Total population	15,829	100.0
Under 5 years	1,215	7.7
5 to 9 years	1,226	7.7
10 to 14 years	1,280	8.1
15 to 19 years	1,215	7.7
20 to 24 years	794	5.0
25 to 29 years	918	5.8
30 to 34 years	1,006	6.4
35 to 39 years	1,014	6.4
40 to 44 years	1,092	6.9
45 to 49 years	1,130	7.1
50 to 54 years	941	5.9
55 to 59 years	939	5.9
60 to 64 years	812	5.1
65 to 69 years	666	4.2
70 to 74 years	443	2.8
75 to 79 years	393	2.5
80 to 84 years	363	2.3
85 years and over	382	2.4
Median age (years)	36.3	(X)
16 years and over	11,862	74.9
18 years and over	11,345	71.7
21 years and over	10,722	67.7
62 years and over	2,729	17.2
65 years and over	2,247	14.2

Subject	Number	Percent
Male population	7,596	48.0
Under 5 years	614	3.9
5 to 9 years	617	3.9
10 to 14 years	640	4.0
15 to 19 years	640	4.0
20 to 24 years	397	2.5
25 to 29 years	453	2.9
30 to 34 years	472	3.0
35 to 39 years	512	3.2
40 to 44 years	532	3.4
45 to 49 years	544	3.4
50 to 54 years	440	2.8
55 to 59 years	453	2.9
60 to 64 years	387	2.4
65 to 69 years	304	1.9
70 to 74 years	205	1.3
75 to 79 years	145	0.9
80 to 84 years	128	0.8
85 years and over	113	0.7
Median age (years)	34.7	(X)
16 years and over	5,591	35.3
18 years and over	5,312	33.6
21 years and over	5,009	31.6
62 years and over	1,115	7.0
65 years and over	895	5.7
Female population	8,233	52.0
Under 5 years	601	3.8
5 to 9 years	609	3.8
10 to 14 years	640	4.0
15 to 19 years	575	3.6
20 to 24 years	397	2.5
25 to 29 years	465	2.9
30 to 34 years	534	3.4
35 to 39 years	502	3.2
40 to 44 years	560	3.5
45 to 49 years	586	3.7
50 to 54 years	501	3.2
55 to 59 years	486	3.1
60 to 64 years	425	2.7
65 to 69 years	362	2.3
70 to 74 years	238	1.5

Subject	Number	Percent
75 to 79 years	248	1.6
80 to 84 years	235	1.5
85 years and over	269	1.7
Median age (years)	38.0	(X)
16 years and over	6,271	39.6
18 years and over	6,033	38.1
21 years and over	5,713	36.1
62 years and over	1,614	10.2
65 years and over	1,352	8.5
RACE		
Total population	15,829	100.0
One Race	15,371	97.1
White	12,816	81.0
Black or African American	93	0.6
American Indian and Alaska Native	192	1.2
Asian	169	1.1
Asian Indian	14	0.1
Chinese	29	0.2
Filipino	11	0.1
Japanese	12	0.1
Korean	21	0.1
Vietnamese	40	0.3
Other Asian [1]	42	0.3
Native Hawaiian and Other Pacific Islander	29	0.2
Native Hawaiian	14	0.1
Guamanian or Chamorro	3	0.0
Samoan	0	0.0
Other Pacific Islander [2]	12	0.1
Some Other Race	2,072	13.1
Two or More Races	458	2.9
White; American Indian and Alaska Native [3]	123	0.8
White; Asian [3]	77	0.5
White; Black or African American [3]	48	0.3
White; Some Other Race [3]	151	1.0
Race alone or in combination with one or more other races: [4]		
White	13,244	83.7
Black or African American	157	1.0
American Indian and Alaska Native	334	2.1
Asian	270	1.7
Native Hawaiian and Other Pacific Islander	54	0.3
Some Other Race	2,251	14.2

Subject	Number	Percent
HISPANIC OR LATINO		
Total population	15,829	100.0
Hispanic or Latino (of any race)	3,368	21.3
Mexican	3,099	19.6
Puerto Rican	20	0.1
Cuban	7	0.0
Other Hispanic or Latino [5]	242	1.5
Not Hispanic or Latino	12,461	78.7
HISPANIC OR LATINO AND RACE		
Total population	15,829	100.0
Hispanic or Latino	3,368	21.3
White alone	991	6.3
Black or African American alone	58	0.4
American Indian and Alaska Native alone	68	0.4
Asian alone	1	0.0
Native Hawaiian and Other Pacific Islander alone	10	0.1
Some Other Race alone	2,061	13.0
Two or More Races	179	1.1
Not Hispanic or Latino	12,461	78.7
White alone	11,825	74.7
Black or African American alone	35	0.2
American Indian and Alaska Native alone	124	0.8
Asian alone	168	1.1
Native Hawaiian and Other Pacific Islander alone	19	0.1
Some Other Race alone	11	0.1
Two or More Races	279	1.8
RELATIONSHIP		
Total population	15,829	100.0
In households	15,735	99.4
Householder	5,647	35.7
Spouse [6]	3,242	20.5
Child	5,152	32.5
Own child under 18 years	4,019	25.4
Other relatives	969	6.1
Under 18 years	388	2.5
65 years and over	110	0.7
Nonrelatives	725	4.6
Under 18 years	76	0.5
65 years and over	45	0.3
Unmarried partner	325	2.1
In group quarters	94	0.6

Subject	Number	Percent
Institutionalized population	77	0.5
Male	28	0.2
Female	49	0.3
Noninstitutionalized population	17	0.1
Male	9	0.1
Female	8	0.1
HOUSEHOLDS BY TYPE		
Total households	5,647	100.0
Family households (families) [7]	4,129	73.1
With own children under 18 years	2,044	36.2
Husband-wife family	3,242	57.4
With own children under 18 years	1,505	26.7
Male householder, no wife present	261	4.6
With own children under 18 years	146	2.6
Female householder, no husband present	626	11.1
With own children under 18 years	393	7.0
Nonfamily households [7]	1,518	26.9
Householder living alone	1,261	22.3
Male	397	7.0
65 years and over	149	2.6
Female	864	15.3
65 years and over	583	10.3
Households with individuals under 18 years	2,233	39.5
Households with individuals 65 years and over	1,629	28.8
Average household size	2.79	(X)
Average family size [7]	3.27	(X)
HOUSING OCCUPANCY		
Total housing units	5,890	100.0
Occupied housing units	5,647	95.9
Vacant housing units	243	4.1
For rent	84	1.4
Rented, not occupied	11	0.2
For sale only	66	1.1
Sold, not occupied	8	0.1
For seasonal, recreational, or occasional use	15	0.3
All other vacants	59	1.0
Homeowner vacancy rate (percent) [8]	1.7	(X)
Rental vacancy rate (percent) [9]	4.2	(X)

Subject	Number	Percent
HOUSING TENURE		
Occupied housing units	5,647	100.0
Owner-occupied housing units	3,765	66.7
Population in owner-occupied housing units	10,408	(X)
Average household size of owner-occupied units	2.76	(X)
Renter-occupied housing units	1,882	33.3
Population in renter-occupied housing units	5,327	(X)
Average household size of renter-occupied units	2.83	(X)

X Not applicable.

[1] Other Asian alone, or two or more Asian categories.

[2] Other Pacific Islander alone, or two or more Native Hawaiian and Other Pacific Islander categories.

[3] One of the four most commonly reported multiple-race combinations nationwide in Census 2000.

[4] In combination with one or more of the other races listed. The six numbers may add to more than the total population, and the six percentages may add to more than 100 percent because individuals may report more than one race.

[5] This category is composed of people whose origins are from the Dominican Republic, Spain, and Spanish-speaking Central or South American countries. It also includes general origin responses such as "Latino" or "Hispanic."

[6] "Spouse" represents spouse of the householder. It does not reflect all spouses in a household. Responses of "same-sex spouse" were edited during processing to "unmarried partner."

[7] "Family households" consist of a householder and one or more other people related to the householder by birth, marriage, or adoption. They do not include same-sex married couples even if the marriage was performed in a state issuing marriage certificates for same-sex couples. Same-sex couple households are included in the family households category if there is at least one additional person related to the householder by birth or adoption. Same-sex couple households with no relatives of the householder present are tabulated in nonfamily households. "Nonfamily households" consist of people living alone and households which do not have any members related to the householder.

[8] The homeowner vacancy rate is the proportion of the homeowner inventory that is vacant "for sale." It is computed by dividing the total number of vacant units "for sale only" by the sum of owner-occupied units, vacant units that are "for sale only," and vacant units that have been sold but not yet occupied; and then multiplying by 100.

[9] The rental vacancy rate is the proportion of the rental inventory that is vacant "for rent." It is computed by dividing the total number of vacant units "for rent" by the sum of the renter-occupied units, vacant units that are "for rent," and vacant units that have been rented but not yet occupied; and then multiplying by 100.

Source: U.S. Census Bureau, 2010 Census.



PEPANNRES

Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2016

2016 Population Estimates

Geography	April 1, 2010		Population Estimate (as of July 1)			
	Census	Estimates Base	2010	2011	2012	2013
Canby city, Oregon	15,829	16,646	16,668	16,730	16,808	16,950

Geography	Population Estimate (as of July 1)		
	2014	2015	2016
Canby city, Oregon	17,191	17,425	17,653

Notes:

The estimates are based on the 2010 Census and reflect changes to the April 1, 2010 population due to the Count Question Resolution program and geographic program revisions. See Geographic Terms and Definitions at <http://www.census.gov/programs-surveys/popest/guidance-geographies/terms-and-definitions.html> for a list of the states that are included in each region and division. All geographic boundaries for the 2016 population estimates series except statistical area delineations are as of January 1, 2016. The Office of Management and Budget's statistical area delineations for metropolitan, micropolitan, and combined statistical areas, as well as metropolitan divisions, are those issued by that agency in July 2015. An "(X)" in the 2010 Census field indicates a locality that was formed or incorporated after the 2010 Census. Additional information on these localities can be found in the Geographic Boundary Change Notes (see <http://www.census.gov/geo/reference/boundary-changes.html>). For population estimates methodology statements, see <http://www.census.gov/programs-surveys/popest/technical-documentation/methodology.html>.

The 6,222 people in Bedford city, Virginia, which was an independent city as of the 2010 Census, are not included in the April 1, 2010 Census enumerated population presented in the county estimates. In July 2013, the legal status of Bedford changed from a city to a town and it became dependent within (or part of) Bedford County, Virginia. This population of Bedford town is now included in the April 1, 2010 estimates base and all July 1 estimates for Bedford County. Because it is no longer an independent city, Bedford town is not listed in this table. As a result, the sum of the April 1, 2010 census values for Virginia counties and independent cities does not equal the 2010 Census count for Virginia, and the sum of April 1, 2010 census values for all counties and independent cities in the United States does not equal the 2010 Census count for the United States. Substantial geographic changes to counties can be found on the Census Bureau website at <http://www.census.gov/geo/reference/county-changes.html>.

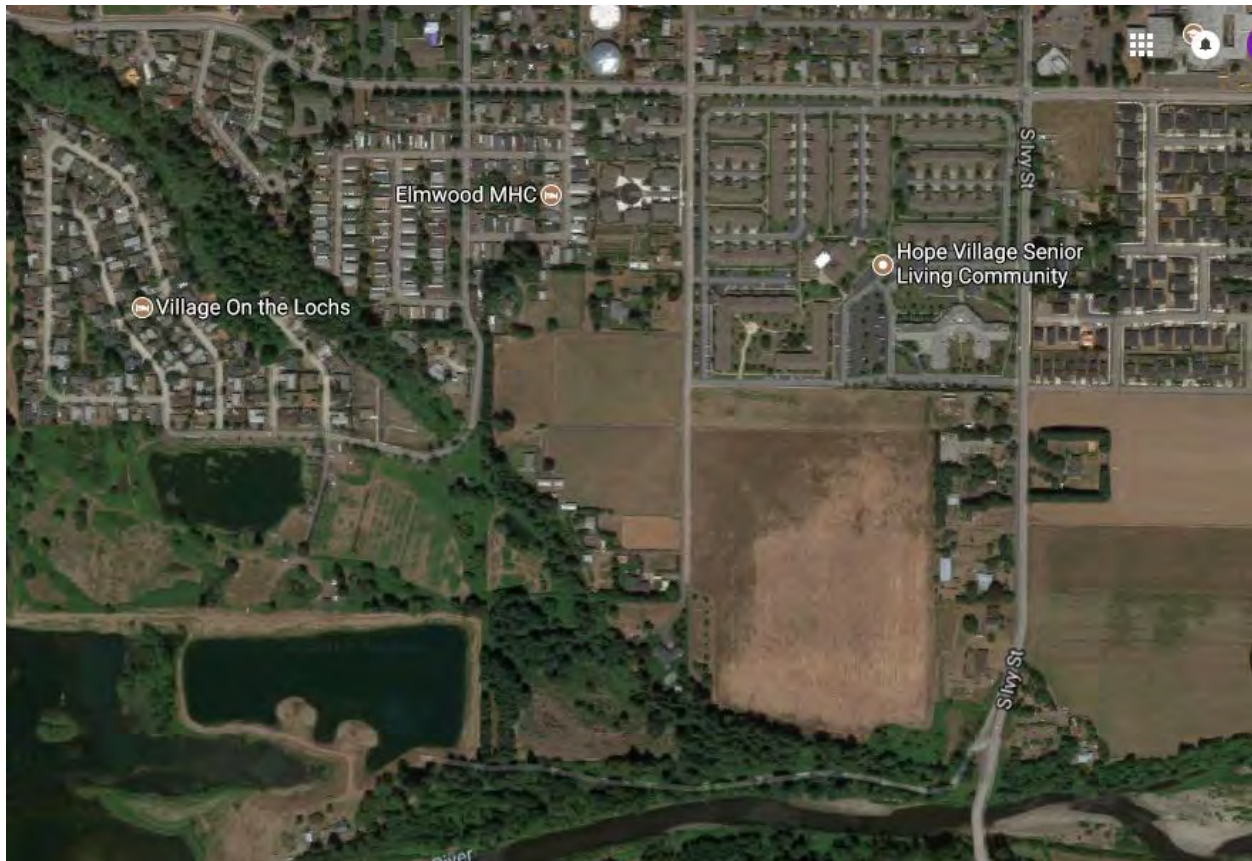
Suggested Citation:

Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2016

Source: U.S. Census Bureau, Population Division

Release Dates: For the United States, regions, divisions, states, and Puerto Rico Commonwealth, December 2016. For counties, municipios, metropolitan statistical areas, micropolitan statistical areas, metropolitan divisions, and combined statistical areas, March 2017. For cities and towns (incorporated places and minor civil divisions), May 2017.

Southwest Canby Development Concept Plan



Updated 12-22-17

Prepared by Planning & Land Design LLC
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I. Purpose

City of Canby Municipal Code (CMC) Section 16.84 establishes criteria for the City of Canby consideration and review of annexation requests. The City of Canby Annexation Development Map on page 4 of this report (Figure 16.84.040) shows which properties are required to submit either:

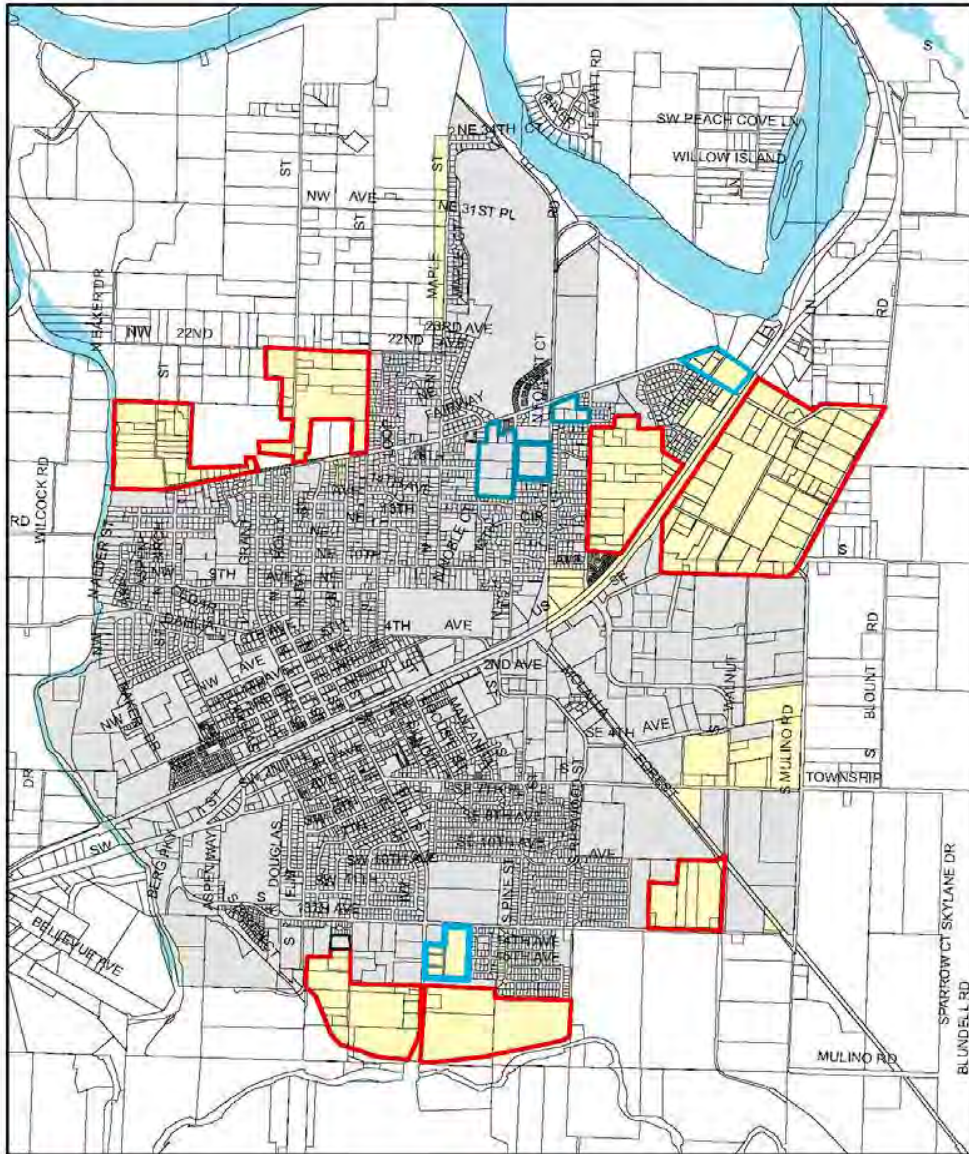
- a. A **Development Agreement** (DA) binding for all properties located within the boundaries of a designated DA area as shown on the City of Canby Annexation Development Map; or
- b. A **Development Concept Plan** (DCP) binding for all properties located within the boundaries of a designated DCP area as shown on the City of Canby Annexation Development Map.

A DCP was chosen for the subject property rather than a Development Agreement. A total of 18 tax lots are included in this Development Concept Plan (DCP) with a gross area of 75.74 acres. The net development area above the 18% break in slope along the Molalla River is 61.23 acres. The 18% break in slope is the Canby UGB boundary. The property is located between Ivy and Elm Streets and south of 13th Avenue. The property is designated as a DCP area as shown by CMC Figure 16.84.040 on page 4 of this report. The owners of 9 tax lots are currently requesting city annexation and rezoning as identified by the following table. These 9 owners worked together to prepare and process this DCP. The purpose of this DCP is to address the specific requirements of the City of Canby Municipal Code Section 16.84 and preparation of a DCP prior to annexation and rezoning. The following are the 18 tax lots in the DCP.

Net Ac.	Gross Ac.	TL	Tax Map	Ownership	(* Included in Annexation)
1.31	1.31	1400	4-1E-4CA	Paul Wenrick	
2.00	2.00	1500	4-1E-4CA	* Roger and Cheryl Steinke	
2.45	2.45	1600	4-1E-4CA	* Rodney and Carol Beck	
6.25	6.25	1401	4-1E-4C	* Rodney and Carol Beck	
5.50	8.75	1500	4-1E-4C	* Nadine Beck	
1.06	1.06	1600	4-1E-4C	Ed and Alissa Netter	
1.40	1.40	1602	4-1E-4C	Eric and Angela (Baker) Sorensen	
2.16	11.92	1900	4-1E-4C	Thomas and Erika Scott	
3.00	3.00	900	4-1E-4D	Shelly LLC, et. al. (already in the city limits)	
1.00	1.00	1000	4-1E-4D	Shelly LLC, et. al. (already in the city limits)	
0.39	0.39	1100	4-1E-4D	Hope Village (already in the city limits)	
0.40	0.40	1101	4-1E-4D	Hope Village (already in the city limits)	
0.87	0.87	1400	4-1E-4D	* Brian Christensen	
1.47	1.47	1500	4-1E-4D	* Hope Village, Inc.	
1.93	1.93	1600	4-1E-4D	* Rita Schmeiser	
14.51	14.51	1700	4-1E-4D	* McMartin Farms LLC	
0.80	1.00	1800	4-1E-4D	Enc 4 LLC	
14.73	16.03	2000	4-1E-4D	* McMartin Farms LLC	
61.23	75.74	Total Acres			

Figure 16.84.040

City of Canby Annexation Development Map



 Development Concept Area  Development Agreement Area

16.84.040 Standards and criteria.

A. The following criteria shall apply to all annexation requests.

16.84.040.A.1.b. A Development Concept Plan (DCP) binding for all properties located within the boundaries of a designated DCP area as shown on the City of Canby Annexation Development Map. A Development Concept Plan shall address City of Canby infrastructure requirements including:

1. Water
2. Sewer
3. Stormwater
4. Access
5. Internal Circulation
6. Street Standards
7. Fire Department requirements
8. Parks and open space

COMMENT: All of the above items are addressed in this report.

II. Existing Conditions

The site is very flat with a 10 foot difference in topography from the northwest corner of the site to the southeast corner s shown by Exhibit 4. The elevation of the DCP area ranges from 170 feet at the northwest corner to 180 feet at the southeast corner. The land is primarily used for agriculture. The Master Plan (Exhibit 3) and the Existing Conditions Map (Exhibit 4) show 6 houses to remain and 4 houses to be removed.

The site is similar in character to surrounding property in southwest Canby. The surrounding area is currently rural in nature and contains large lot single-family houses and agricultural uses. Urban uses are the subdivisions to the north and west between Elm and Fir Streets and the Hope Village development to the north between Fir and Ivy Streets. Annexation of this DCP area is a logical extension of urban development and a reasonable transition from rural to urban uses. Most of the property in this DCP is included in the annexation application. The only properties not included in the annexation have limited development opportunities. The Wenrick property to the north, Tax Lot 1400, 4-1E-4CA, is in a trust and the family members are not able to agree on the annexation of the property. The owners of Tax Lots 1600, 1602 and 1900, 4-1E-4C and Tax Lot 1800, 4-1E-4D have limited development options and want to remain outside the city. The Exhibit 3 Master Plan shows how these properties can develop independently in the future. Property included in the annexation can also develop independently of property outside the annexation area.

A total of 3 public streets provide access to the site (Ivy, Fir and Elm Streets). These streets intersect with 13th Avenue, an arterial street on the Canby Transportation System Plan (TSP). 13th Avenue extends the full length of the city from Highway 99E at the west end of the city to Mulino Road at the east end of the city. Mulino Road is a collector street that extends to Territorial Road. The site is also served with IVY Street (State Highway 170). Ivy Street is designated as an Arterial Street in the city TSP north of 16th Avenue (See Exhibit 12).

Urban infrastructure is available north of the DCP area and can be extended with future development. The property between Elm and Fir Street north the Sorensen property, Tax Lot 1602, can be served with gravity sanitary sewer. The remaining properties to the south and east in the DCP will require a sanitary sewer pump station as shown by Exhibit 8. Some of the property along the west side of Ivy Street will have gravity sanitary sewer available from the existing sewer line in 16th Avenue. Water and electrical lines will be extended into the DCP as identified in Section "IV" of this report.

III. Opportunities and Constraints

The DCP area is similar in character to much the surrounding development prior urban development. This area is the best opportunity for additional development in the city because of the large number of property owners that want to develop. This property has no constraints except the sanitary sewer pump station. Most of the property will be developed by 3 groups;

1. Stafford Development Company on the Beck property between Elm and Fir Streets
2. Tucker Mayberry on the R-1.5 and R-1 designed portion of the McMartin property between Ivy and Fir Streets
3. Hope Village on the R-2 designed portion of the McMartin property between Ivy and Fir Streets and the C-R designated property along Ivy Street.

Hope Village intends to develop the R-2 portion of the McMartin property with Tax Lots 900, 1000, 1100 and 1101, Map 4-1E-4D which are already in the Canby city limits. These 4 tax lots are owned by Hope Village or Hope Village affiliates. Because of the large land holdings by these 3 entities, development will be relatively easy compared to the significant number of small parcels in the North Redwood Development Concept Plan which need to be combined to build streets and infrastructure. As a result, the Southwest Canby Master plan is in a much better position to actually development and supply needed housing in the City of Canby compared the Redwood Concept Plan area. The only environmental constraints of the Southwest Canby DCP are the steep

slopes along the Molalla River Corridor. The steep slopes are outside the UGB and will not be annexed to the city.

Schools - The schools are very close to the Southwest Canby DCP. Lee Elementary and Ackerman Middle Schools are located at the northeast corner of Ivy Street and 13th Avenue. Canby High School is located at the southeast corner of Highway 99E and 4th Avenue. These schools have athletic fields which provide active recreational opportunities on weekends, during summers, and when school is not in session.

Bike and Walking Trails – A bicycle and walking trail will be provided along the 18% top of slope from Ivy Street to Elm Street with 3 pocket parks as shown by Exhibit 3. Page 107 of the Canby Comprehensive Plan shows a bike path will be provided along Ivy Street.

SE 13th Avenue & Ivy Street - SE 13th Avenue and Ivy Street are designated arterial streets in the City of Canby Transportation System Plan. SE 13th Avenue provides convenient east-west trips between S Mulino Road and 99E. Because SE 13th Avenue is an arterial, intersections are limited to a spacing guideline established by the City. Ivy Street provides a north-south connection to downtown Canby and neighboring cities and communities to the south.

East-West Connection - Exhibit 3 shows an east-west street connection between Ivy and Fir Streets. These streets are referred to as 17th and 18th Avenues in this report. 17th Avenue lines up with the flag pole of Tax Lot 1200, Map 4-1E-4D located on the east side of Ivy Street to create a major intersection. The Traffic Study addresses this intersection and recommends construction of a roundabout at this intersection to reduce high speeds on Ivy Street from north and south bound traffic. Appendix “E” of the DKS Traffic report shows a preliminary design for this traffic circle (Exhibit 14). A more precise plan for this roundabout is shown by Exhibit 15.

A second east-west street, 16th Avenue, is located between Fir and Elm Streets on the Beck property directly across from the Hope Village access on the east side of Fir Street. The 16th Avenue access on Elm Street is in the proper location for adequate sight distance in both directions. These 3 new east-west streets will connect the 3 north-south streets in the DCP area to provide an adequate traffic circulation system for the DCP area.

Fire Department Requiements - The Master Plan has been designed to provide adequate fire truck access to all dwelling units. All the streets are looped except for one cul-de-sac on the west side of Fir Street. Water lines will be designed to provide adequate fire hydrant flows and pressure and looped to existing 8, 10 and 12-inch diameter water lines (Exhibit 9).

IV. Concept Plan

Zoning: The DCP land use designations are the same as the City of Canby Comprehensive Plan. The Comprehensive Plan identifies 4 separate plans designations:

LDR - Low Density Residential with **R-1** Low Density Residential Zoning

MDR - Medium Density Residential with **R-1.5** Medium Density Residential Zoning

HDR - High Density Residential with **R-2** High Density Residential Zoning

RC - Residential Commercial with **C-R** Residential Commercial Zoning

Exhibit 3 shows both the Comprehensive Plan designation and proposed Zoning. Since the proposed Zoning designations are the same as the Comprehensive Plan, no Comprehensive Plan Amendments are required with this application.

Canby Municipal Code (CMC) Chapter 16.16 (R-1 Low Density Residential Zone) permits one single family dwelling per lot in addition to other Conditional Uses. Lots in the R-1 zone are required to be 7,000 sf in area unless a PUD or lot averaging is proposed.

Canby Municipal Code (CMC) Chapter 16.18 (R-1.5 Medium Density Residential Zone) allows uses permitted in the R-1 zone and two or three family dwellings (one duplex or tri-plex on each lot). Four-Family and Single-Family **common wall** dwelling units are permitted as Conditional Uses. The current property owners in the DCP do not intend to develop attached or multiple family dwelling units in the R-1.5 zone. Only detached houses are proposed. Lots in the R-1.5 zone are required to be 5,000 sf in area unless a PUD or lot averaging is proposed.

Canby Municipal Code (CMC) Chapter 16.20 (R-2 High Density Residential Zone) permits single family dwellings with **common wall** construction, uses permitted in the R-1.5 zone and other uses such as multi-family dwelling units. Hope Village intends to develop the R-2 and C-R zoned land in the DCP with approximately 43 duplexes, triplexes and fourplexes and 18 three-story senior apartment units.

Canby Municipal Code (CMC) Chapter 16.24 (C-R Residential Commercial Zone) permits one single family dwelling per lot, uses permitted in the R-1.5 zone and Conditional Uses such as multi-family dwelling units. Hope Village intends to develop the C-R zoned land the same as the R-2 zone land with a PUD application, even though only R-1.5 uses and standards are permitted.

Streets: The proposed Master Plan (Exhibit 2) shows connection to 3 existing streets; Elm, Fir and Ivy Streets. All of these streets connect to 13th Avenue, an Arterial Street. 13th Avenue extends the full length of the City of Canby. Most of the interior streets will be developed with the **Low-Volume Street Section** with 28 feet of pavement, 52 feet of right-of-way and parking on both sides of the street. This street section is appropriate for less than 500 vehicle trips per day (VTD). The only exceptions will be the east-west streets between Elm and Ivy Street (17th and 18th Avenues) and Elm and Fir Streets (16th Avenue). These streets will carry over 500 VTD and will develop with the Standard Local Street section with 34 foot of pavement and 58 feet of right-of-way. Both of these street sections are consistent with the local street connections in the attached Figure 7-6 of the Canby TSP (See Exhibit 13). Ivy Street is an Arterial Street and will develop in accordance with the attached two-way arterial street section in Figure 7-4 (Exhibit 13) with 60 to 80 feet of right-of-way and 34 to 50 feet of pavement. Page 107 of the Canby Comprehensive Plan shows a bike path will be provided along Ivy Street.

Parks: The existing City parks that are close to the DCP area are as follows:

1. Legacy Park is located at 1200 SE 13th Avenue next to Ackerman Middle School and features playgrounds, soccer fields, a picnic shelter and a meditation garden.
2. Community River Park is located at 1348 S. Berg Parkway southwest of Canby High School. This is a natural park with picnic facilities, barbecue pits, playground equipment, ball fields and a fishing pond for youth age 17 and under.
3. The Community Swim Center is located at 1150 S. Ivy Street just north of 13th Avenue.
4. The adult Center is located at 1250 S. Ivy Street at the northeast intersection of 13th Avenue and Ivy Street.

A total of 3 new pocket parks are shown on the Master Plan (Exhibit 3). The **First Pocket Park** is located on the McMartin property between 2 local streets. This park is 0.73 acres in size and will be developed with recreational facilities. The extent of the facilities will be determined when the subdivision application is reviewed by the city.

The **Second Pocket Park** is adjacent to one local street and fronts along a proposed trail which follows the 18% slope adjacent to the Molalla River corridor. This park is 1.65 acres in size with the trail included. On-street parking is available for visitors of both parks. Two pedestrian pathways at the east and west ends of the McMartin subdivision connect the future subdivision to this trail. A bicycle and walking trail will be

developed along the Molalla River Corridor. The trail right-of-way will be generally 35 feet in width and 1000-feet in length. The area of this trail and both parks on the McMartin property is 2.38 acres. This trail extends from Ivy Street to Elm Street.

The **Third Pocket Park** on the Beck property is 0.80 acres in size. The trail on the Scott and ENC LLC properties is 0.52 acres. This pocket park can be developed with the Beck subdivision or when a new public street is extended from Fir Street along the common property line of Tax Lots 1600 and 1602, Map 4-1E-4C, as shown by Exhibit 3. The total length of this future trail in the future will be 2500-feet. The area of this trail right-of-way is 1.21 acres. The total area of all parks and trails combined is 3.73 acres. The need for park land for this DCP is 5.21 acres as identified below leaving a shortage of 1.48 acres. The following is the open space and park calculation:

193 - Total single family detached dwelling units

61 - Hope Village attached senior housing units (private open space provided)

254 - Total Number of Dwelling Units

0.01 acres of park and open space per person x 2.7 persons per house x 193 detached houses (excluding Hope Village units) = 5.21 acres - 3.73 acres = 1.48 acres of additional park and open space to be purchased by the City of Canby with Parks System Development Fees. All lots in this Master Plan either dedicate land for parks or pay City SDC fee or a combination of both alternatives.

The 3 new pocket parks and the trail will provide significant recreational opportunities for future residents in this DCP. Additional recreational opportunities are available at the south end of Tax Lot 1500, Map 4-1E-4C outside the UGB. Access to this property is available through an existing road next to Pocket Park 3.

The pocket parks next to the trail will take advantage of the large stand of trees located along the south side of the trail. The trees provide shade for passive recreational opportunities such as walkways, picnic tables, and benches. Additional recreational opportunities include nature walks, playground equipment and picking. The pocket parks will be used as rest stops along the trail. Park improvements may be constructed by the project developer or the City of Canby. See Section VI (Park Dedication), for additional information.

V. Utility Service

Annexation of the subject property with R-1, R-1.5, R-2 and C-R zoning is a reasonable expansion of the City of Canby based on the level of development in the surrounding

area and the existing facilities and services that are available to serve the DCP area. The City of Canby staff indicated at a pre-application meeting that all utility service providers and utilities are available in this DCP area or can be made available through development of the site.

Water: Water is provided through Canby Utility's Water Department. A 10-inch water line is available in Fir Street, a 12-inch line in Ivy Street and an 8-inch line in Elm Street. All 3 water lines will be extended into the DCP area. The 12-inch water line will be constructed in the east-west streets between Ivy and Fir Streets (17th and 18th Avenues) and possibly between Fir and Elm Streets (16th Avenue) based on a final water line flow and pressure calculations (See Exhibit 9). The rest of the streets will have looped 8-inch water lines which connect to the existing 10-inch and 12-inch water lines as shown by Exhibit 9. Public water lines will be located in all the public streets. If Hope Village builds private streets in their development, their water lines may still be public rather than private.

Sanitary Sewer: Sanitary sewer is provided by the City of Canby. Three existing sewer lines are available to this DCP area (See Exhibit 8). The **first existing sewer** line is 8-inches in diameter and located at the intersection of 16th Avenue and Ivy Street. This sewer line can be extended to the south along Ivy Street for an undetermined distance to provide gravity sewer service for property on the west side of Ivy Street. A survey of the existing sewer IE and topo of adjacent property will determine the exact distance. The ground elevation of the DCP along Ivy Street is about 178 to 179 feet. Shallow sewer lines conflict with the water lines which only have 3 feet of cover. The pump station will be required to lower the depth of the sewer lines below the water lines to at least 6 to 8 feet as shown by Exhibit 8.

At the pre-application conference, city staff indicated the city will not plan for or fund the pump station until the city knows for sure development will occur. Construction of the pump station and the associated force main will be paid for with City Systems Development Fees collected by the City. Gravity mains are paid by the developers of the subdivisions. Annexation of property will not trigger the need for the pump station. It will be constructed by the City when the McMartin property and Hope Village properties are approved for development by the City.

The **second existing sewer line** is 8-inches in diameter and located in Fir Street at the northeast corner of the Steinke property, Tax Lot 1500, Map 4-1E-4CA. The invert elevation is 163.68 feet. This sewer line will serve the northeastern portion of the Beck property as show by Exhibit 8.

The **third existing sewer line** is 8-inches in diameter and located in Elm Street at the north-west corner of the Beck property, Tax Lot 1401, Map 4-1E-4C. The invert

elevation is 161.57. This sewer line will serve all of the remaining Beck property s shown by Exhibit 8.

Storm Drainage: Roof drains from homes will flow to privately owned and maintained infiltration facilities on each individual lot. Street drainage will flow to sumped catch basins and pollution control manholes for water quality treatment and then to dry wells for disposal through underground injection. All street storm drainage facilities are proposed to be public facilities design to be in compliance with the adopted City of Canby Stormwater Master Plan and the Canby Public Works Design Standards. When development proposals are submitted, the storm water management and drywell locations will be discussed in greater detail.

Private Utilities: Private utility service such as telephone, natural gas, cable, garbage, recycling collection and wave broadband are all available to the north in Elm, Fir and Ivy Streets. These utilities generally operate on a franchise basis. Electrical power is provided through Canby Utility's Electrical Department in conjunction with PGE. Extension of these utility lines will occur with each development phase.

VI. Park Dedication

General: Three new pocket parks and a 2,500 foot long trail are proposed with this DCP. The total combined area of the parks and trail is 3.73 acres. This DCP requires 5.21 acres of park land based on the calculation in Section IV of this report. The City of Canby will be required to purchase 1.48 acres of additional park land with Park System Development Fees to increase the total park land area to 5.21 acres. These 3 new pocket parks and trail will provide significant recreational opportunities for the residents in this DCP. The parks next to the trail can take advantage of the large stand of trees located along the south side of the trail. The trees will provide shade for passive recreational opportunities such as walkways, picnic tables, and benches.

Other recreational opportunities include nature walks, playground equipment and picking. The pocket parks will be used as rest stops along the trail. Park improvements may be constructed by the project developer or developed by the City of Canby. As mentioned in Section IV of this report, additional park land is available on the Beck property, Tax Lot 1500, Map 4-1E-4C outside the UGB and south of the trail. Access to this potential park land is available through an existing road next to Pocket Park on the Beck property.

Sale of Park Land to City: All of the 3 pocket parks and 1,900 linear feet of the 2,500 linear foot trail are located in the annexation and proposed for development. Four tax

lots between the Beck and the McMartin properties are excluded from the annexation. Only 600 feet of the trail on 2 tax lots are excluded from the annexation (Tax Lot 1900, Map 4-1E-4C owned by Scott and Tax Lot 1800, Map 4-1E-4D owned by Nutter under the name of ENC LLC).

The sale of the park land will occur after the properties are annexed to the city and approved for development. The park land will be appraised during land sale negotiations with the City and property owners. Park land value is established by a MAI appraisal prepared jointly for the City of Canby and the property owners. The City cannot pay more than the appraised value. Park improvements such as walkways, picnic tables, benches, playground equipment and restrooms can either be completed by the site developer or the City of Canby as chosen by the developer. If the developer improves the parks, the improvements are included in the appraised value which increases the price the city will pay for the parks.

Park SDC Obligation: Per the City of Canby's park dedication formula, a park dedication of 5.21 acres is required to satisfy the Park SDC obligations for 193 lots. Since Hope Village will provide private parks, the proposed Hope Village housing units are not include in the park dedication formula. Any shortage of park dedication will be mitigated by payment of City Park SDC fees at the time building permits are issued for each individual single family detached house.

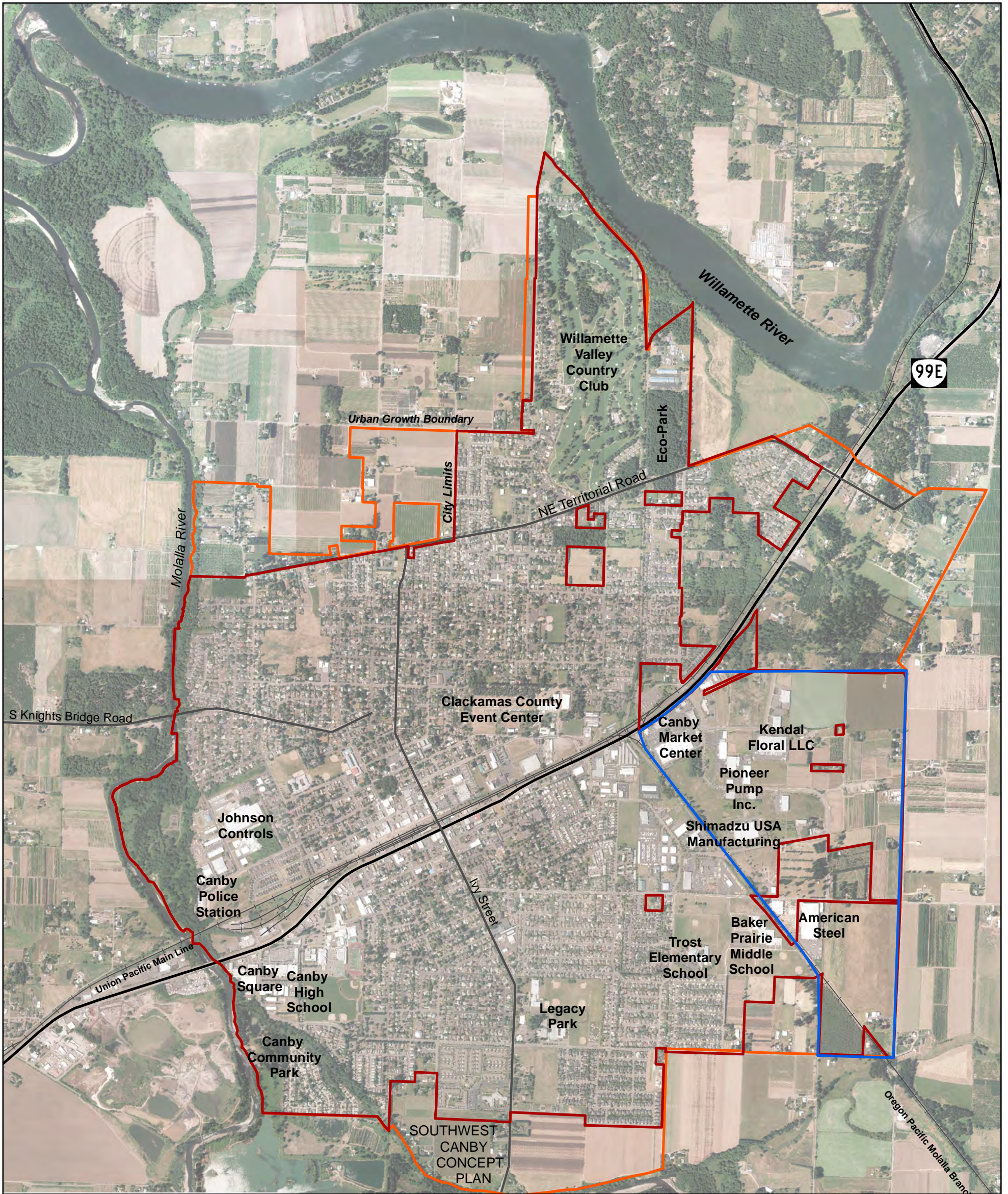
Anticipated Amenities: Construction of park amenities will require approval by the City Parks Board or City Parks Staff prior to construction. These amenities may include walkways, playground equipment, picnic tables, benches and a restroom facility. This list could be modified based on the desires of the City at the time of park dedication and development. Landscaping and signage will be provided to create an aesthetically pleasing park entrance along the public streets. Directional and information signs will be provided along the public street in front of the parks and along the trail.

VII. Development Concept Plan Maps & Reports

1. Vicinity Aerial Map
2. Close up Aerial Photo
3. SW Canby Master Plan & Proposed Zoning
4. Existing Conditions with Topo & Houses
5. Ownership Map with Net Acres in UGB
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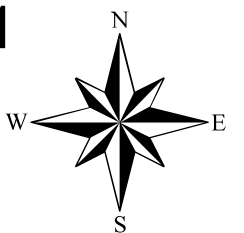
VIII. City Approvals



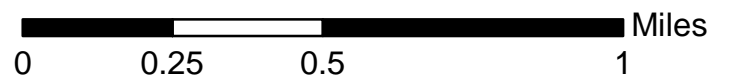
City of Canby Aerial Map

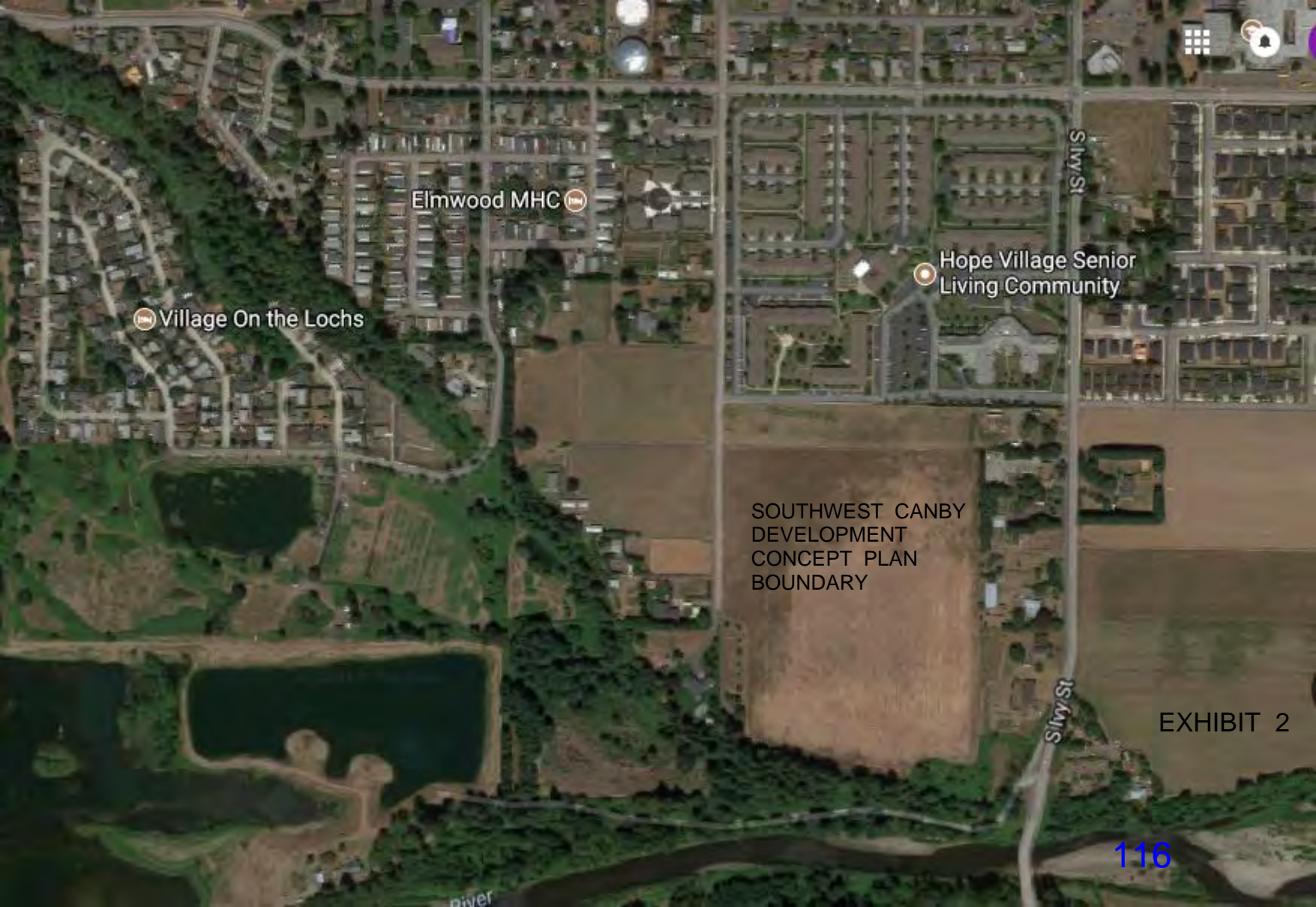
Map based on 2012 aerial photographs - August 13th, 2013

EXHIBIT 1



The information depicted on this map is for general reference only. The City of Canby cannot accept any responsibility for errors, omissions, or positional accuracy.





Village On the Lochs

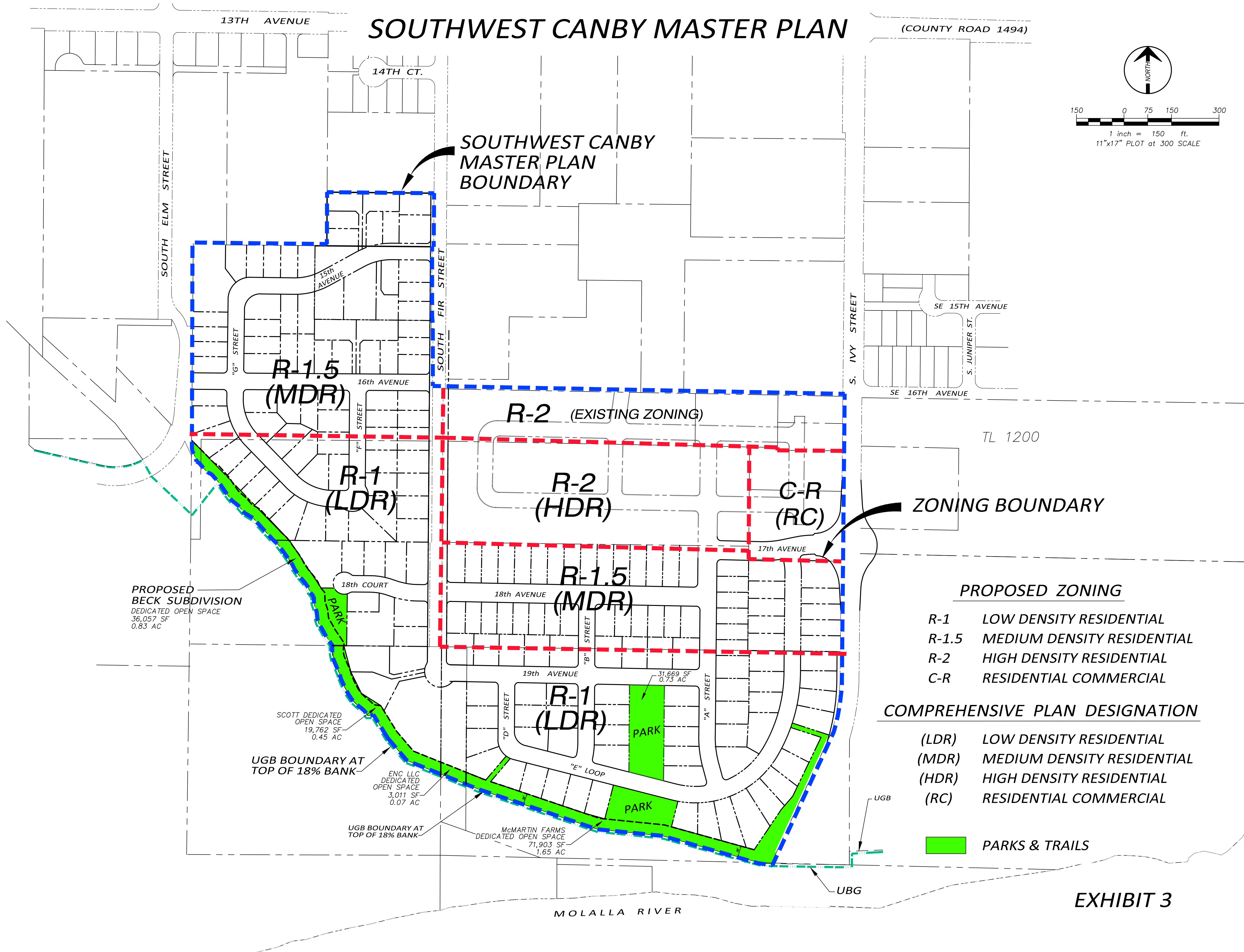
Elmwood MHC

Hope Village Senior Living Community

SOUTHWEST CANBY DEVELOPMENT CONCEPT PLAN BOUNDARY

EXHIBIT 2

SOUTHWEST CANBY MASTER PLAN



PROPOSED ZONING

- R-1 LOW DENSITY RESIDENTIAL
- R-1.5 MEDIUM DENSITY RESIDENTIAL
- R-2 HIGH DENSITY RESIDENTIAL
- C-R RESIDENTIAL COMMERCIAL

COMPREHENSIVE PLAN DESIGNATION

- (LDR) LOW DENSITY RESIDENTIAL
- (MDR) MEDIUM DENSITY RESIDENTIAL
- (HDR) HIGH DENSITY RESIDENTIAL
- (RC) RESIDENTIAL COMMERCIAL

PARKS & TRAILS

SOUTHWEST CANBY
TAX MAP T4S, R1E, SECTION 4
SEC. 4C, LOTS 1401, 1600, 1602 & 1900
SEC. 4D, LOTS 900, 1000, 1100, 1101, 1400, 1500, 1600, 1700, 1800 & 2000
SEC. 4CA, LOTS 1400, 1500 & 1600
CITY OF CANBY, OREGON

STAFFORD
DEVELOPMENT COMPANY, LLC
485 SOUTH STATE STREET
LAKE OSWEGO, OREGON 97034

SOUTHWEST CANBY
MASTER PLAN

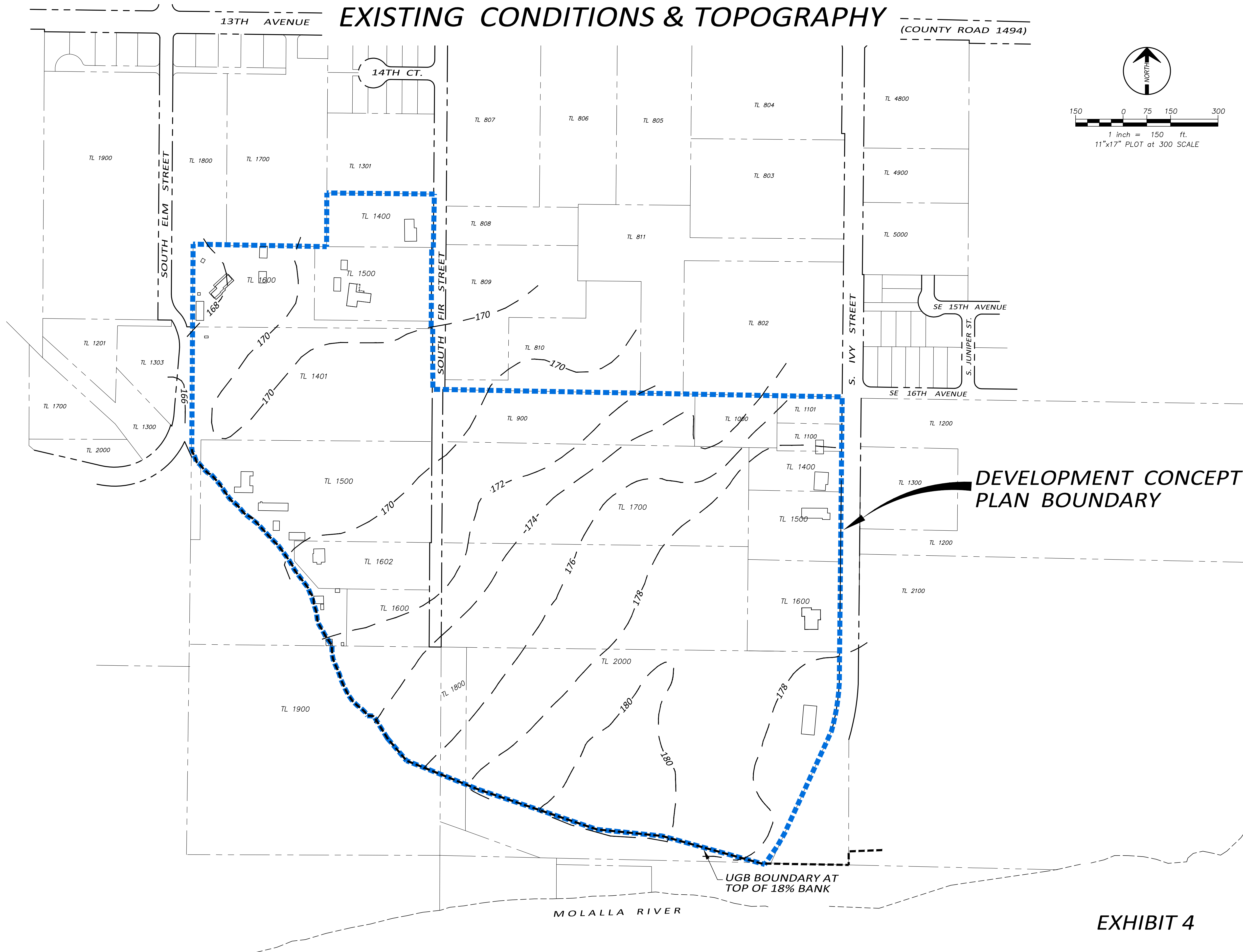
NO.	DATE	REVISIONS	DESCRIPTION
1	2-12-17		

PLANNING & LAND DESIGN
1862 NE ESTATE DRIVE
HILLSBORO, OREGON 97124
RYAN O'BRIEN
(503) 780-4061

SHEET

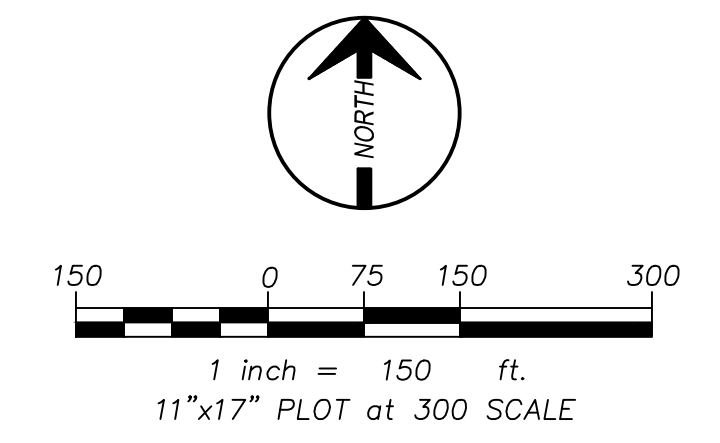
OF

EXHIBIT 3



EXISTING CONDITIONS & TOPOGRAPHY

(COUNTY ROAD 1494)



**DEVELOPMENT CONCEPT
PLAN BOUNDARY**

UGB BOUNDARY AT
TOP OF 18% BANK

SOUTHWEST CANBY
TAX MAP T4S, R1E, SECTION 4
SEC. 4C, LOTS 1401, 1600, 1602 & 1900
SEC. 4D, LOTS 900, 1000, 1100, 1101, 1400, 1500, 1600, 1700, 1800 & 2000
SEC. 4CA, LOTS 1400, 1500 & 1600
CITY OF CANBY, OREGON

STAFFORD
DEVELOPMENT COMPANY, LLC
485 SOUTH STATE STREET
LAKE OSWEGO, OREGON 97034

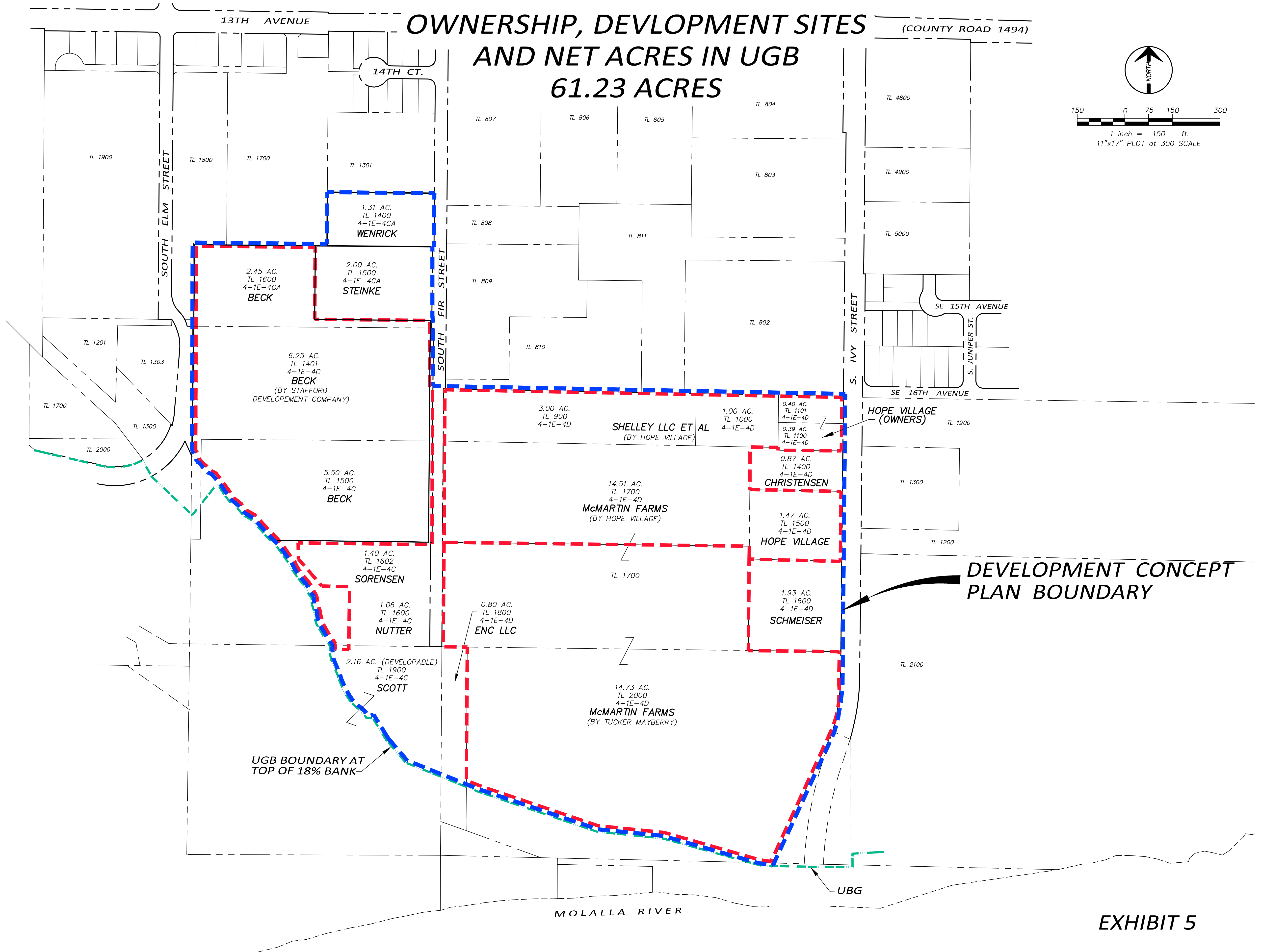
**EXISTING CONDITIONS
& TOPOGRAPHY**

NO.	DATE	REVISIONS DESCRIPTION
	2-12-17	

PLANNING & LAND DESIGN
1862 NE ESTATE DRIVE
HILLSBORO, OREGON 97124
RYAN O'BRIEN
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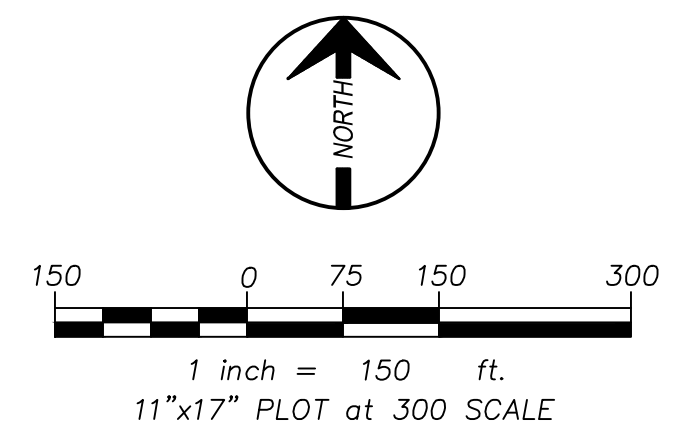
SHEET
OF

EXHIBIT 4



OWNERSHIP, DEVELOPMENT SITES AND NET ACRES IN UGB 61.23 ACRES

(COUNTY ROAD 1494)



**DEVELOPMENT CONCEPT
PLAN BOUNDARY**

UGB BOUNDARY AT
TOP OF 18% BANK

MOLALLA RIVER

EXHIBIT 5

SOUTHWEST CANBY
TAX MAP T4S, R1E, SECTION 4
SEC. 4C LOTS 1401, 1600, 1602 & 1900
SEC. 4D LOTS 900, 1000, 1100, 1101, 1400, 1500, 1600, 1700, 1800 & 2000
SEC. 4CA LOTS 1400, 1500 & 1600
CITY OF CANBY, OREGON

STAFFORD
DEVELOPMENT COMPANY, LLC
485 SOUTH STATE STREET
LAKE OSWEGO, OREGON 97034

**OWNERSHIP,
DEVELOPMENT SITES &
NET ACRES IN UGB**

NO.	DATE	DESCRIPTION
	2-12-17	

PLANNING & LAND DESIGN
1862 NE ESTATE DRIVE
HILLSBORO, OREGON 97124
RYAN O'BRIEN
(503) 780-4061

SHEET
OF

SOUTHWEST CANBY MASTER PLAN NEIGHBORHOOD MEETING MINUTES 4-25-17

The Neighborhood Meeting was conducted on 4-18-17 for the Southwest Canby Master Plan at the Canby Adult Center located at the northwest intersection of Ivy Street and 13th Avenue. The meeting started at 7.05 pm and ended about 9 pm. A total of 24 neighbors attended the meeting. The attached Southwest Canby Master Plan was presented to the properties owners and a copy of the plan was handed out to each property owner at the meeting. Gordon Root with Stafford Development made the presentation to the property owners. The issues discussed at the meeting are as follows:

1. Gordon Root requested property owners to contact him if they want to be included in the annexation application which will result in re-zoning the property. The property owners will not be charged a fee by the City of Canby or Stafford Development Company to be included in the annexation and zone change applications. Gordon indicated that inclusion in the annexation is voluntary and not required. All the properties are included in the Master Plan which is a general concept development plan. More specific plans will be presented to the city for approval for individual developments after the properties are annexed to the city and rezoned in accordance with the Canby Comprehensive Plan. Including individual properties in the Master Plan will not cause those properties to be annexed to the city.
2. The property owners asked questions about the proposed sanitary sewer pump station to be located on the west side of Ivy Street at the south end of the Canby UGB. They wanted to know when the pump station will be built and who will pay for it. Gordon indicated the property between Elm and Fir Streets have gravity sanitary sewer available from the existing sewer line in Elm Street. Most of the property between Ivy and Fir Streets will require connection to the future pump station. The city will determine who will pay for the pump station at a later date. The city will probably not authorize construction of the pump station until most of the properties between Fir and Ivy Streets are annexed into the city and preliminary subdivision plans are approved.
3. A property owner wanted to know what will be approved. Gordon indicated approval of the Master Plan will occur for all the property included in the Concept Plan area. Annexation and Rezoning will only be approved for properties requested by the individual property owners.
4. Gordon indicated the Canby Sewer Treatment Plat has 50% more capacity than needed to serve existing development in the City of Canby. Therefore, adequate capacity is available for development in the Master Plan Area.
5. One property owner was concerned about public access to the Molalla River. She wanted to know if a fence could be constructed along the south side of the potential pedestrian pathway along the 18% slope. Gordon indicated pedestrians will probably stay on the pathway to avoid the steep slopes that extend to the Molalla River. Gordon said that fence height along the north

EXHIBIT 6

side of the trail next to the residential lots will be limited to 4 feet in height or be required to be seen through, to provide "eyes on the trail" to control vandalism and other problems.

6. Gordon indicated Canby has a lot of parks but lacks the funds to maintain all the parks. Locations of other parks in the Master Plan Area will be evaluated by the city when specific development plans are submitted to the city for review.

7. One property owners asked if they can advocate for more parks when this Master Plan is reviewed by the city. Gordon indicated it would be appropriate for the residents in the area to provide comments about parks to the Planning Commission and City Council at the public hearings.

8. The property owners indicated Ivy Street has too much traffic. They also identified problems with high speeds and sight distance issues with existing driveways, "S" curves just north of the Molalla River and the vertical curves of Ivy Street. The property owners commented on the large number of accidents on Ivy Street from the constraints identified above. Gordon indicated a general traffic study will be prepared for the Master Plan Area and a detained traffic study for the Beck property between Elm and Fir Streets and will be reviewed by Rick Nys at Clackamas County.

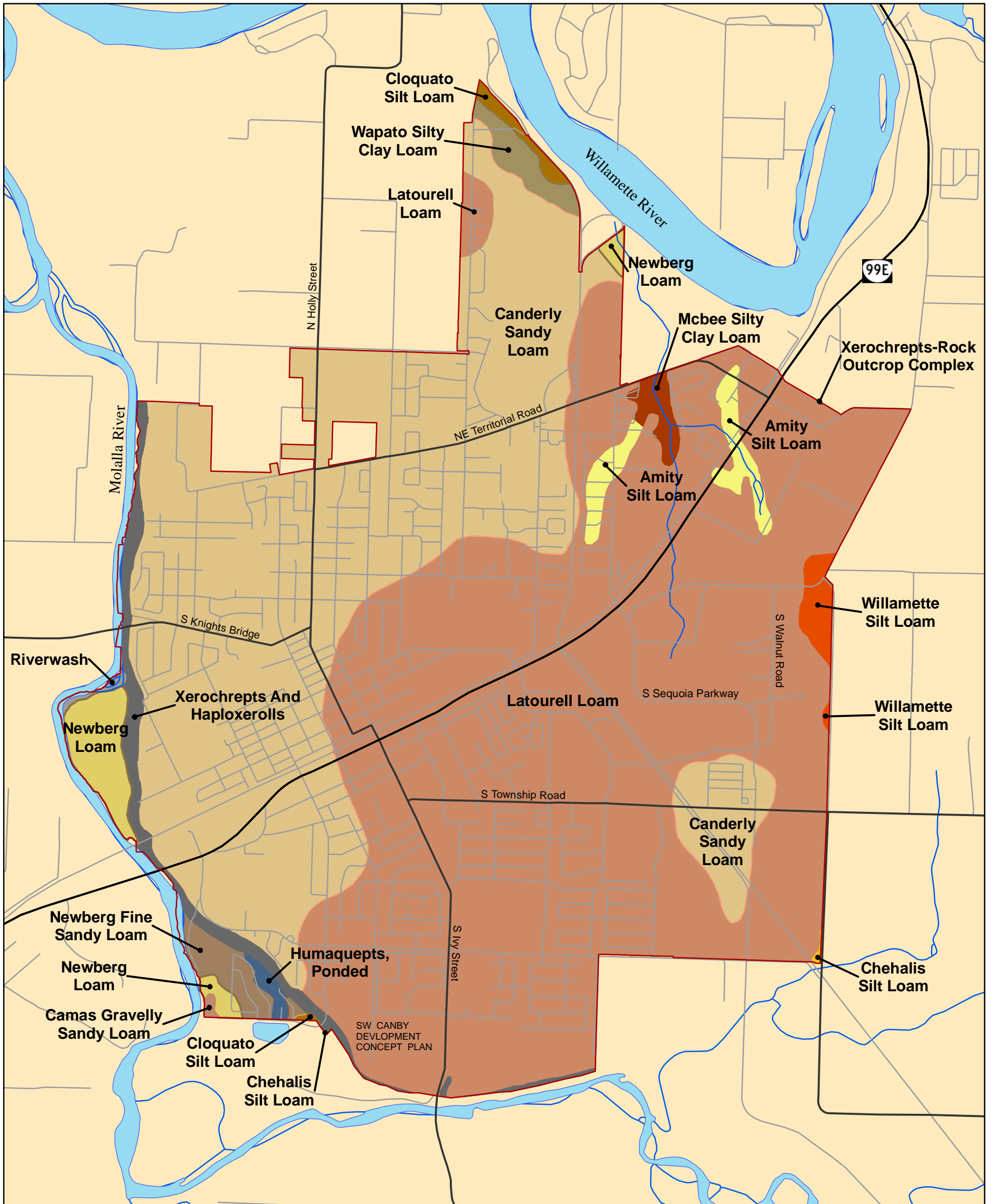
9. The property owner of Tax Lot 1600 on the west side of Ivy Street identified a blind spot on Ivy Street when exiting Tax Lot 1600. Gordon indicated this blind spot will be evaluated with the Traffic Study to determine the best location for a new east/west road between Ivy and Fir Streets. The proposed Master Plan currently shows a new east/west street. This new street will probably be named 17th Avenue.

10. One property owner wanted to know how to determine the value of their property. Gordon indicated they work backwards from the house price, house construction and site development costs. All these costs are fixed. The only variable cost is the land price.

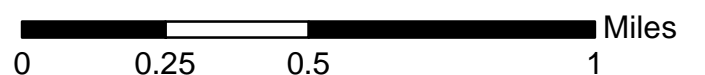
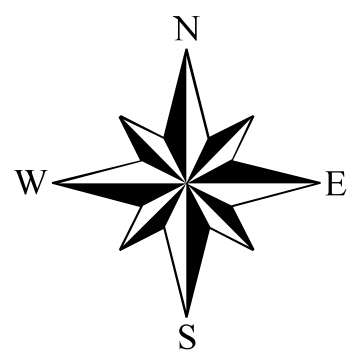
11. Gordon indicated Canby is a commuter city to the Portland Metro Area, Tualatin and Wilsonville.

12. The property owners questioned the jurisdiction of Ivy Street. Is it controlled by the State or Clackamas County? They said ODOT was not very responsive to their concerns about traffic accidents, the safety of Ivy Street and reducing the speed limit. They also questioned the future jurisdiction of the other street in the general area. Gordon indicted the city will probably take jurisdiction of all local streets and ODOT will probably retain jurisdiction of Ivy Street.

13. The property owners asked questions about the Commercial Residential Zone. Gordon will get back to those property owners to answer their questions.

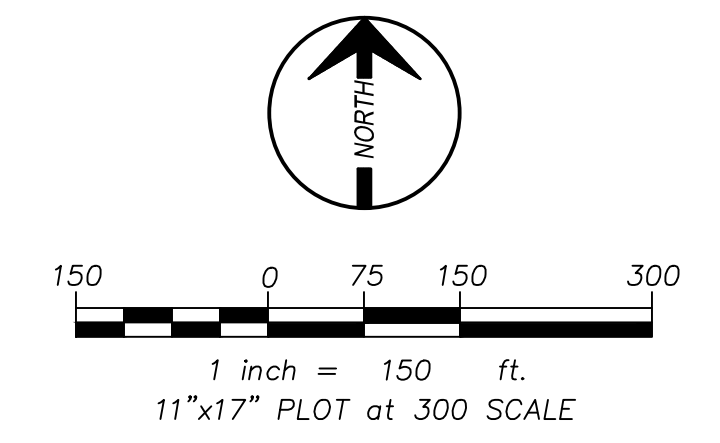
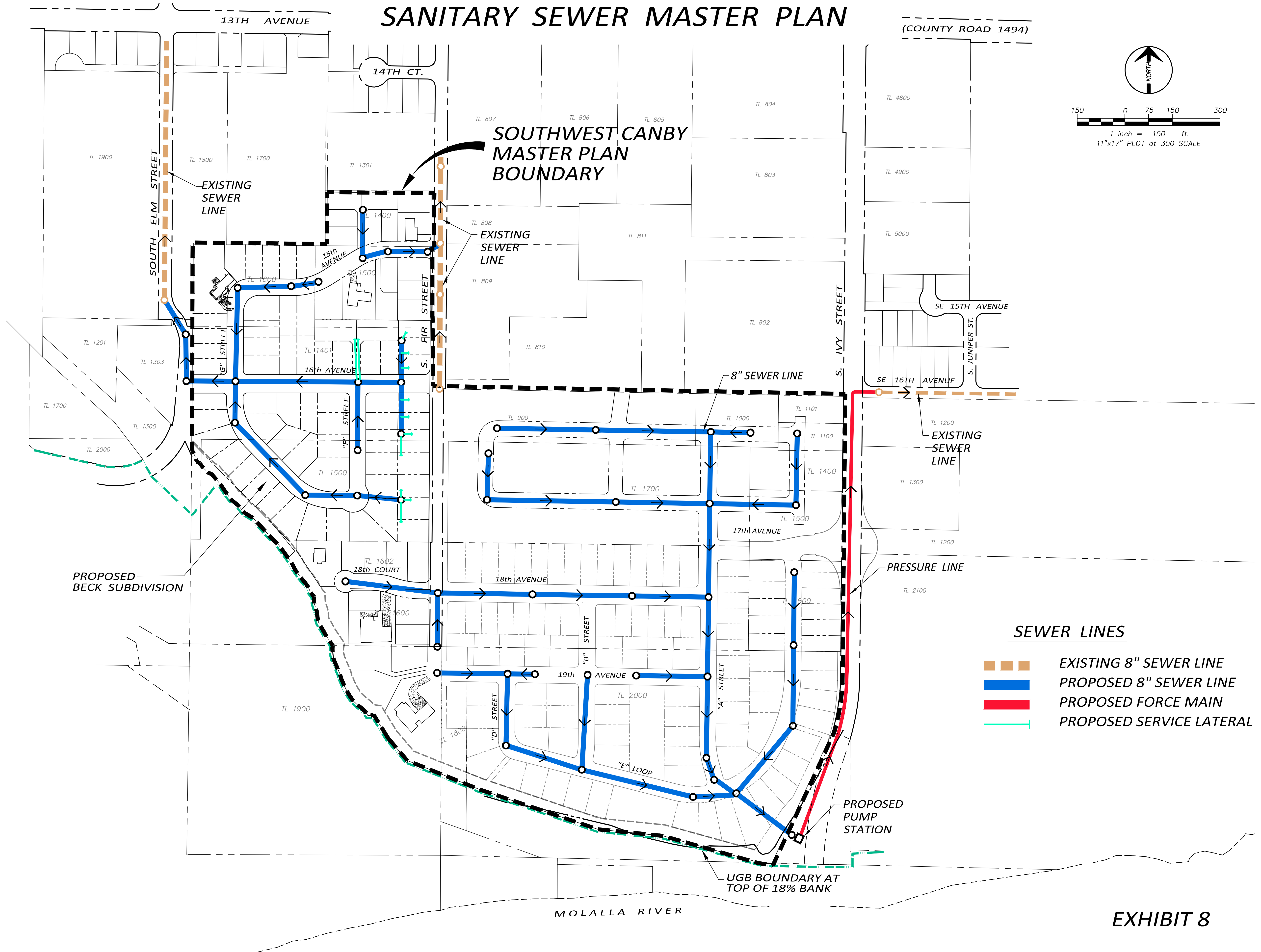


City of Canby Soils Map



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SANITARY SEWER MASTER PLAN



SEWER LINES

- EXISTING 8" SEWER LINE
- PROPOSED 8" SEWER LINE
- PROPOSED FORCE MAIN
- PROPOSED SERVICE LATERAL

SOUTHWEST CANBY
 TAX MAP T4S, R1E, SECTION 4
 SEC. 4C, LOTS 1401, 1600, 1602 & 1900
 SEC. 4D, LOTS 900, 1000, 1100, 1101, 1400, 1500, 1600, 1700, 1800 & 2000
 SEC. 4CA, LOTS 1400, 1500 & 1600
 CITY OF CANBY, OREGON

STAFFORD
 DEVELOPMENT COMPANY, LLC
 485 SOUTH STATE STREET
 LAKE OSWEGO, OREGON 97034

SANITARY SEWER
MASTER PLAN

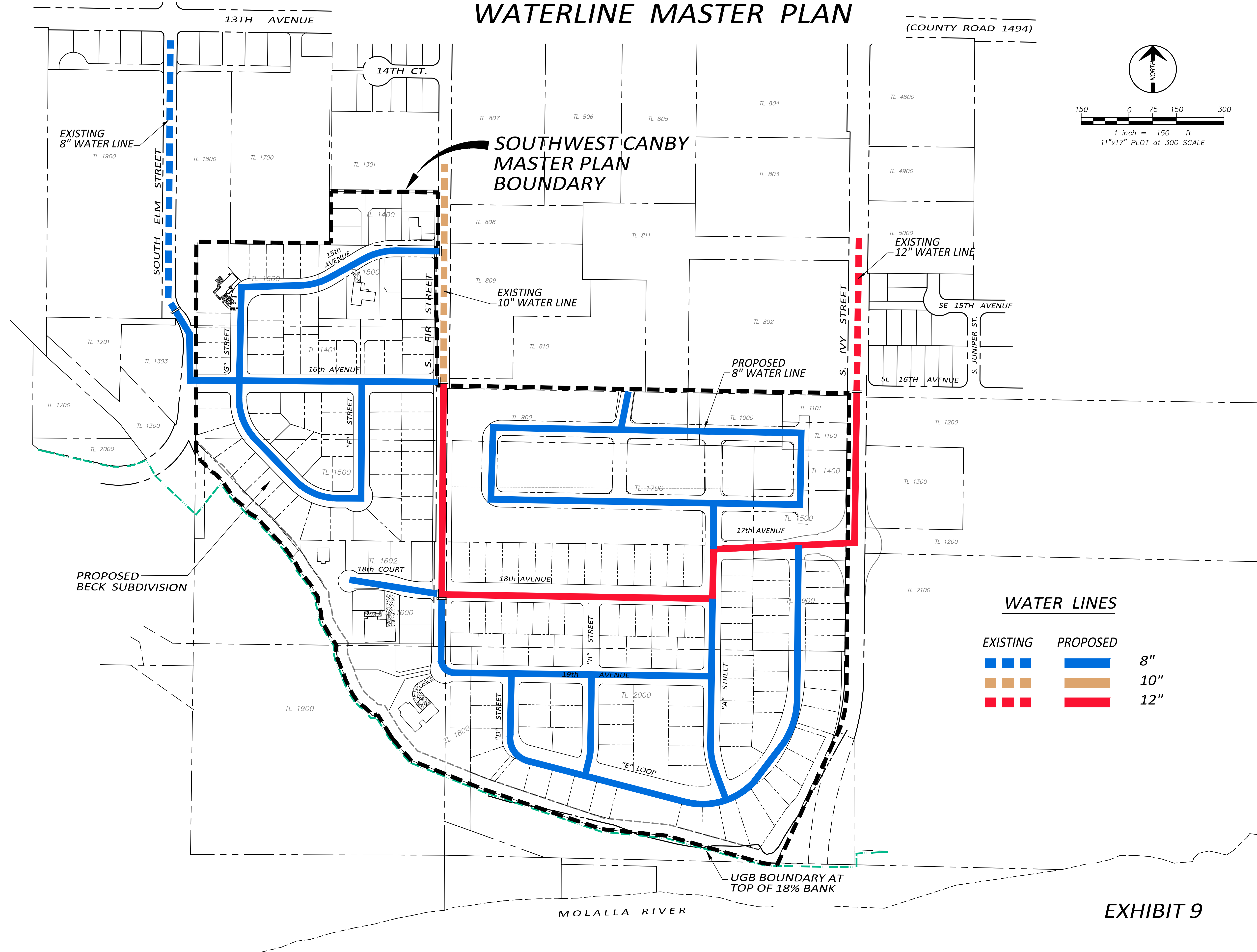
NO.	DATE	DESCRIPTION
1	2-12-17	

PLANNING & LAND DESIGN
 1862 NE ESTATE DRIVE
 HILLSBORO, OREGON 97124
 RYAN O'BRIEN
 (503) 780-4061

SHEET
 OF

EXHIBIT 8

WATERLINE MASTER PLAN



WATER LINES

EXISTING	PROPOSED	
		8"
		10"
		12"

SOUTHWEST CANBY
 TAX MAP T4S, R1E, SECTION 4
SEC. 4C, LOTS 1401, 1600, 1602 & 1900
 SEC. 4D, LOTS 900, 1000, 1100, 1101, 1400, 1500, 1600, 1700, 1800 & 2000
 SEC. 4CA, LOTS 1400, 1500 & 1600

STAFFORD
 DEVELOPMENT COMPANY, LLC
 485 SOUTH STATE STREET
 LAKE OSWEGO, OREGON 97034

SANITARY SEWER
MASTER PLAN

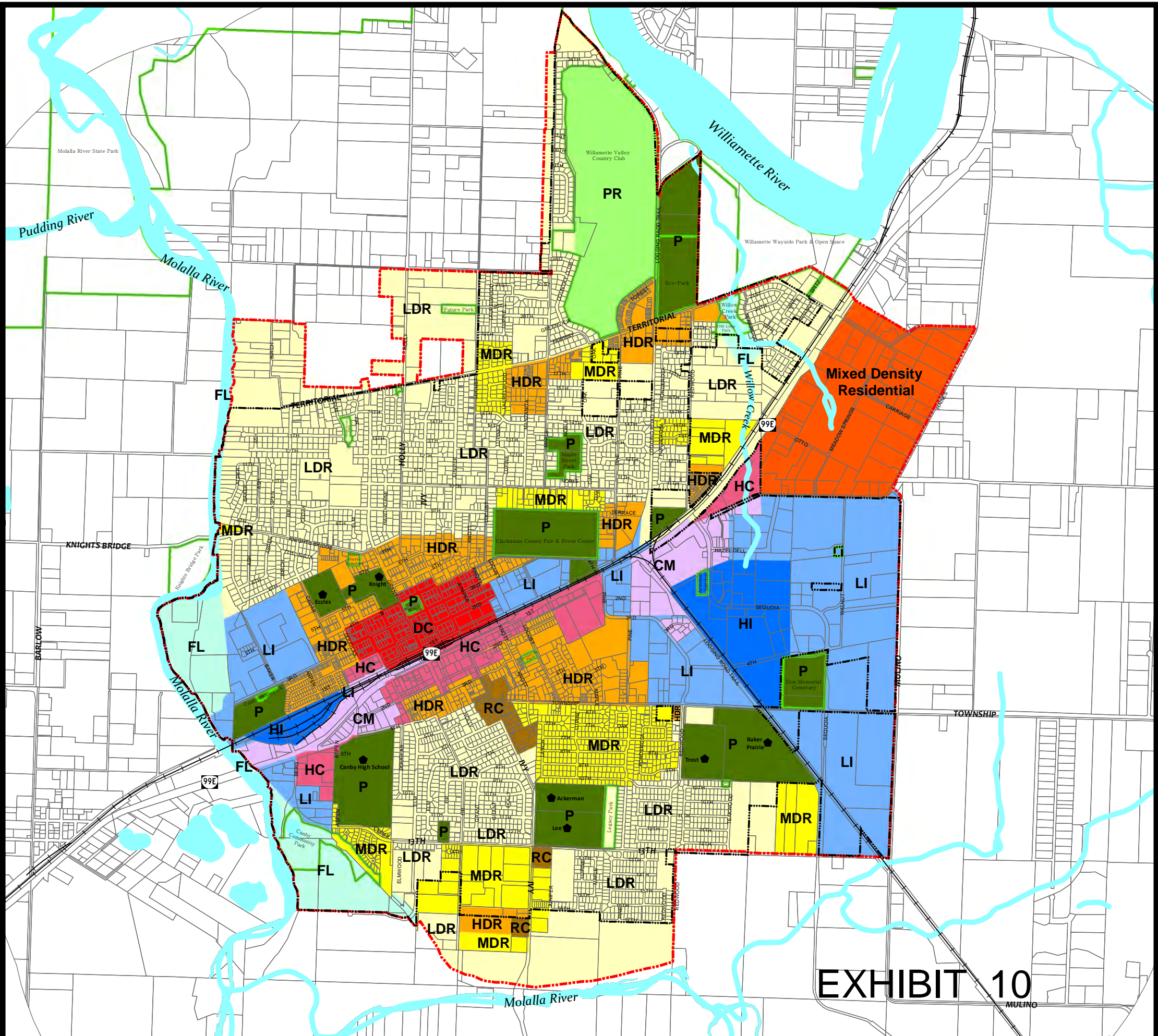
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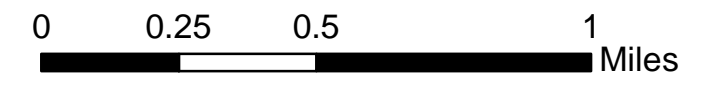
SHEET
 OF

EXHIBIT 9

City of Canby Comprehensive Plan Map



- City Limits
- Urban Growth Boundary
- Parks
- LDR-Low Density Residential
- MDR-Medium Density Residential
- HDR-High Density Residential
- Mixed Density Residential
- RC-Residential Commercial
- DC-Downtown Commercial
- HC-Highway Commercial
- CM-Commercial/Manufacturing
- LI-Light Industrial
- HI-Heavy Industrial
- P-Public
- PR-Private Recreation
- FL-Flood Prone/Steep Slopes



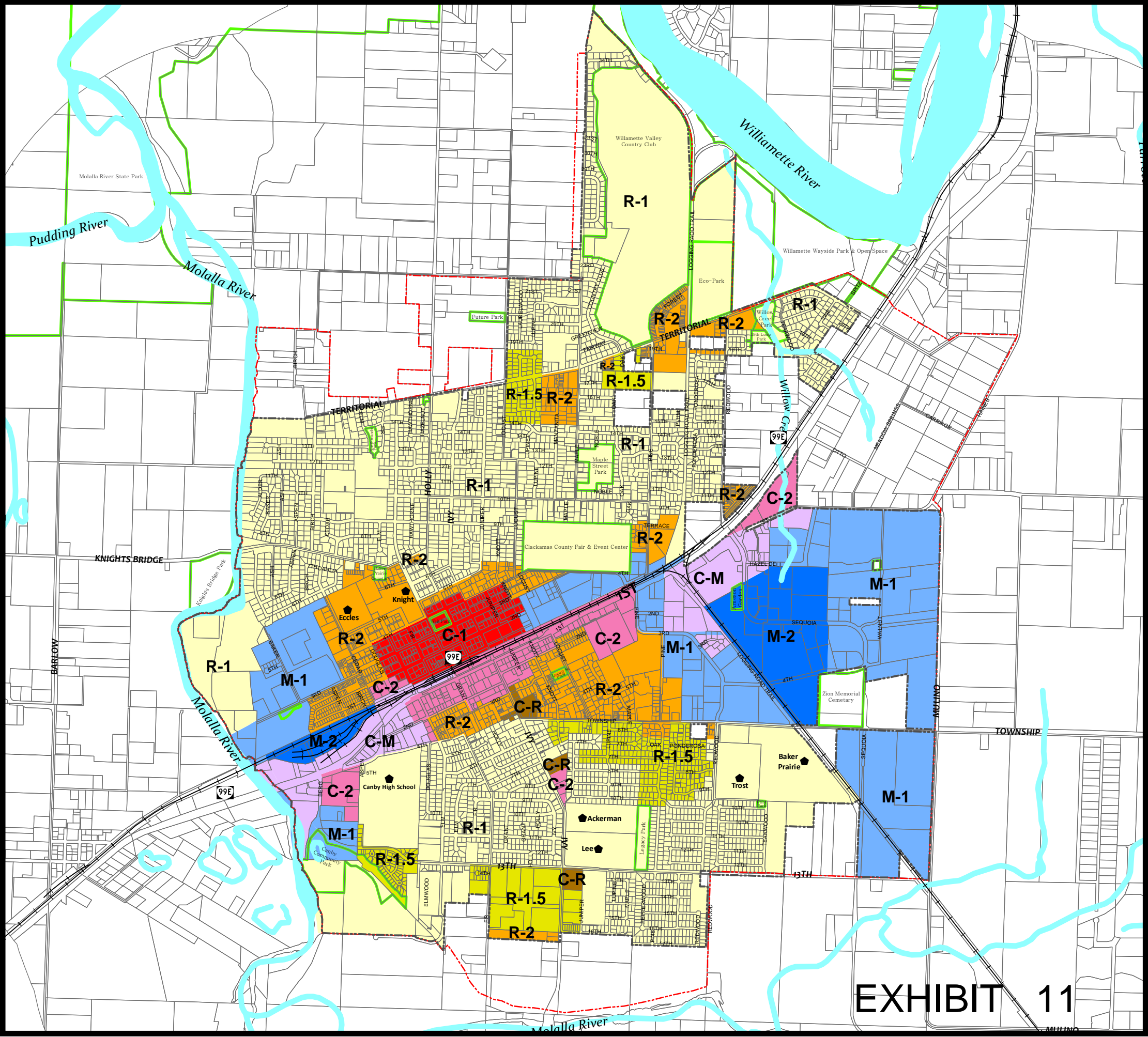
May 2014

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EXHIBIT 10



City of Canby Zoning Map



- City Limits
- Urban Growth Boundary
- Parks
- R-1 Low Density Residential
- R-1.5 Medium Density Residential
- R-2 High Density Residential
- C-R Residential Commercial
- C-1 Downtown Commercial
- C-2 Highway Commercial
- C-M Commercial Manufacturing
- M-1 Light Industrial
- M-2 Heavy Industrial

0 0.25 0.5 1 Miles

January 2014









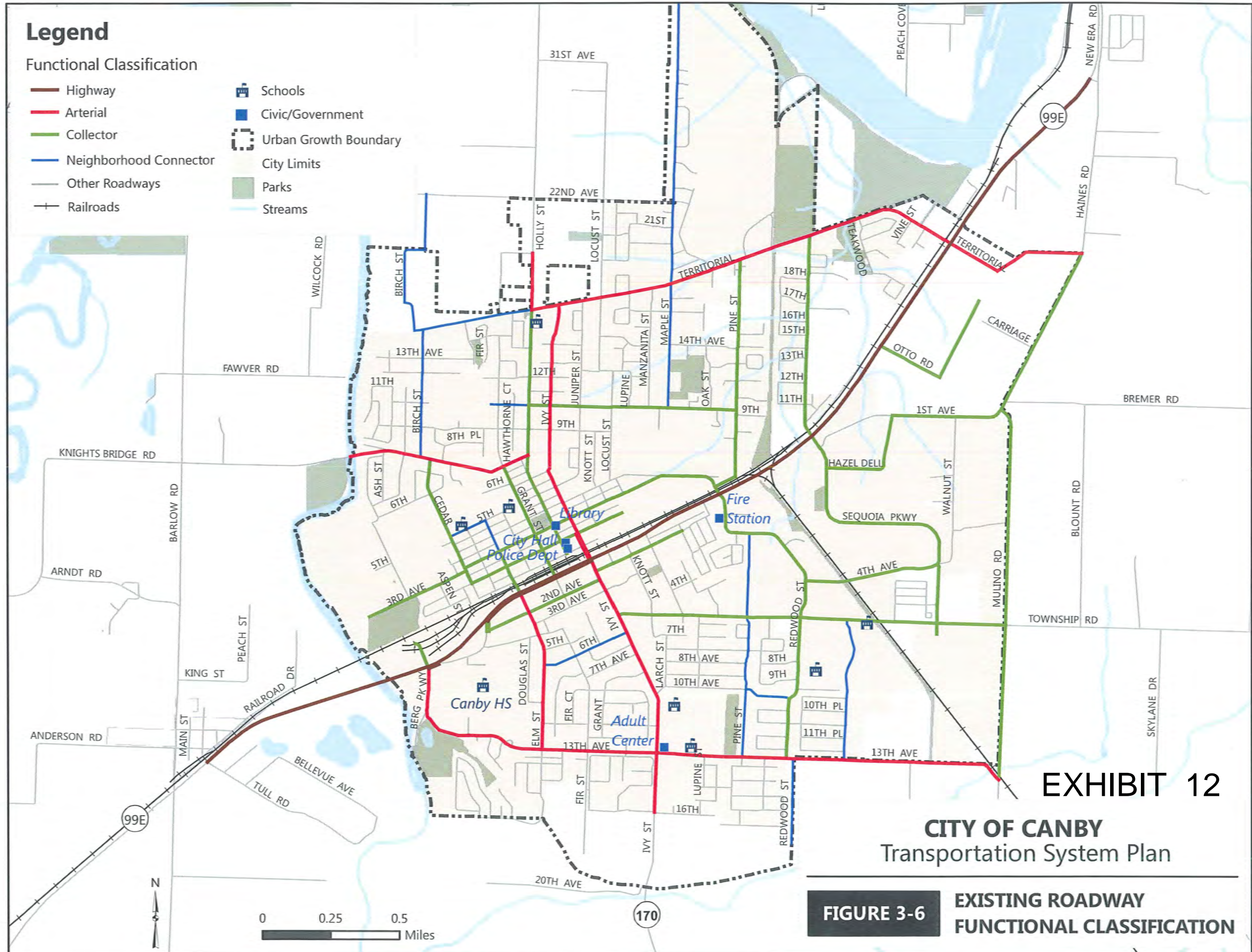
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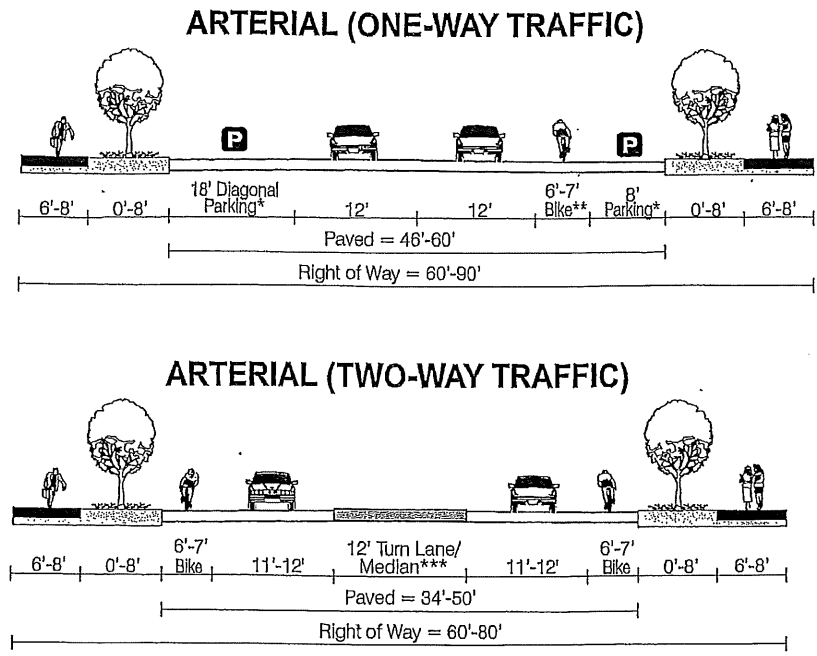
EXHIBIT 11

Legend

Functional Classification

- Highway
- Arterial
- Collector
- Neighborhood Connector
- Other Roadways
- Railroads
-  Schools
-  Civic/Government
-  Urban Growth Boundary
-  City Limits
-  Parks
-  Streams





Notes:

* On-Street Parking is only allowed on arterial roadways within downtown commercial district. Diagonal or parallel parking may be provided on one or both sides interchangeably.

** When on-street parking is provided, bike lanes should only be provided adjacent to parallel parking (not head-in diagonal parking). If diagonal parking is provided on both sides and speeds are 25 miles per hour or less, then bike lanes are not required.

*** Turn Lane/Median section is optional and may consist of one of the following:

- A. 12' Left-Turn Lane or Two-Way Left-Turn Lane with No Raised Median
- B. 10' Raised, Landscaped Median with 1' Shy Distance on Either Side
- C. 10' Pedestrian Refuge (Level with Roadway) with 1' Shy Distance on Either Side

Low Impact Street Design Characteristics

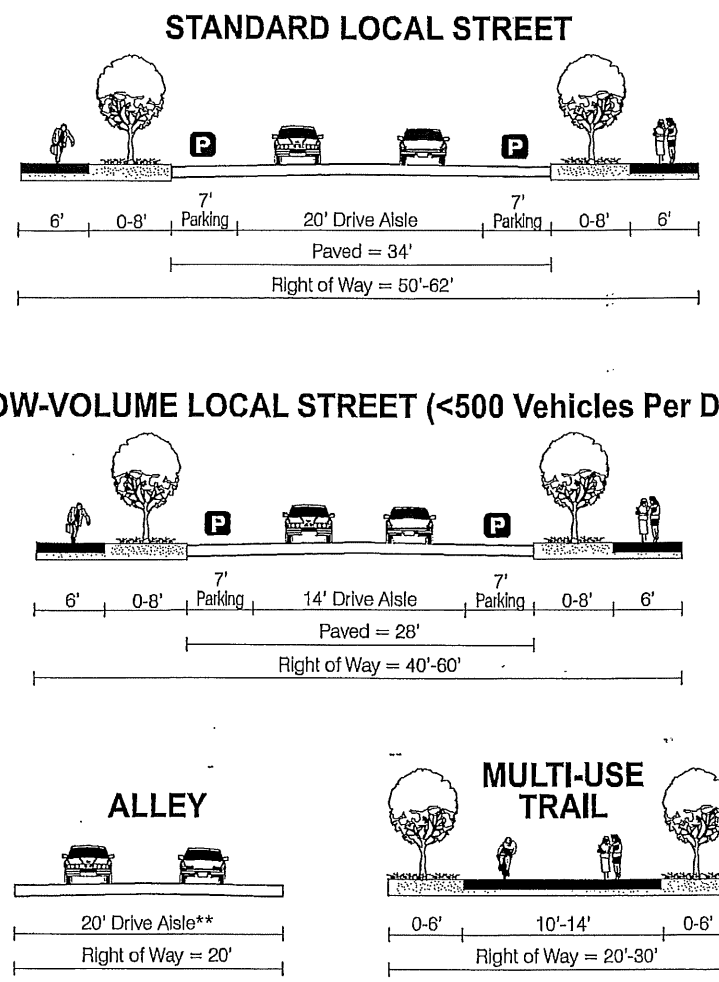
Characteristic	Arterials (One-Way)	Arterials (Two-Way)
Vehicle Lane Widths	11 ft.	11 ft.
On-Street Parking	8 ft.- Only in downtown	8 ft.- Only in downtown
Bicycle Lanes (minimum)	5-6 ft. - Right side or road	5-6 ft.
Sidewalks (minimum)	6-8 ft.	6 ft.
Buffer/Planter Strip	0-8 ft	0-8 ft
Turn Lane/Median	12 ft.- Optional	12 ft. - Optional
Neighborhood Traffic Management (NTM)	Under Special Conditions	Under Special Conditions
Transit	As appropriate	As appropriate
Turn Lanes	When Warranted	When Warranted

"Low Impact" standards require demonstration of hardship or other exceptional circumstances resulting from conditions of the adjacent properties and must be approved by City Staff.

LEGEND

P - On-street Parking Lane (except at Intersections)

Figure 7-4
ARTERIAL: STANDARD CROSS-SECTIONS



Notes:

** On-Street Parking prohibited.

Low Impact Street Design Characteristics

Characteristic	Local
Drive Aisle	14 ft.
On-Street Parking	7 ft.- Both sides required
Bicycle Lanes (minimum)	None
Sidewalks (minimum)	6 ft.
Buffer/Planter Strip	0-8 ft
Turn Lane/Median	None
Neighborhood Traffic Management (NTM)	Under Special Conditions
Transit	Should not be used
Turn Lanes	None

"Low Impact" standards require demonstration of hardship, other exceptional circumstances resulting from conditions of the adjacent properties and must be approved by City Staff.

LEGEND

P - On-street Parking Lane (except at Intersections)

Figure 7-6
LOCAL STREET/ALLEY: STANDARD CROSS-SECTIONS

Traffic Impact Analysis

CANBY STAFFORD ANNEXATION DEVELOPMENT CONCEPT PLAN (DCP)

CITY OF CANBY, OR

Prepared by



Project No. 17118-000
Submitted September 29th, 2017

DKS Associates

Chris Maciejewski, P.E., PTOE
Jeffrey Heald, P.E. (CA)
Rohit Itadkar, T.E. (CA)

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Portland, OR
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APPENDICES

- Appendix A –Becks Subdivision Traffic Impact Study
- Appendix B – Existing Traffic Counts
- Appendix C – Existing (2017) Intersection Level of Service Worksheets
- Appendix D –Future (2035) Plus Project Level of Service Worksheets
- Appendix E – Roundabout Sketch
- Appendix F – Transportation Planning Rule (TPR) Evaluation



1.0 INTRODUCTION

The following presents the Traffic Impact Analysis (TIA) prepared by DKS Associates (DKS) for the annexation of the Stafford Development Concept Plan (DCP) area in City of Canby. The purpose of this study is to identify potential transportation system impacts (and potential mitigations) triggered by this project. The Stafford DCP area is located in unincorporated Clackamas County inside the Canby Urban Growth Boundary and is within the boundaries of a designated DCP area.

This TIA has been prepared consistent with the policies of the City of Canby Transportation System Plan, and Clackamas County Comprehensive Plan. Additionally, a TIA for the proposed near-term Beck Subdivision development was also conducted in accordance with the City's and County's requirements. The Beck Subdivision development TIA technical memorandum is presented in Appendix A.

Site Location and Study Area

The DCP is located in the southwest part of Canby. The DCP area spans 71.88 acres and consists of 15 tax lots which are bounded by S Ivy Street on the east, S Elm Street on the west, city limits on the north and the Urban Growth Boundary (UGB) on the south. The access to the project site is proposed to be provided by one new local street on S Ivy Street and three new local streets on S Fir Street. The study area is shown in Figure 1. In addition to the four proposed project intersections, the following three intersections have been identified as study area intersections, with their traffic controls listed:



Figure 1: Study Area

- SW 13th Avenue/S Ivy Street (Signalized)
- SW 13th Avenue/S Fir Street (Two-way Stop)
- S Ivy Street/SE 16th Avenue (Two-way Stop)



2.0 EXISTING CONDITIONS

Pedestrian and Bicycle Facilities

An inventory of existing pedestrian and bicycle facilities was conducted to determine the current locations of sidewalks and bicycle lanes within the study area. For the purpose of this inventory, “bike lanes” included areas on roadways where shoulders were specifically designated for bicycle use through pavement markings, as well as other paved shoulders of at least five feet in width that could be used for bicycle travel. Table 1 presents the study area roadways with pedestrian and bicycle facilities.

Table 1: Existing Pedestrian and Bicycle Facilities

Roadway	Sidewalks	Bike Facilities
SW 13 th Avenue	Both Sides	Both Sides
S Fir Street	East Side Only	None
S Ivy Street	None	Both Sides

Existing pedestrian facilities are provided along SW 13th Avenue and S Fir Street. A sidewalk is provided on the east side of S Fir Street. There are no sidewalks along the S Fir Street through the project site. There are also existing bicycle facilities along SW 13th Avenue. A Class II bike lane is provided on both sides of this roadway. Along S Ivy Street, marked shoulders on both sides of the roadway can be used as bike lanes.

Pedestrian and bicycle count data was also collected during the AM and PM peak period at study area intersections. The observed pedestrian activity was low at all study intersections but could be significantly higher on school days.¹ Maximum pedestrians are observed at the intersection of SW 13th Avenue/S Fir Street (6 pedestrians during AM and PM peak hour). No bicycle activity was observed at any of the study intersections.

Transit Facilities

Transit service in Canby is provided by Canby Area Transit (CAT). CAT provides a fixed route bus service and Dial-a-ride within the City and to neighboring communities. There are four CAT routes (Green Line, Blue Line, Purple Line, and Orange Line) which run five days a week. There is a transit stop along 16th Avenue between S Fir Street and S Ivy Street which gets served approximately on an hourly basis during a 24 hour period by the Blue line.

¹ Based on intersection turn movement counts conducted on July 11th, 2017.



3.0 SUMMARY OF 2010 CANBY TSP

The 2010 Canby Transportation System Plan (TSP)² identified specific transportation improvement projects and programs needed throughout Canby to guide the City’s transportation investment. These projects and programs support the City’s goals and policies, serve planned growth through the year 2030, and improve safety and mobility for all travel modes in Canby. The TSP addressed all areas of Canby, including the Stafford development area.

The sections from the 2010 TSP that are most applicable to the current Stafford planning effort are summarized in the paragraphs below. Corresponding clips of figures—which are zoomed in on the project area—are also provided.

Functional Roadway Classification and Cross Sections

Canby’s functional roadway classification hierarchy includes Arterials, Collectors, Neighborhood Routes, and Local Streets. As shown in Figure 7-1 from the City’s TSP, S Ivy Street and SW 13th Avenue are classified as Arterials, while S Fir Street is a Local Street. All the remaining streets that may be constructed within the project site would likely become Local Streets.

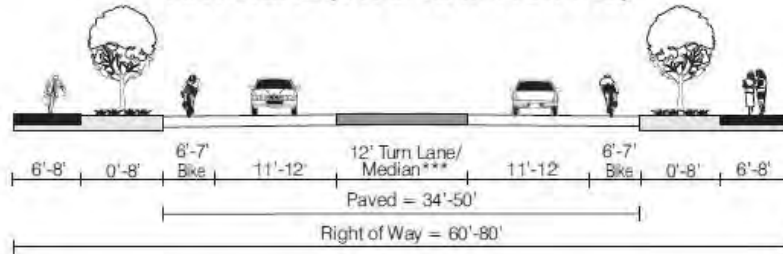
The Canby TSP provides Standard Cross-Sections for each of the City’s functional classifications as shown in Figure 7-4 and 7-6 in the City’s TSP. The Arterial cross-section includes two travel lanes with center turn lane that may be used for turning vehicles or a median. It also includes bike lanes and sidewalks. Neighborhood Traffic Management (NTM) may also be used under special conditions. The Local Street consists of two travel lanes separated by a center line marking. It included on-street parking and sidewalks on both sides of the roadway.



TSP Figure 7-1: Functional Classification

² Canby Transportation System Plan (TSP), December 2010.

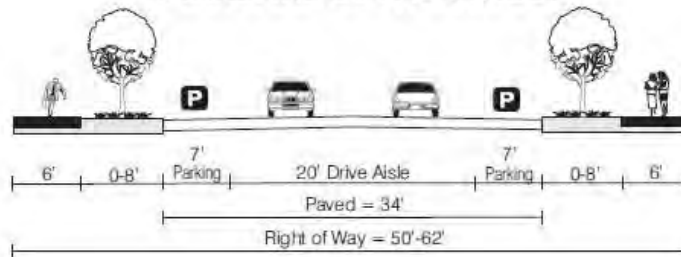
ARTERIAL (TWO-WAY TRAFFIC)



Notes:

- * On-Street Parking is only allowed on arterial roadways within downtown commercial district. Diagonal or parallel parking may be provided on one or both sides interchangeably.
- ** When on-street parking is provided, bike lanes should only be provided adjacent to parallel parking (not head-in diagonal parking). If diagonal parking is provided on both sides and speeds are 25 miles per hour or less, then bike lanes are not required.
- *** Turn Lane/Median section is optional and may consist of one of the following:
 - A. 12' Left-Turn Lane or Two-Way Left-Turn Lane with No Raised Median
 - B. 10' Raised, Landscaped Median with 1' Shy Distance on Either Side
 - C. 10' Pedestrian Refuge (Level with Roadway) with 1' Shy Distance on Either Side

STANDARD LOCAL STREET



TSP Figure 7-4 and 7-6: Standard Cross-Sections

Truck Routes

The truck routes are shown in Figure 7-2a from the City’s TSP. S Ivy Street and SW 13th Avenue are currently designated as truck routes. S Fir Street is not a truck route. S Ivy Street could be used a key access route to and from the Cities located south of Canby.

Local Street Connectivity

The TSP also specifies the general locations where new local streets should be constructed as the project site develops. The proposed local street connectivity is shown in Figure 7-8 from the City’s TSP. The arrows in the figure represent *potential* connections and the general direction for the placement of the connection.³ The purpose of these connections is to ensure that the new development site accommodates future local circulation between adjacent neighborhoods to improve connectivity for all modes of transportation. The guidelines that should be followed when selecting local street connections includes:

- Provide full street connections with spacing of no more than 500 feet between connections, except where prevented by barriers
- Provide bike and pedestrian access ways with spacing of no more than 300 feet, except where prevented by barriers (bike and pedestrian access ways should be considered at the end of cul-de-sacs)
- Limit use of cul-de-sacs and other closed-end street systems to situations where barriers prevent full street connections or to locations where pedestrian/bike accesses are to be provided (approximately halfway between vehicular accesses)
- Include no close-end street longer than 150 feet or having no more than 30 dwelling units



TSP Figure 7-2a: Existing Truck Routes



TSP Figure 7-8: Local Street Connectivity

³ Other local street connections may be required as the City conducts development review.



- Include street cross-sections demonstrating dimensions of ROW improvements, with streets designed for posted or expected speed limits

Topography, railroads, and environmental conditions (such as wetland areas) limit the level of connectivity in Canby. Some stub end streets may become cul-de-sacs, extended cul-de-sacs, or only provide local connections. Pedestrian connections from the end of any stub end street that results in a cul-de-sac will be mandatory as future development occurs (with the exception of locations where topography, railroads, and environmental conditions make such connections infeasible). The goal is to improve city connectivity for all modes of transportation as feasible.

Financially Constrained Motor Vehicle Improvements

Based on the City’s existing and future motor vehicle needs, multiple improvement projects were identified throughout Canby. As shown in Figure 7-10 from the City’s TSP, the only motor vehicle project in the immediate project vicinity is the potential non-capacity improvements along 13th Avenue. The project consists of performing safety study and constructing traffic calming and other safety improvements prior to constructing Sequoia Parkway extension to SE 13th Avenue. The project is included in the financially-constrained solutions package.



TSP Figure 7-10: Financially Constrained Motor Vehicle

Neighborhood Traffic Management (NTM)

Neighborhood Traffic Management (NTM) is a term used to describe traffic control devices typically used in residential neighborhoods to slow traffic or possibly reduce the volume of traffic. The City of Canby currently has limited NTM elements, mainly the use of narrow road widths that manage vehicle speed. However, the TSP recognized that as traffic congestion increases in the future, protecting the livability of neighborhoods may become an increasing need that requires the ability to mitigate impact.

An important consideration of NTM is the need to manage vehicle speeds and volumes with the need to maintain mobility, circulation, and function for service providers (e.g. emergency response). Table 7-5 lists common NTM applications and suggests which devices may be supported by the Canby Fire District. If NTM is considered for S Ivy Street, SW 13th Avenue, S Fir Street or any local streets planned for the project site, then coordination will be needed with emergency agency staff to ensure public safety is not



compromised. The proposed project intersection along S Ivy Street is planned to be a roundabout to reduce the speeds along S Ivy Street.

Table 7-5: Allowed Traffic Calming Measures by Roadway Functional Classification

Traffic Calming Measure	Is Measure Supported? (per Roadway Classification) ^a		
	Arterial	Collector	Neighborhood Route/ Local Street
Curb Extensions	Supported	Supported	Calming measures are supported on roads that have connectivity (more than two accesses) and are accepted and field tested by the Canby Fire District.
Roundabouts	Supported	Supported	
Medians and Pedestrian Islands	Supported	Supported	
Pavement Texture	Supported	Supported	
Speed Hump	Not Supported	Not Supported	
Raised Crosswalk	Not Supported	Not Supported	
Speed Cushion (provides emergency pass-through with no vertical deflection)	Not Supported	Not Supported	
Choker	Not Supported	Not Supported	
Traffic Circle	Not Supported	Not Supported	
Diverter (with emergency vehicle pass through)	Not Supported	Supported	
Chicanes	Not Supported	Not Supported	

^a Traffic calming measures are supported with the qualification that they meet Canby Fire District guidelines including minimum street width, emergency vehicle turning radius, and accessibility/connectivity.

Access Spacing Standards

Access spacing standards along City roadways is another important consideration when developing or redeveloping a parcel of land. Table 7-2 of the Canby TSP specifies access spacing standards for City roadways based on functional classification. Non-conforming access should work to achieve a condition as close to standard as possible. For example, consolidated or shared accesses should be explored; however, parcels shall not be landlocked by access spacing policies.

For the purpose of reviewing the access spacing along S Ivy Street which is a County roadway, the access spacing standards from the Clackamas County Roadway Standards would be used. The minimum spacing for local street intersections along a Major Arterial (S Ivy Street is classified as a Major Arterial in the County’s Transportation System Plan) is 250’.⁴

⁴ Table 2-2, Clackamas County Roadway Standards, February 2013.



Table7-2: Access Spacing Standards for City Street Facilities^a

Street Facility	Maximum spacing ^b of roadways	Minimum spacing ^b of roadways	Minimum spacing ^b of roadway to driveway ^c	Minimum Spacing ^b driveway to driveway ^c
Arterial	1,000 feet	660 feet	330 feet	330 feet or combine
Collector	600 feet	250 feet	100 feet	100 feet or combine
Neighborhood/Local	600 feet	150 feet	50 feet	10 feet

^a Exceptions may be made in the downtown commercial district, if approved by the City Engineering or Public Works Department, where alleys and historic street grids do not conform to access spacing standards.

^b Measured centerline to centerline

^c Private access to arterial roadways shall only be granted through a requested variance of access spacing policies when access to a lower classification facility is not feasible (which shall include an access management plan evaluation)

4.0 DATA COLLECTION

Existing Traffic Volumes

Vehicle turn movement counts were conducted at all study area intersections during the weekday AM peak period (7:00 am to 9:00 am) and PM peak period (4:00 pm to 6:00 pm) on July 11, 2017. Since the counts collected were during the beginning of summer season when the Canby Public Schools are not in session, the counts did not include the on-street traffic occurring when school is in session. Therefore, the counts were adjusted with school traffic during both peak hours. The City of Canby Travel Forecast Tool developed for the City’s Transportation System Plan was utilized for the traffic counts data adjustment. The weekday AM and PM peak hour volumes developed for the study intersections are presented in Figure 2. The raw traffic counts data is included in Appendix B.

In addition to the turning movement counts at the study intersections, 24-hour vehicles counts, classification counts and speed data was collected during a typical weekday on S Fir Street adjacent to SW 14th Court.

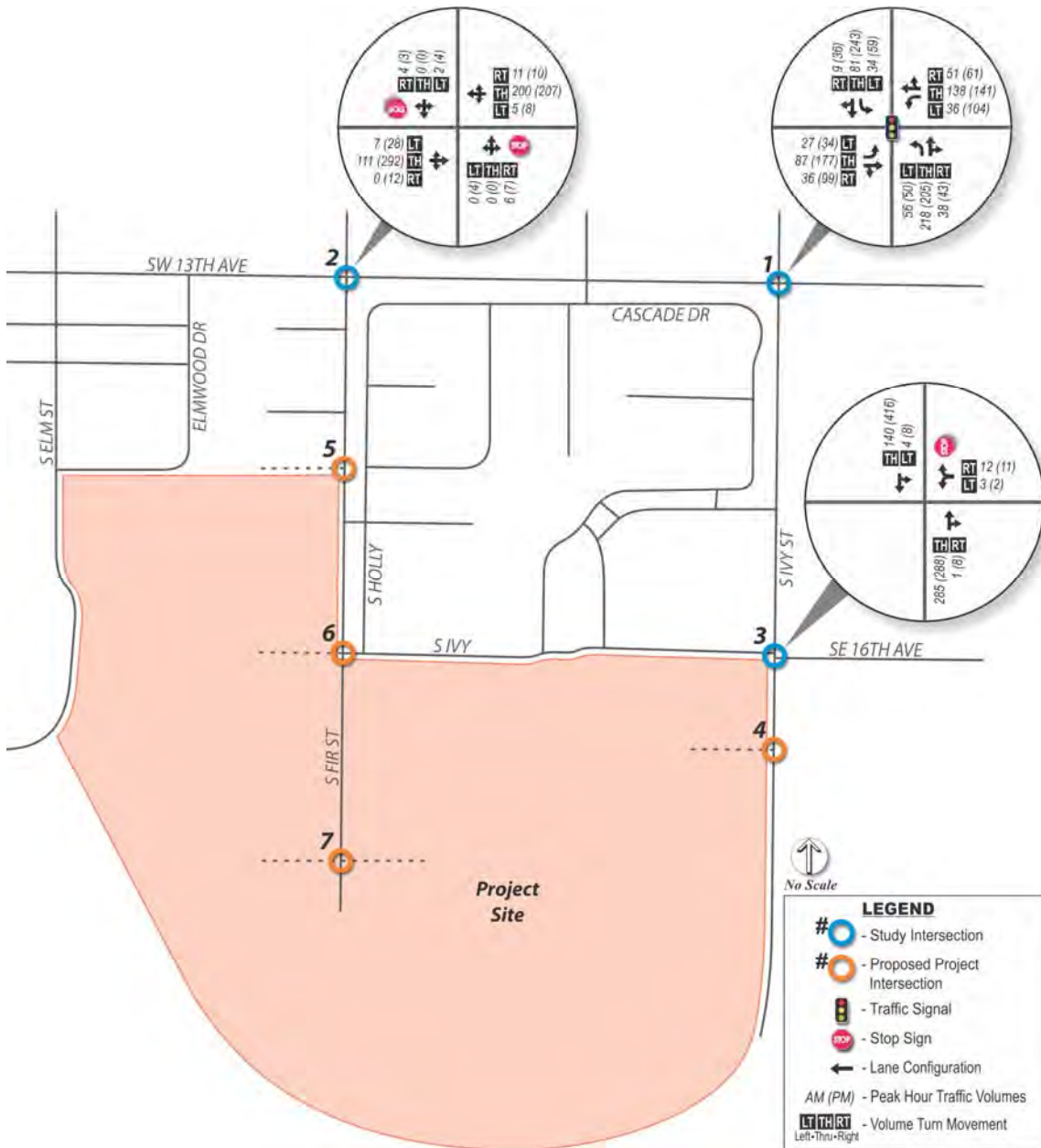


Figure 2: Existing Peak Hour Intersection Volumes



Safety Analysis

The most recent three years (2013 – 2015) of available collision data for the study area was obtained from ODOT and used to evaluate the collision history.⁵ The individual collision types at study intersections were examined to see if any patterns would emerge. Table 2 breaks down the collision types and severities experienced, showing quantities of each. Of the total 9 collisions at study intersections, one was a rear-end collision, six were angled collision, and two were turning movement collision. There were no fatal collisions at the study intersections during this three-year period.

Observed crash rates at the study intersections were calculated to identify problem areas in need of safety mitigation. The total number of crashes experienced at an intersection is typically proportional to the number of vehicles entering it. Therefore, a crash rate describing the frequency of crashes per million entering vehicles (MEV) based on the critical crash rate procedure in the Highway Safety Manual (HSM) Network Screening chapter is used to evaluate each intersection.⁶ Intersections with an observed crash rate greater than the critical crash rate warrant further review.

Table 2 displays the total reported collisions at each study intersection as well as the calculated observed crash rate and the critical crash rates for similar intersections. As shown in Table, the observed crash rates do not exceed the critical crash rates at all study intersections.

Table 2: Summary of Intersection Collection History

Intersection	Total Crashes	Crash Type				Crash Severity			Observed Crash Rate (per MEV*)	Critical Crash Rate (per MEV*)
		Rear-End	Angle	Turn	Other	PDO**	Minor Injury	Major Injury		
SW 13 th Avenue/S Ivy Street	6	1	4	1	0	0	6	0	0.26	0.65
SW 13 th Avenue/S Fir Street	3	0	2	1	0	0	1	2	0.28	0.78
S Ivy Street/SE 16 th Avenue	0	0	0	0	0	0	0	0	0.0	1.31

*MEV: Million Entering Vehicles

**PDO: Property Damage Only

⁵ ODOT reported collisions for January 1, 2013 through December 31, 2015.

⁶ 2010 Highway Safety Manual (HSM), Chapter 4, Page 4-11: The critical crash rate is a threshold value that allows for relative comparison among site with similar characteristics. The critical crash rate depends on the average crash rate at similar sites, traffic volume, and a statistical constant that represents a desired level of significance.



5.0 DCP TRANSPORTATION NETWORK EVALUATION

Land Use Summary

The preliminary zoning proposal for the Stafford DCP area is consistent with the Canby Comprehensive Plan designations. The DCP site plan is presented in Figure 3. As shown in the figure, below are the detailed land use designations within the site:

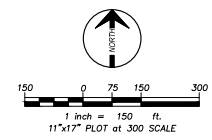
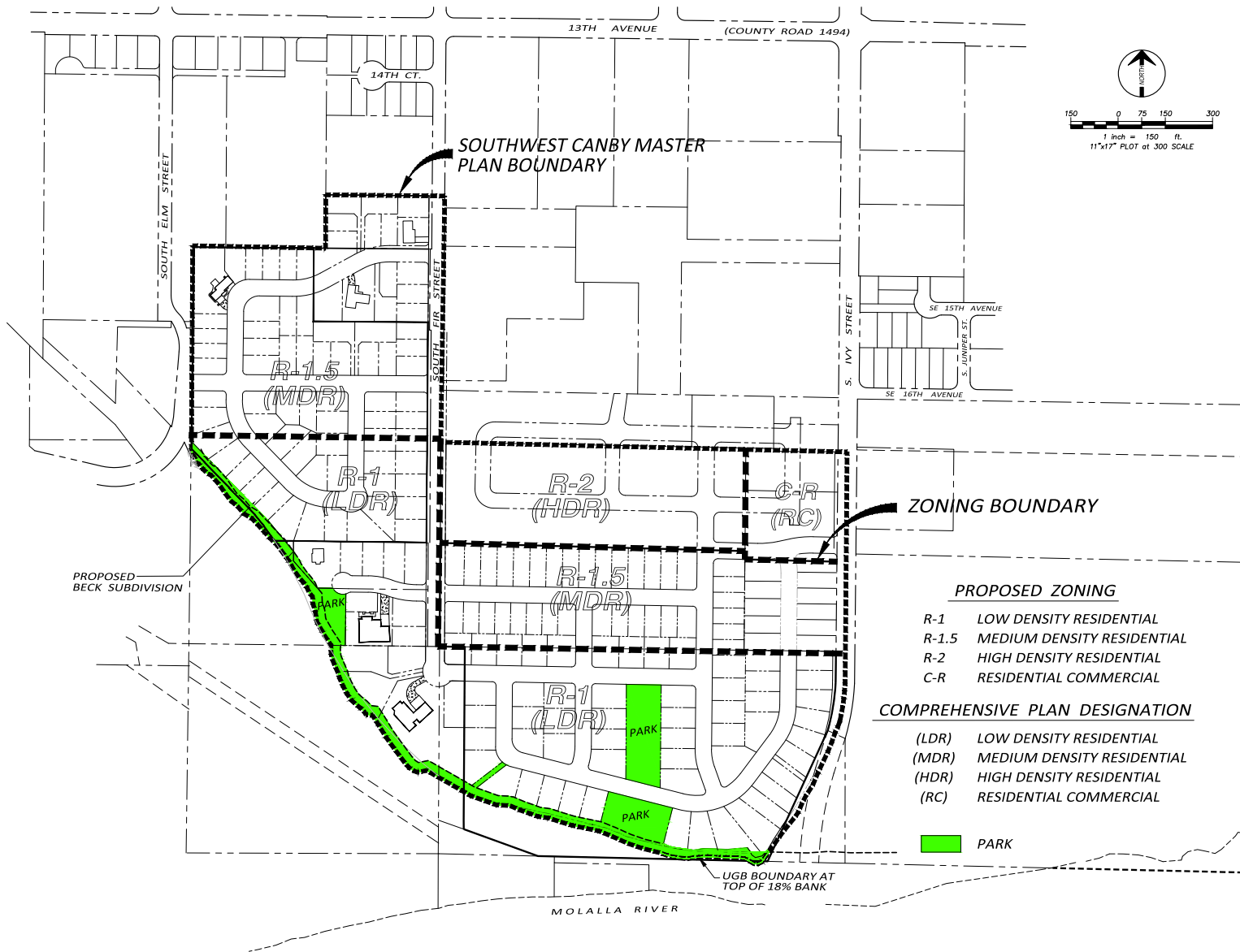
- The northwest part (between S Fir Street and S Elm Street) and the central part (between S Fir Street and S Ivy Street) of the DCP area are proposed to be zoned as R-1.5, which is medium density residential.
- The southern part is proposed to be zoned as R-1 which is low density residential.
- The northeast part is proposed to be zoned as C-R which is residential commercial.
- The northern part (east of S Fir Street) is proposed to be zoned as R-2 which is high density residential.

The project is proposed to build a total of 193 single family residential units in the entire DCP area except the northeast part which is planned to be designated as residential commercial. This designation allows the site to be developed as multifamily residential along with limited commercial use. The northeast part of the DCP (Hope Village) is proposed to have 55 multifamily units in the future. Therefore, the entire DCP area is proposed to have a total of 248 residential units.

Internal Roadway Cross-Section

The proposed development proposes three new accesses from S Fir Street and one new access from S Ivy Street. The connection to S Ivy Street will be a three legged intersection with its west leg serving as an access to the DCP site. This intersection would serve as an access to the future DCP area in the east. Based on the review of the site plan, the internal network of streets within the DCP is proposed to have a right-of-way width of 52 feet. For a typical residential street, the functional classification is a Local Street. The minimum right-of-way width for a Local Street is 50'.⁷ Therefore, the proposed right-of-way width which is provided in the site plan satisfies the requirements of the City's TSP.

⁷ Figure 7-6, *Canby Transportation System Plan (TSP)*, December 2010.



- PROPOSED ZONING**
- R-1 LOW DENSITY RESIDENTIAL
 - R-1.5 MEDIUM DENSITY RESIDENTIAL
 - R-2 HIGH DENSITY RESIDENTIAL
 - C-R RESIDENTIAL COMMERCIAL
- COMPREHENSIVE PLAN DESIGNATION**
- (LDR) LOW DENSITY RESIDENTIAL
 - (MDR) MEDIUM DENSITY RESIDENTIAL
 - (HDR) HIGH DENSITY RESIDENTIAL
 - (RC) RESIDENTIAL COMMERCIAL
- PARK

SOUTHWEST CANBY
 TAX MAP 145-RIE, SECTION 4
 SEC. 4A, LOTS 1-100
 CITY OF CANBY, OREGON

STAFFORD
 LAND COMPANY
 488 SOUTH STATE STREET
 LAKE OSWEGO, OREGON 97024

SOUTHWEST CANBY
 MASTER PLAN
 9/13/17

REV. NO.	DATE	DESCRIPTION
1	2-12-17	

PLANNING & LAND DESIGN
 1862 NE ESTATE DRIVE
 HILLSBORO, OREGON 97124
 RYAN O'BRIEN
 (503)780-4061

SHEET
 2
 OF
 2

MasterPlan, 9/13/2017 4:58:35 AM

DKS



No Scale

Figure 3

Site Plan

142



Internal Circulation and Sight Distance

Based on the site plan, the proposed project internal roadway network appears to provide adequate circulation in and out of the development.

The proposed development proposes three new accesses from S Fir Street and one new access from S Ivy Street. S Fir Street and S Ivy Street are designated as a Local Street and Arterial respectively.⁸ Based on the field review; S Fir Street and S Ivy Street meet the cross-section requirements of a typical Local Street and Arterial respectively. Therefore, the existing roadway configuration will be able to accommodate the added traffic due to the project.

All site roadway connections will need to meet American Association of State Highway and Transportation Officials (AASHTO) sight distance requirements.⁹ This includes providing adequate sight triangles at intersections that are clear of objects (large signs, landscaping, parked cars, etc.) that could potentially limit vehicle sight distance.

Based on preliminary review of the sight distance of the existing locations of the proposed intersections, there is adequate sight distance available at the all proposed access locations. Prior to occupancy, sight distance at any existing access points will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon.

Access Spacing

The proposed project intersection along S Ivy Street is located south of 16th Avenue. Based on the review of the access spacing standards in the County's Roadway Standards, it is recommended that the proposed intersection be at least 250 feet from the adjacent roadway intersections along a Major Arterial roadway facility.¹⁰ Based on the review of the site plan, the distance of the proposed project intersection south of 16th Avenue is more than 250' from the intersection of S Ivy Street/16th Avenue.

The proposed access to DCP site from S Fir Street is provided by three new intersections. Based on the review of the access spacing standards in the City's TSP, it is recommended that the intersection spacing be at least 50 feet from the adjacent proposed intersection. Based on the review of the site plan, the minimum intersection spacing is more than the minimum requirement of the access spacing standards in the City's TSP.

Multi-Modal Connectivity

This section examines the multi-modal connectivity along S Ivy Street and S Fir Street adjacent to the project site. There are currently no sidewalks along S Ivy Street and S Fir

⁸ Figure 7-1, *Canby Transportation System Plan (TSP)*, December 2010.

⁹ *Geometric Design of Highways and Streets*, AASHTO, 2011.

¹⁰ Table 2-2, *Clackamas County Roadway Standards*, February 2013.



Street directly adjacent to the site. There is a five feet sidewalk on the west side of S Ivy Street which terminates at the northern perimeter of the site. There is intermittent sidewalk on the east side of the street which is six feet wide.

To meet the City’s Arterial standards along the S Ivy Street adjacent to the project site, the roadway would need to be widened and rebuilt. Arterial standards call for a six to seven foot bike lane, an optional landscaping strip, and a six to eight foot sidewalk on each side of the road. Along the site's east frontage to S Ivy Street, it is recommended that the development provide half-street roadway improvements including curb, sidewalks, and appropriate set-back for bike lanes in the future. These improvements should be coordinated with City staff, and may include half-street improvements to County standards. Internal connectivity should be provided when the site develops, and external connections to the existing street sidewalk network would allow for good pedestrian connectivity.

To meet the City’s Local Street standards along the S Fir Street adjacent to the project site, the roadway would need to be widened and rebuilt. Local standards call for a seven foot on-street parking, an optional landscaping strip, and a six foot sidewalk on each side of the road. Along the site's frontage to S Fir Street, it is recommended that the development provide street roadway improvements including curb, and sidewalks, and in the future. Since the vehicular speed will most likely be less than 25 MPH and the average daily traffic is estimated to be less than 2,000 vph, it is safe for bicycles to use this street.

There is currently poor bicycle connectivity to the site along both S Ivy Street and S Fir Street due to narrow roadway width and lack of bicycle lanes. There are shoulders along S Ivy Street which could be used as bicycle lanes. If the roadway is rebuilt to the designated standards as required by their corresponding functional classification, the street’s bicycle lanes would create connectivity with the nearest major roadway SW 13th Avenue, which currently has bicycle lanes.

Intersection Operations Analysis

This section covers the intersection operating conditions in the study area. Included is a description of the intersection performance measures, jurisdictional operational standards, and traffic operational analysis.

Intersection Performance Measures

Level of service (LOS) and volume-to-capacity (v/c) ratios are two commonly used performance measures that provide a gauge of intersection operations. In addition, they are often incorporated into agency mobility standards.

Descriptions are given below:

- **Level of service (LOS):** A “report card” rating (A through F) based on the average delay experienced by vehicles at the intersection. LOS A, B, and C indicate conditions where traffic moves without significant delays over periods of peak



hour travel demand. LOS D and E are progressively worse operating conditions. LOS F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity. This condition is typically evident in long queues and delays.

- **Volume-to-capacity (v/c) ratio:** A decimal representation (between 0.00 and 1.00) of the proportion of capacity that is being used (i.e., the saturation) at a turn movement, approach leg, or intersection. It is determined by dividing the peak hour traffic volume by the hourly capacity of a given intersection or movement. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 1.00, congestion increases and performance is reduced. If the ratio is greater than 1.00, the turn movement, approach leg, or intersection is oversaturated and usually results in excessive queues and long delays.

Jurisdictional Operational Standards

All study intersections must operate at or below the operating standards or mitigation may be necessary to approve future growth. The intersection performance measures vary by jurisdiction of the roadways. All study intersections are under the jurisdiction of City of Canby and Clackamas County and must comply with the intersection evaluation methodology stated in the City's TSP and Clackamas Roadway County Standards.¹¹ The study intersections must comply with the v/c targets in the Clackamas County Comprehensive Plan which specifies a v/c target of 0.90 and LOS E for the study area.¹²

Existing Intersection Operations Analysis

The existing traffic operating conditions at the study intersections was determined for the PM peak hour based on the 2000 Highway Capacity Manual methodology¹³ for signalized intersections and 2010 Highway Capacity Manual methodology for unsignalized intersections.¹⁴ The conditions include the estimated average delay, level of service (LOS), and volume-to-capacity (v/c) ratio of the study intersections.

Weekday PM peak hour intersection operations are shown in Table 3. During the PM peak hour, all study area intersections operate within the adopted mobility targets. Detailed HCM intersection analysis reports are included in Appendix C.

¹¹ Section 295, Clackamas County Roadway Standards, February 1, 2013.

¹² Table 5-2b, Clackamas County Comprehensive Plan.

¹³ *2000 Highway Capacity Manual*, Transportation Research Board, Washington DC, 2000.

¹⁴ *2010 Highway Capacity Manual*, Transportation Research Board, Washington DC, 2010.



Table 3: Existing PM Peak Hour Intersection Operations

No.	Intersections	Control Type	PM Peak Hour	
			v/c	LOS
1.	SW 13 th Avenue/S Ivy Street	Signal	0.45	B
2.	SW 13 th Avenue/S Fir Street	TWSC*	0.02	A/B
3.	S Ivy Street/SE 16 th Avenue	TWSC*	0.02	A/B

TWSC – Two-way Stop Controlled

LOS – Level of Service

*Volume-to capacity ratio for two-way stop intersections report for the worst movement and LOS report for the worst major street/minor street movements.

Future 2035 Plus Project Scenario

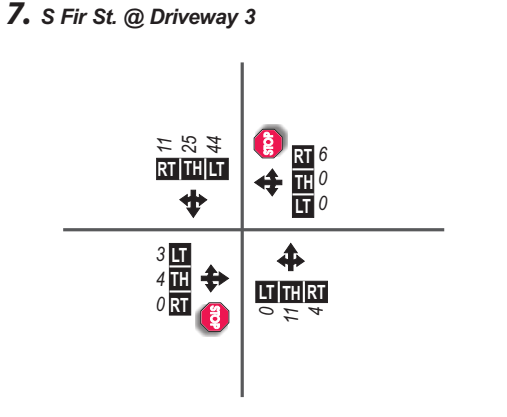
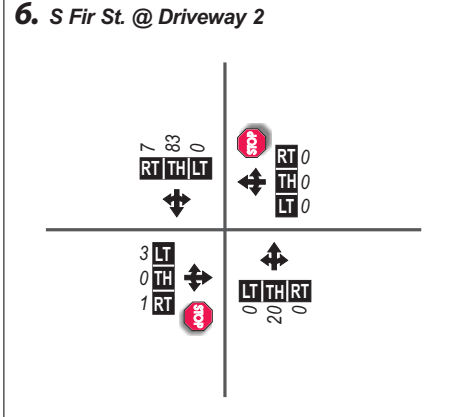
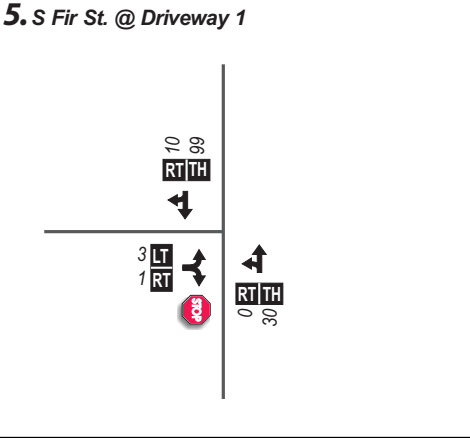
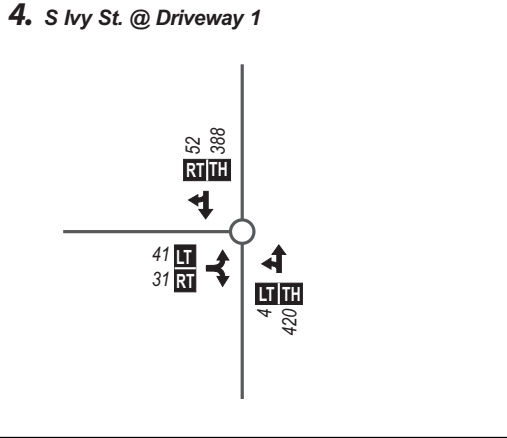
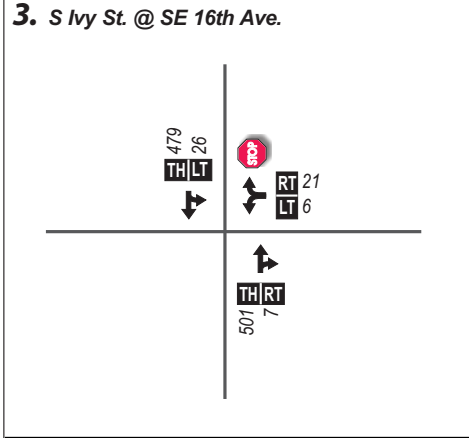
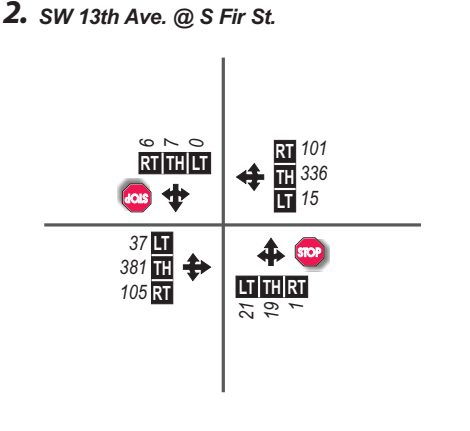
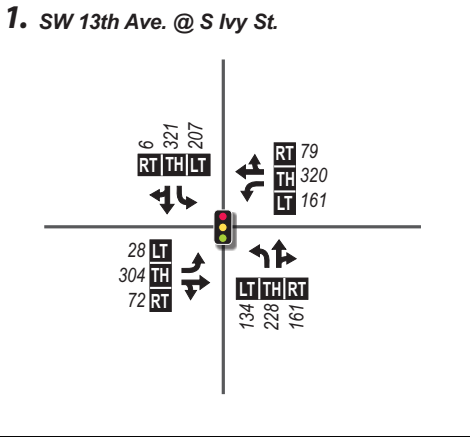
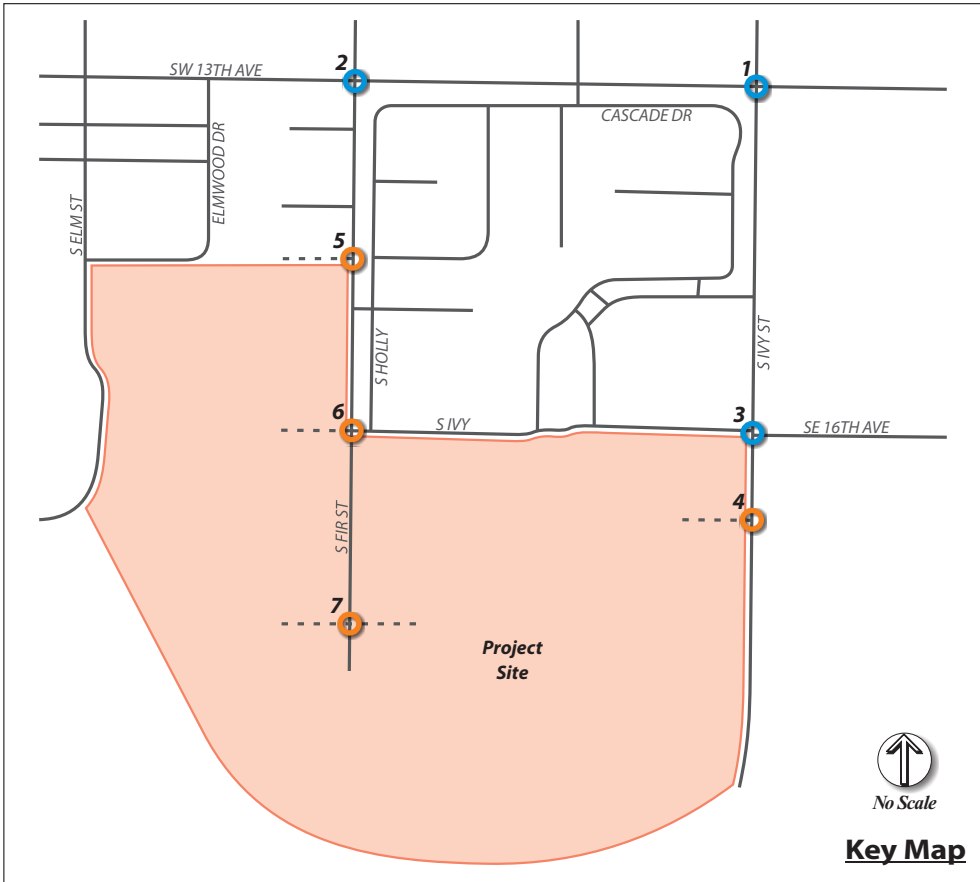
Forecasting Method Summary

The future 2035 plus project volumes at all existing study intersections and proposed project intersections during the PM peak hour were determined by utilizing the City of Canby’s Travel Forecast model developed for the City’s Transportation System Plan. The model forecasted the future volumes till the year 2030. The future 2035 volumes were estimated by adding an annual growth rate of 2%.¹⁵ The future 2035 plus project peak hour turn volumes during the PM peak hour are presented in Figure 4.

The land uses assumed in the City’s TSP were consistent with the proposed zoning for the DCP, but were slightly different in units than the land uses in the proposed project. The transportation analysis zones (TAZ), which are specific to the travel model do not exactly align with the study area. The study area overlaps with two TAZs. The northern portion of the study area west of S Ivy Street and east of S Fir Street includes only a portion of TAZ 142, while the remaining portion of the study area encompasses the entire area of TAZ 143.

The portion of the study area within the TAZ 142 was assumed to have 11 more households in the City’s TSP. Thus, the City’s TSP overestimated the development in that area compared to the proposed project. The remaining portion of the study area (TAZ 143) was expected to have 213 households in the City’s TSP, while the proposed plan anticipates 225 households in the same area. Thus, the City’s TSP underestimated the development (12 less households) in that area. However, the net difference between the City’s TSP and the proposed project is only one household.

¹⁵ Table 4-1, Canby Transportation System Plan (TSP), December 2010.



LEGEND

- # - Study Intersection
- # - Proposed Project Intersection
- Traffic Signal
- Stop Sign
- Lane Configuration
- PM - Peak Hour Traffic Volumes
- Volume Turn Movement (Left-Thru-Right)

DKS **Figure 4**

**Future (2035) Plus Project
PM Peak Hour Traffic Volumes**



The City’s TSP did not assume any employment growth in TAZ 142 which is consistent with the proposed project. The City’s TSP assumed 3 employees in TAZ 143, while this analysis assumed 15 employees. Table 4 shows the updated household and employment assumptions used for this analysis.

Table 4: Existing and Future Year Household and Employment Assumptions

TAZ	Existing Year		Future Year		Growth	
	HH	EMP	HH	EMP	HH	EMP
142	239	10	277	10	38	0
143	9	0	225	15	216	15

HH: Household, EMP: Employment

The Hope Village expansion includes a portion of Residential-Commercial (RC) zoning. For TPR purposes, the travel forecast model assumed employment growth within this area. The final proposed plan with the DCP does not include employment growth. However, the trips generated by the assumed employment growth are higher than the trips that would be generated by the residential development in the proposed project. From a trip generation perspective, the land use assumed is consistent with the proposed plan (i.e. the number of trips generated by the assumed employment growth in that area is representative of the number of trips generated by the proposed household growth in that area).

In the end, the land uses assumed to develop model forecasted future volumes slightly overestimates the number of trips expected as compared to the land uses in the proposed project. Therefore, the analysis is slightly conservative and adequate to represent the land use in the DCP.

Future 2035 Plus Project Intersection Operations Analysis

The future 2035 plus project PM peak hour intersection operations are shown in Table 5. As shown in the table, all study area intersections operate within the adopted mobility targets. Therefore, the proposed project would have no significant impact to any of the study intersections and proposed intersections. As a result, no mitigation measures are recommended as part of this project. Detailed HCM intersection analysis reports are included in Appendix D.



Table 5: Future 2035 PM Peak Hour Intersection Operations

No.	Intersections	Control Type	PM Peak Hour	
			v/c	LOS
1.	SW 13 th Avenue/S Ivy Street	Signal	0.75	C
2.	SW 13 th Avenue/S Fir Street	TWSC*	0.22	A/D
3.	S Ivy Street/SE 16 th Avenue	TWSC*	0.07	A/B
4.	S Ivy Street/Project Driveway 1	TWSC*	0.01	A/A
5.	S Fir Street/Project Driveway 1	TMSC*	0.01	A/A
6.	S Fir Street/Project Driveway 2	TMSC*	0.01	A/A
7.	S Fir Street/Project Driveway 3	TMSC*	0.03	A/A

TWSC – Two-way Stop Controlled

LOS – Level of Service

*Volume-to capacity ratio for two-way stop intersections report for the worst movement and LOS report for the worst major street/minor street movements.

Area Safety and Urban Design

S Ivy Street connects the City of Canby with the unincorporated Clackamas County located in the South. Vehicles travelling north along S Ivy Street (Canby-Marquam Highway) into the City along experience a profound change in land use density and posted speed. The area within the City is characterized by large residential neighborhoods, retirement homes, an adult center, schools, and an aquatic center. The speed along S Ivy Street (Canby-Marquam Highway) through the rural area is 55 MPH. In order to promote the reduction in speed and help vehicles transition from a rural area to an urban environment, which would significantly enhance safety in an area with high potential for pedestrian and bicycle travel, a roundabout treatment should be considered at the new intersection on S Ivy Street (south of 16th Avenue) created by the DCP. The roundabout could also act as a gateway treatment for urban design aesthetics for the entry into Canby.

The safety benefit of roundabouts can be seen from national research¹⁶ on their effectiveness of reducing crashes, where data has shown a reduction of 35% of total crashes, 76% in injury crashes and 89% in fatalities. This is partially due to reducing the number of conflict points, but also points to the benefit of effectively reducing vehicle speeds where potential conflicts occur. The benefits of this reduction in speed would then provide benefit to the S Ivy Street corridor to the north. A sketch for the potential

¹⁶ Federal Highway Administration, Roundabouts, Section 2: Benefits of Roundabouts



roundabout location is presented in Appendix E to illustrate the potential footprint and land-use impact of the improvement.

To advance the roundabout concept, additional conversation would be required with Clackamas County (who has authority over the roadway) to discuss the feasibility of implementation, including factors such as designing for farm vehicles and trucks that would travel through the roundabout.

Transportation Planning Rule (TPR) Evaluation

The proposed annexation of the Stafford Development Concept Plan (DCP) area includes changes in the land use. However, the proposed rezone could potentially allow more intense uses to develop on the site compared to either the existing zoning or the average land use density assumed in the City's TSP. Therefore, the analysis documented in Appendix F would determine to see if the proposed zone change would cause significant impact to the transportation system in addition to what was accounted for in the City's TSP. Based on the TPR evaluation in the appendix, the proposed zone change is consistent with the comprehensive plan designations and City's TSP.

Recommendations

Based upon the analysis presented in this report, it was determined that the proposed project would not generate significant off-site traffic impacts. Therefore, no off-site mitigation is recommended for the proposed project as a result of traffic impacts. However, there are some site-access and circulation related improvements which DKS would recommend to improve traffic flow and safety, which includes:

- 1) Proposed project intersections shall be kept clear of visual obstructions such as signage, trees etc. which may limit the vehicle sight distance.
- 2) A roundabout at a proposed project intersection along S Ivy Street would be a significant safety enhancement. However, coordination with Clackamas County is required to determine the feasibility of including design standards for farm vehicles and trucks.



APPENDIX A

Becks Subdivision Traffic Impact Study

DRAFT MEMORANDUM

DATE: September 29th, 2017

TO: Bryan Brown, City of Canby

FROM: Chris Maciejewski, PE, PTOE
 Jeff Heald, PE (CA)
 Rohit Itadkar, TE (CA)

SUBJECT: Traffic Impact Analysis for Beck Subdivision Development

P#17118-000

This memorandum summarizes the transportation impacts associated with the proposed Beck Subdivision development within the Stafford Development Concept Plan (DCP) in Canby, Oregon. The proposed development proposes 41 lots spread over 8.70 acres with 24 additional tax lots to be added in the development during second phase of the project. The proposed project will be designated as R-1.5 (medium density residential) in the north and R-1 (low density residential) in the south of the site. This would add a total of 90 single family residential units. The project site is located within the Stafford DCP site between S Fir Street and S Elm Street.

Access to the site will be provided by three proposed intersections from S Fir Street. The study area is shown in Figure 1. The following three intersections have been identified as study area intersections, with their traffic controls listed:

- SW 13th Avenue/S Ivy Street
- SW 13th Avenue/S Fir Street
- S Ivy Street/SE 16th Avenue



Figure 1: Study Area

Existing No Project Intersection Operations Analysis

Intersection Performance Measures

Level of service (LOS) and volume-to-capacity (v/c) ratios are two commonly used performance measures that provide a gauge of intersection operations. In addition, they are often incorporated into agency mobility standards.

Descriptions are given below:

- **Level of service (LOS):** A “report card” rating (A through F) based on the average delay experienced by vehicles at the intersection. LOS A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. LOS D and E are progressively worse operating conditions. LOS F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity. This condition is typically evident in long queues and delays.
- **Volume-to-capacity (v/c) ratio:** A decimal representation (between 0.00 and 1.00) of the proportion of capacity that is being used (i.e., the saturation) at a turn movement, approach leg, or intersection. It is determined by dividing the peak hour traffic volume by the hourly capacity of a given intersection or movement. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 1.00, congestion increases and performance is reduced. If the ratio is greater than 1.00, the turn movement, approach leg, or intersection is oversaturated and usually results in excessive queues and long delays.

Jurisdictional Operational Standards

All study intersections must operate at or below the operating standards or mitigation may be necessary to approve future growth. The intersection performance measures vary by jurisdiction of the roadways. All study intersections are under the jurisdiction of City of Canby and Clackamas County and must comply with the intersection evaluation methodology stated in the City’s TSP and Clackamas Roadway County Standards.¹ The study intersections must comply with the v/c targets in the Clackamas County Comprehensive Plan which specifies a v/c target of 0.90 and LOS E for the study area.²

¹ Section 295, Clackamas County Roadway Standards, February 1, 2013.

² Table 5-2b, Clackamas County Comprehensive Plan.



Volumes

The existing no project volumes were used from the counts conducted as part of the Stafford Annexation DCP traffic study.³

Level of Service Analysis

The existing traffic operating conditions at the study intersections was determined for the AM and PM peak hour based on the 2000 Highway Capacity Manual methodology⁴ for signalized intersections and 2010 Highway Capacity Manual methodology for unsignalized intersections.⁵ The conditions include the estimated average delay, level of service (LOS), and volume-to-capacity (v/c) ratio of the study intersections. Weekday AM and PM peak hour intersection operations are shown in Table 1. During the AM and PM peak hour, all study area intersections operate within the adopted mobility targets.

Table 1: Existing Peak Hour Intersection Operations

No.	Intersections	Control Type	AM Peak Hour		PM Peak Hour	
			v/c	LOS	v/c	LOS
1.	SW 13 th Avenue/S Ivy Street	Signal	0.39	B	0.45	B
2.	SW 13 th Avenue/S Fir Street	TWSC*	0.01	A/B	0.02	A/B
3.	S Ivy Street/SE 16 th Avenue	TWSC*	0.02	A/B	0.02	A/B

TWSC – Two-way Stop Controlled

LOS – Level of Service

*Volume-to capacity ratio for two-way stop intersections report for the worst movement and LOS report for the worst major street/minor street movements.

Project Trip Generation

The proposed Beck Subdivision development is shown in Figure 2. The amount of new vehicle trips generated by the additional 90 single family dwelling units was estimated using the ITE Trip Generation Manual for similar land use type⁶. Trip generation estimates for the proposed project are provided for daily, morning and evening peak hours and are summarized in Table 2. As shown in Table, the proposed site is expected to generate 68 (17 in, 51 out) AM peak hour trips, 90 (57 in, 33 out) PM peak hour trips, and 857 daily trips.

³ Figure 2, Canby Stafford Annexation Development Concept Plan Traffic Impact Analysis, September 2017.

⁴ 2000 Highway Capacity Manual, Transportation Research Board, Washington DC, 2000.

⁵ 2010 Highway Capacity Manual, Transportation Research Board, Washington DC, 2010.

⁶ Trip Generation Manual, Institute of Transportation Engineers, 9th Edition.



Figure 2: Project Site Plan

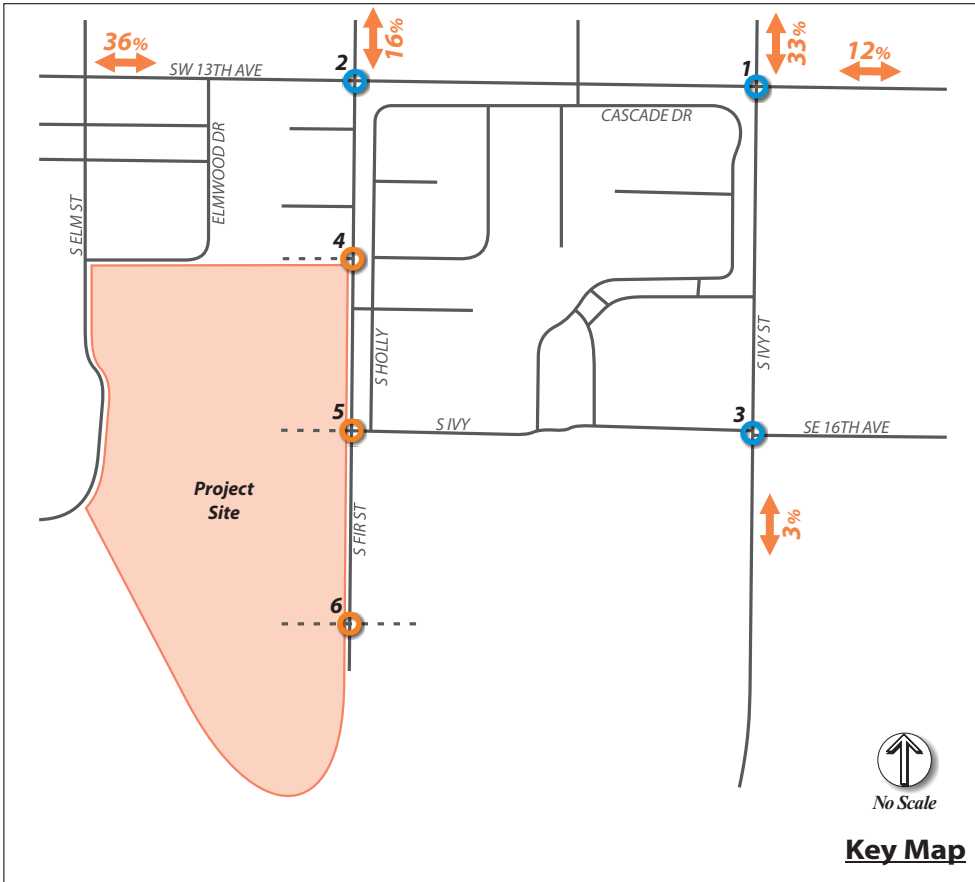
Table 2: Project Trip Generation Summary

Land Use	Size	Daily	AM Peak Hour			PM Peak Hour		
Trip Rates								
Single Family Detached (210)	Per Dwelling Unit (DU)	9.52	0.19	0.56	0.75	0.63	0.37	1.00
Trip Generation								
Single Family Detached (210)	90 DU	857	17	51	68	57	33	90

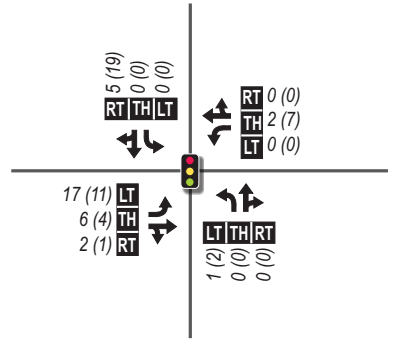
Project Trip Generation

Trip distribution reflects how site generated traffic will leave and arrive at the proposed site and what roads those trips will take. The trip distribution for the proposed project was estimated based on City of Canby Travel Forecast Tool.⁷ The assumed trip distribution and assignment is shown in Figure 3.

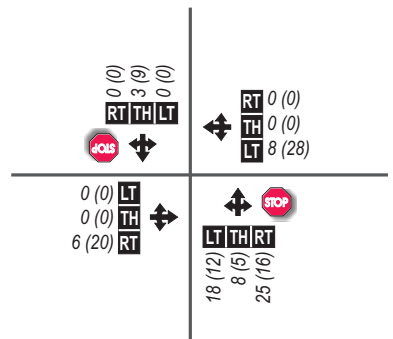
⁷ Canby Travel Forecast Tool, Canby Transportation System Plan, DKS Associates.



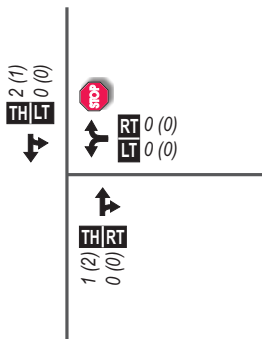
1. SW 13th Ave. @ S Ivy St.



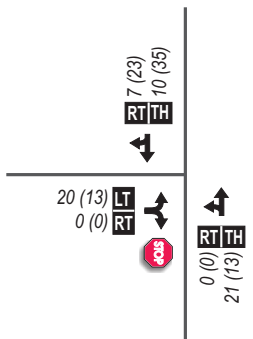
2. SW 13th Ave. @ S Fir St.



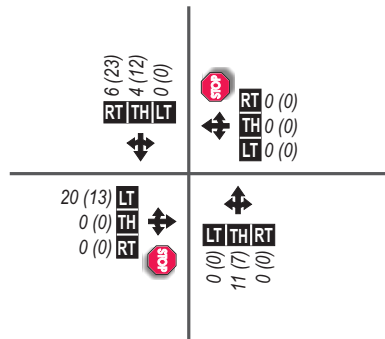
3. S Ivy St. @ SE 16th Ave.



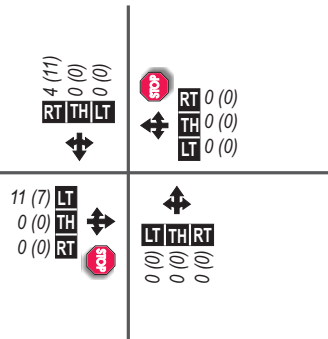
4. S Fir St. @ Driveway 1



5. S Fir St. @ Driveway 2



6. S Fir St. @ Driveway 3



LEGEND

- # - Study Intersection
- # - Proposed Project Intersection
- Traffic Signal
- Stop Sign
- Trip Distribution Percentage
- Lane Configuration
- AM (PM) - Peak Hour Traffic Volumes
- Volume Turn Movement
Left-Thru-Right

DKS **Figure 3**

Project Trip Distribution and Assignment



Existing Plus Project Intersection Operations Analysis

Volumes

The study area intersection operations were evaluated for the Existing Plus Project scenario to determine if the proposed project would cause any intersections to not meet jurisdictional standards. The Existing Plus Project scenario includes the existing traffic volumes, and the trips added by the proposed project. The Existing (2017) Plus Project traffic volumes are shown in Figure 4.

Level of Service Analysis

The existing plus project traffic operating conditions at the study intersections was determined for the AM and PM peak hour are shown in Table 3. During the AM and PM peak hour, all study area intersections operate within the adopted mobility targets. Therefore, there are no significant impacts on the study intersections. As a result no mitigation measures are recommended as part of this project.

Table 3: Existing Peak Hour Intersection Operations

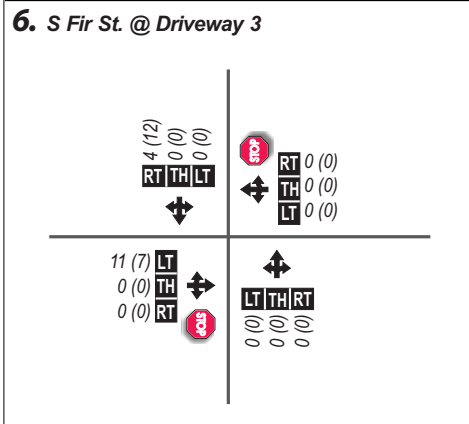
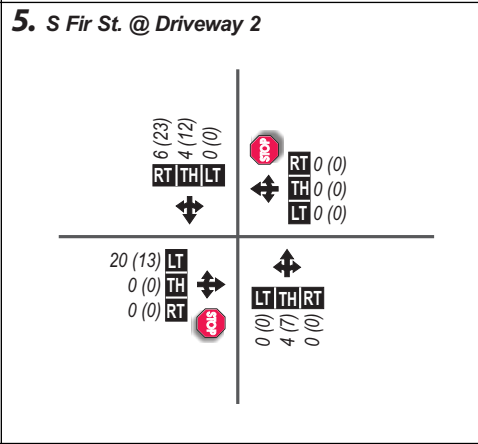
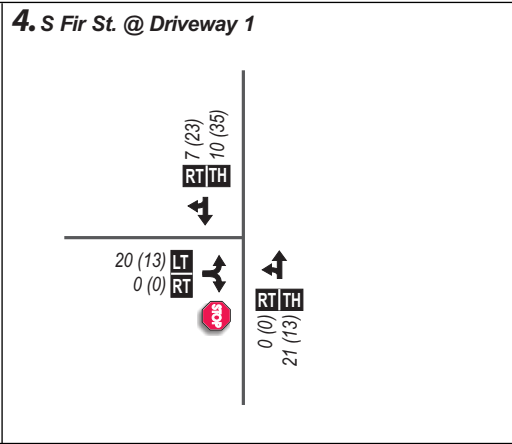
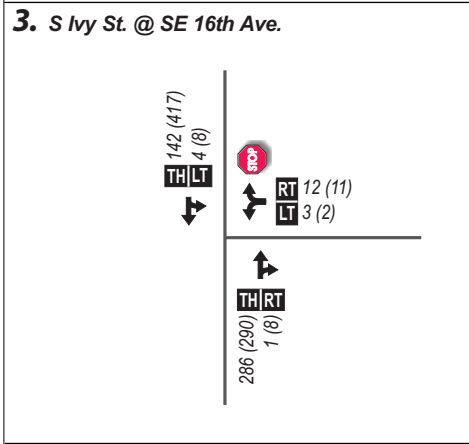
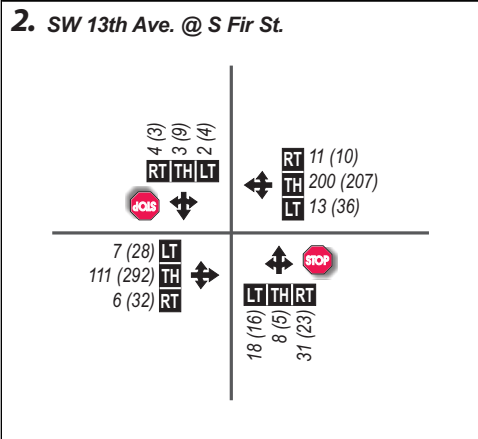
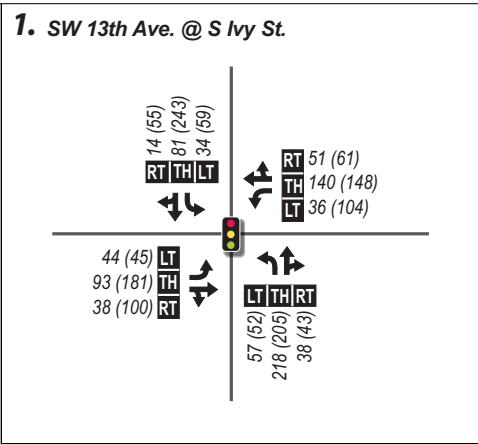
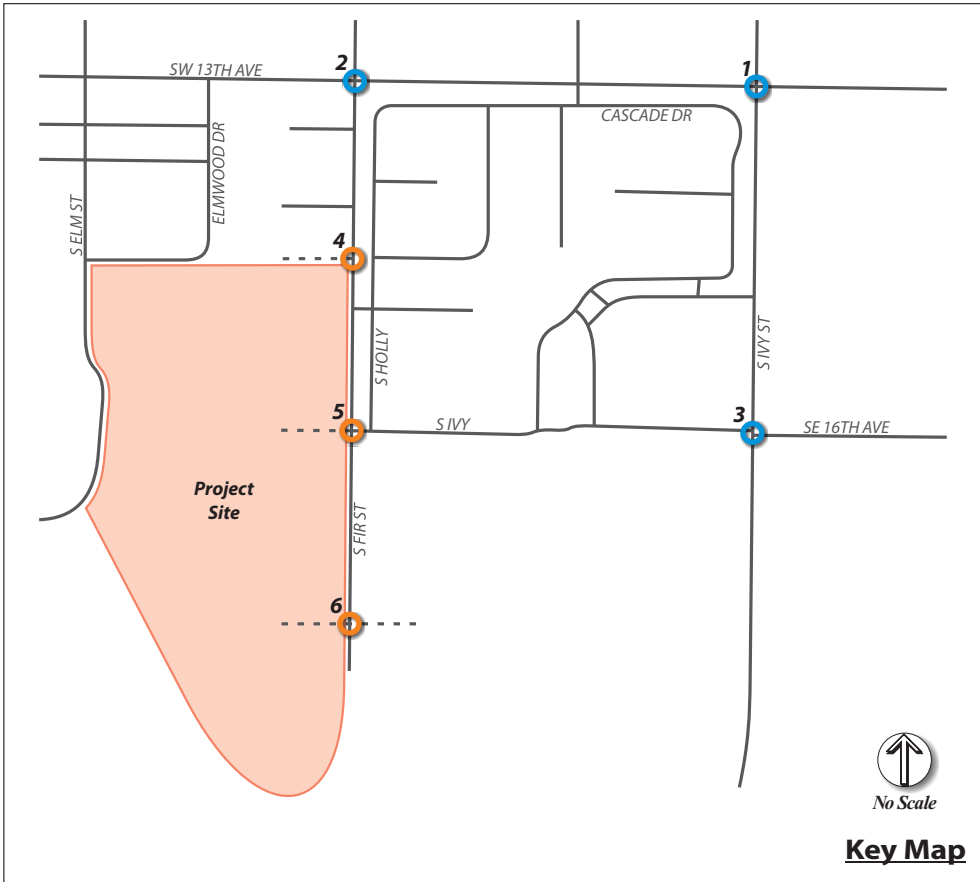
No.	Intersections	Control Type	AM Peak Hour		PM Peak Hour	
			v/c	LOS	v/c	LOS
1.	SW 13 th Avenue/S Ivy Street	Signal	0.39	B	0.47	B
2.	SW 13 th Avenue/S Fir Street	TWSC*	0.09	A/B	0.12	A/C
3.	S Ivy Street/SE 16 th Avenue	TWSC*	0.20	A/B	0.20	A/B
4.	S Fir Street/Project Driveway 1	TWSC*	0.02	A/A	0.02	A/A
5.	S Fir Street/Project Driveway 2	TWSC*	0.02	A/A	0.01	A/A
6.	S Fir Street/Project Driveway 3**	TWSC*	--	--	--	--

TWSC – Two-way Stop Controlled

LOS – Level of Service

*Volume-to capacity ratio for two-way stop intersections report for the worst movement and LOS report for the worst major street/minor street movements.

** No LOS reported since there are no conflicting movements.



LEGEND

- # 1 - Study Intersection
- # 2 - Proposed Project Intersection
- 🚦 - Traffic Signal
- 🛑 - Stop Sign
- ← - Lane Configuration
- AM (PM) - Peak Hour Traffic Volumes
- LT TH RT - Volume Turn Movement (Left-Thru-Right)

DKS

Figure 4

Existing Plus Project Peak Hour Traffic Volumes



Queuing Analysis

An estimate of the 95th percentile vehicle queues were determined for each of the intersection approach movements under both the Existing and Existing Plus Project scenarios. 95th percentile vehicle queues are queue lengths that would not be exceeded in 95 percent of the queues formed during the peak hour are estimated. When vehicle queues extend past available storage bays, turning queues can block through movements and through movements can block upstream intersections. The result is an increased potential for rear-end collisions and a significant loss in system capacity. The queue formation for left turning traffic at all study intersections except SW 13th Avenue/S Ivy Street is less than 25'. Queuing results for the intersection of SW 13th Avenue/S Ivy Street are summarized in Table 4.

Table 4: Queuing Summary at SW 13th Avenue/S Ivy Street

Movement	Available Storage (feet)	95 th Percentile Queue for Existing Plus Project (feet)	
		AM Peak Hour	PM Peak Hour
Northbound Left	120	20	20
Southbound Left	125	20	20
Eastbound Left	120	40	40
Westbound Left	130	20	60

The queue formations in all directions are within the available storage. Overall, the proposed project is not expected to have a negative impact on the queuing at any study intersections.

Neighborhood Through Traffic Study

To protect livability in neighborhood areas, the City of Canby has adopted traffic impact thresholds for residential streets. Developments anticipated to add significant traffic levels to residential streets are required to develop mitigations that will reduce the impact. A development is considered to have a potentially significant impact when it adds 30 through-vehicle trips during a peak hour to an adjacent residential street with an average daily traffic (ADT) volume of 1,200 or higher and/or a 85th percentile speed greater than 28 miles per hour.

Based on zoning and fronting land uses S Fir Street south of 13th Avenue is the only roadway within the study area that would be classified as residential streets and may be significantly impacted by the proposed project. 24-hour bidirectional traffic volume and speed data was collected on the roadway



section. The data for S Ivy Street showed an ADT volume lower than 1,200 vehicles (1,107 vehicles) and an 85th percentile speed of 17 miles per hour, which is lower than the threshold of 28 miles per hour.

The proposed project is expected to add more than 30 vehicles during peak hours to S Fir Street along the residential portions. Therefore, the project would add significant traffic levels to this street and increase the ADT to above 1,200 vehicles (1,970 vehicles per day). Potential volume reduction measures to address this impact could include diverters, movement closures, and decrease route speed by modifying geometry and/or traffic control (some speed reduction can also have a secondary effect of reducing traffic volume (by making a route less attractive).

A review of potential measure for offsetting the traffic volume increase found that the options would simply shift the through traffic from one neighborhood street to another, as there are only local residential streets that connect the area to the surrounding arterial network. As the observed traffic speeds are significantly below speed thresholds for neighborhood livability, we recommend not implementing mitigation measures that would restrict volumes (i.e., diverters or closures). In this circumstance, maximizing connectivity (i.e., via the proposed connection to S Ivy Street) appears to be the optimal strategy for neighborhood traffic management.

Conclusions

- The increase in vehicle trips associated with the proposed project (68 trips during the AM peak hour and 90 trips during the PM peak hour) would not significantly impact traffic operations along the surrounding transportation network.
- Site intersections shall be kept clear of objects (e.g. landscaping, objects, etc.) that could potentially limit vehicle sight distance.

Attachments

Existing (2017) No Project Level of Service Worksheets

Existing (2017) Plus Project Level of Service Worksheets

HCM Signalized Intersection Capacity Analysis
 1: S Ivy Street & SW 13th Avenue

Existing No Project
 AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	87	36	36	138	51	56	218	38	34	81	9
Future Volume (vph)	27	87	36	36	138	51	56	218	38	34	81	9
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.96		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1641		1630	1646		1630	1678		1630	1690	
Flt Permitted	0.57	1.00		0.67	1.00		0.67	1.00		0.59	1.00	
Satd. Flow (perm)	982	1641		1149	1646		1149	1678		1005	1690	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	30	97	40	40	153	57	62	242	42	38	90	10
RTOR Reduction (vph)	0	33	0	0	30	0	0	8	0	0	5	0
Lane Group Flow (vph)	30	104	0	40	180	0	62	276	0	38	95	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	8.3	8.3		8.3	8.3		26.8	24.4		25.2	23.6	
Effective Green, g (s)	8.3	8.3		8.3	8.3		26.8	24.4		25.2	23.6	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.56	0.51		0.53	0.49	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	170	284		199	285		668	856		550	834	
v/s Ratio Prot		0.06			c0.11		c0.00	c0.16		0.00	0.06	
v/s Ratio Perm	0.03			0.03			0.05			0.03		
v/c Ratio	0.18	0.37		0.20	0.63		0.09	0.32		0.07	0.11	
Uniform Delay, d1	16.8	17.4		16.9	18.3		4.8	6.9		5.5	6.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.6		0.4	4.0		0.0	1.0		0.0	0.3	
Delay (s)	17.2	18.0		17.3	22.3		4.8	7.9		5.5	6.8	
Level of Service	B	B		B	C		A	A		A	A	
Approach Delay (s)		17.9			21.5			7.3			6.4	
Approach LOS		B			C			A			A	

Intersection Summary

HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	47.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	111	0	5	200	11	0	0	6	2	0	4
Future Vol, veh/h	7	111	0	5	200	11	0	0	6	2	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	125	0	6	225	12	0	0	7	2	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	237	0	0	125	0	0	384	388	125	386	382	231
Stage 1	-	-	-	-	-	-	140	140	-	242	242	-
Stage 2	-	-	-	-	-	-	244	248	-	144	140	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1330	-	-	1462	-	-	574	547	926	573	551	808
Stage 1	-	-	-	-	-	-	863	781	-	762	705	-
Stage 2	-	-	-	-	-	-	760	701	-	859	781	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1330	-	-	1462	-	-	566	541	926	564	545	808
Mov Cap-2 Maneuver	-	-	-	-	-	-	566	541	-	564	545	-
Stage 1	-	-	-	-	-	-	858	776	-	757	701	-
Stage 2	-	-	-	-	-	-	752	697	-	848	776	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	8.9	10.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	926	1330	-	-	1462	-	-	706
HCM Lane V/C Ratio	0.007	0.006	-	-	0.004	-	-	0.01
HCM Control Delay (s)	8.9	7.7	0	-	7.5	0	-	10.1
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection

Int Delay, s/veh 0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	12	285	1	4	140
Future Vol, veh/h	3	12	285	1	4	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	13	313	1	4	154

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	477	314	0	0	314	0
Stage 1	314	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	547	726	-	-	1246	-
Stage 1	741	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	545	726	-	-	1246	-
Mov Cap-2 Maneuver	545	-	-	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	863	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	10.4		0		0.2
HCM LOS	B				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	681	1246
HCM Lane V/C Ratio	-	-	0.024	0.004
HCM Control Delay (s)	-	-	10.4	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM Signalized Intersection Capacity Analysis
 1: S Ivy Street & SW 13th Avenue

Existing No Project
 PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	177	99	104	141	61	50	205	43	59	243	36
Future Volume (vph)	34	177	99	104	141	61	50	205	43	59	243	36
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.95		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1623		1630	1638		1630	1671		1630	1682	
Flt Permitted	0.61	1.00		0.46	1.00		0.58	1.00		0.57	1.00	
Satd. Flow (perm)	1042	1623		791	1638		998	1671		985	1682	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	35	184	103	108	147	64	52	214	45	61	253	38
RTOR Reduction (vph)	0	41	0	0	32	0	0	12	0	0	8	0
Lane Group Flow (vph)	35	246	0	108	179	0	52	247	0	61	283	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	11.4	11.4		11.4	11.4		22.0	20.5		23.8	21.4	
Effective Green, g (s)	11.4	11.4		11.4	11.4		22.0	20.5		23.8	21.4	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.46	0.43		0.50	0.45	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	248	387		188	390		479	716		522	753	
v/s Ratio Prot		c0.15			0.11		0.00	0.15		c0.01	c0.17	
v/s Ratio Perm	0.03			0.14			0.05			0.05		
v/c Ratio	0.14	0.64		0.57	0.46		0.11	0.34		0.12	0.38	
Uniform Delay, d1	14.3	16.3		16.1	15.6		7.2	9.1		6.3	8.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	3.0		3.5	0.6		0.1	1.3		0.1	1.4	
Delay (s)	14.5	19.3		19.5	16.2		7.3	10.5		6.3	10.2	
Level of Service	B	B		B	B		A	B		A	B	
Approach Delay (s)		18.8			17.3			9.9			9.5	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	47.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	292	12	8	207	10	4	0	7	4	0	3
Future Vol, veh/h	28	292	12	8	207	10	4	0	7	4	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	321	13	9	227	11	4	0	8	4	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	238	0	0	334	0	0	641	645	327	644	647	233
Stage 1	-	-	-	-	-	-	389	389	-	251	251	-
Stage 2	-	-	-	-	-	-	252	256	-	393	396	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1329	-	-	1225	-	-	388	391	714	386	390	806
Stage 1	-	-	-	-	-	-	635	608	-	753	699	-
Stage 2	-	-	-	-	-	-	752	696	-	632	604	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1329	-	-	1225	-	-	376	377	714	371	376	806
Mov Cap-2 Maneuver	-	-	-	-	-	-	376	377	-	371	376	-
Stage 1	-	-	-	-	-	-	617	590	-	731	693	-
Stage 2	-	-	-	-	-	-	743	690	-	607	586	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.3	11.8	12.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	538	1329	-	-	1225	-	-	483
HCM Lane V/C Ratio	0.022	0.023	-	-	0.007	-	-	0.016
HCM Control Delay (s)	11.8	7.8	0	-	8	0	-	12.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0

Intersection

Int Delay, s/veh 0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	11	288	8	8	416
Future Vol, veh/h	2	11	288	8	8	416
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	12	316	9	9	457





















Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	796	321	0
Stage 1	321	-	-
Stage 2	475	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	356	720	1235
Stage 1	735	-	-
Stage 2	626	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	352	720	1235
Mov Cap-2 Maneuver	352	-	-
Stage 1	735	-	-
Stage 2	620	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	620	1235
HCM Lane V/C Ratio	-	-	0.023	0.007
HCM Control Delay (s)	-	-	10.9	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM Signalized Intersection Capacity Analysis
1: S Ivy Street & SW 13th Avenue

Existing With Project
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	93	38	36	140	51	57	218	38	34	81	14
Future Volume (vph)	44	93	38	36	140	51	57	218	38	34	81	14
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.96		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1641		1630	1647		1630	1678		1630	1677	
Flt Permitted	0.57	1.00		0.66	1.00		0.67	1.00		0.59	1.00	
Satd. Flow (perm)	970	1641		1140	1647		1143	1678		1005	1677	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	49	103	42	40	156	57	63	242	42	38	90	16
RTOR Reduction (vph)	0	33	0	0	30	0	0	8	0	0	8	0
Lane Group Flow (vph)	49	112	0	40	183	0	63	276	0	38	98	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	8.4	8.4		8.4	8.4		26.8	24.4		25.2	23.6	
Effective Green, g (s)	8.4	8.4		8.4	8.4		26.8	24.4		25.2	23.6	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.56	0.51		0.53	0.49	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	170	287		199	288		663	854		549	826	
v/s Ratio Prot		0.07			c0.11		c0.00	c0.16		0.00	0.06	
v/s Ratio Perm	0.05			0.04			0.05			0.03		
v/c Ratio	0.29	0.39		0.20	0.64		0.10	0.32		0.07	0.12	
Uniform Delay, d1	17.2	17.5		16.9	18.3		4.8	6.9		5.5	6.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.6		0.4	4.0		0.0	1.0		0.0	0.3	
Delay (s)	17.8	18.1		17.2	22.3		4.9	7.9		5.5	6.8	
Level of Service	B	B		B	C		A	A		A	A	
Approach Delay (s)		18.1			21.5			7.4			6.5	
Approach LOS		B			C			A			A	

Intersection Summary

HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	47.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	111	6	13	200	11	18	8	31	2	3	4
Future Vol, veh/h	7	111	6	13	200	11	18	8	31	2	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	125	7	15	225	12	20	9	35	2	3	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	237	0	0	131	0	0	408	410	128	426	407	231
Stage 1	-	-	-	-	-	-	144	144	-	260	260	-
Stage 2	-	-	-	-	-	-	264	266	-	166	147	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1330	-	-	1454	-	-	554	531	922	539	533	808
Stage 1	-	-	-	-	-	-	859	778	-	745	693	-
Stage 2	-	-	-	-	-	-	741	689	-	836	775	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1330	-	-	1454	-	-	541	521	922	505	523	808
Mov Cap-2 Maneuver	-	-	-	-	-	-	541	521	-	505	523	-
Stage 1	-	-	-	-	-	-	854	773	-	741	685	-
Stage 2	-	-	-	-	-	-	724	681	-	790	770	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.4	10.7	11
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	693	1330	-	-	1454	-	-	614
HCM Lane V/C Ratio	0.092	0.006	-	-	0.01	-	-	0.016
HCM Control Delay (s)	10.7	7.7	0	-	7.5	0	-	11
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

Intersection

Int Delay, s/veh 0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	12	286	1	4	142
Future Vol, veh/h	3	12	286	1	4	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	13	314	1	4	156

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	480	315	0	0	315	0
Stage 1	315	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	545	725	-	-	1245	-
Stage 1	740	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	543	725	-	-	1245	-
Mov Cap-2 Maneuver	543	-	-	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	861	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	10.4		0		0.2
HCM LOS	B				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 679	1245	-
HCM Lane V/C Ratio	-	- 0.024	0.004	-
HCM Control Delay (s)	-	- 10.4	7.9	0
HCM Lane LOS	-	- B	A	A
HCM 95th %tile Q(veh)	-	- 0.1	0	-

Intersection							
Int Delay, s/veh	3						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Traffic Vol, veh/h	20	0	0	21	10	7	
Future Vol, veh/h	20	0	0	21	10	7	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	-	-	-	-	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	22	0	0	23	11	8	

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	38	15	18	0	-	0
Stage 1	15	-	-	-	-	-
Stage 2	23	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	974	1065	1599	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	1000	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	974	1065	1599	-	-	-
Mov Cap-2 Maneuver	974	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	1000	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1599	-	974	-	-
HCM Lane V/C Ratio	-	-	0.022	-	-
HCM Control Delay (s)	0	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	0	0	11	4	6
Future Vol, veh/h	20	0	0	11	4	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	0	0	12	4	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	20	8	11	0	-	0
Stage 1	8	-	-	-	-	-
Stage 2	12	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	997	1074	1608	-	-	-
Stage 1	1015	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	997	1074	1608	-	-	-
Mov Cap-2 Maneuver	997	-	-	-	-	-
Stage 1	1015	-	-	-	-	-
Stage 2	1011	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1608	-	997	-	-
HCM Lane V/C Ratio	-	-	0.022	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	0	0	0	0	0	0	0	0	0	0	4
Future Vol, veh/h	11	0	0	0	0	0	0	0	0	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	0	0	0	0	0	0	0	0	0	4
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2	2	2	2	4	0	4	0	0	0	0	0
Stage 1	2	2	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	2	4	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	1020	894	1082	1020	891	-	1618	-	-	-	-	-
Stage 1	1021	894	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1021	892	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	894	1082	1020	891	-	1618	-	-	-	-	-
Mov Cap-2 Maneuver	-	894	-	1020	891	-	-	-	-	-	-	-
Stage 1	1021	894	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1021	892	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s				0			0			0		
HCM LOS				A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1618	-	-	-	-	-	-	-				
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-				
HCM Control Delay (s)	0	-	-	-	0	0	-	-				
HCM Lane LOS	A	-	-	-	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-	-				

HCM Signalized Intersection Capacity Analysis
1: S Ivy Street & SW 13th Avenue

Existing With Project
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	181	100	104	148	61	52	205	43	59	243	55
Future Volume (vph)	45	181	100	104	148	61	52	205	43	59	243	55
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.96		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1624		1630	1640		1630	1671		1630	1668	
Flt Permitted	0.60	1.00		0.45	1.00		0.57	1.00		0.57	1.00	
Satd. Flow (perm)	1022	1624		776	1640		981	1671		984	1668	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	47	189	104	108	154	64	54	214	45	61	253	57
RTOR Reduction (vph)	0	41	0	0	30	0	0	12	0	0	13	0
Lane Group Flow (vph)	47	252	0	108	188	0	54	247	0	61	297	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	11.5	11.5		11.5	11.5		21.8	20.3		23.6	21.2	
Effective Green, g (s)	11.5	11.5		11.5	11.5		21.8	20.3		23.6	21.2	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.46	0.43		0.49	0.44	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	246	391		187	395		468	711		519	741	
v/s Ratio Prot		c0.16			0.11		0.00	0.15		c0.01	c0.18	
v/s Ratio Perm	0.05			0.14			0.05			0.05		
v/c Ratio	0.19	0.64		0.58	0.48		0.12	0.35		0.12	0.40	
Uniform Delay, d1	14.4	16.3		16.0	15.5		7.3	9.2		6.3	9.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	3.2		3.5	0.7		0.1	1.3		0.1	1.6	
Delay (s)	14.7	19.5		19.5	16.2		7.4	10.6		6.4	10.6	
Level of Service	B	B		B	B		A	B		A	B	
Approach Delay (s)		18.8			17.3			10.0			9.9	
Approach LOS		B			B			B			A	

Intersection Summary

HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	47.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	292	32	36	207	10	16	5	23	4	9	3
Future Vol, veh/h	28	292	32	36	207	10	16	5	23	4	9	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	321	35	40	227	11	18	5	25	4	10	3




Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	238	0	0	356	0	0	719	718	338	727	730	233
Stage 1	-	-	-	-	-	-	400	400	-	312	312	-
Stage 2	-	-	-	-	-	-	319	318	-	415	418	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1329	-	-	1203	-	-	344	355	704	339	349	806
Stage 1	-	-	-	-	-	-	626	602	-	699	658	-
Stage 2	-	-	-	-	-	-	693	654	-	615	591	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1329	-	-	1203	-	-	318	332	704	306	326	806
Mov Cap-2 Maneuver	-	-	-	-	-	-	318	332	-	306	326	-
Stage 1	-	-	-	-	-	-	608	585	-	679	633	-
Stage 2	-	-	-	-	-	-	654	629	-	570	574	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1.2	14	15.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	449	1329	-	-	1203	-	-	360
HCM Lane V/C Ratio	0.108	0.023	-	-	0.033	-	-	0.049
HCM Control Delay (s)	14	7.8	0	-	8.1	0	-	15.5
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-	-	0.2

Intersection

Int Delay, s/veh 0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	11	290	8	8	417
Future Vol, veh/h	2	11	290	8	8	417
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	12	319	9	9	458

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	799	323	0	0	327	0
Stage 1	323	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	355	718	-	-	1233	-
Stage 1	734	-	-	-	-	-
Stage 2	625	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	351	718	-	-	1233	-
Mov Cap-2 Maneuver	351	-	-	-	-	-
Stage 1	734	-	-	-	-	-
Stage 2	619	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	11		0		0.1
HCM LOS	B				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 619	1233	-
HCM Lane V/C Ratio	-	- 0.023	0.007	-
HCM Control Delay (s)	-	- 11	7.9	0
HCM Lane LOS	-	- B	A	A
HCM 95th %tile Q(veh)	-	- 0.1	0	-

Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	1	
Traffic Vol, veh/h	13	0	0	13	35	23
Future Vol, veh/h	13	0	0	13	35	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	0	0	14	38	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	65	51	63	0	-	0
Stage 1	51	-	-	-	-	-
Stage 2	14	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	941	1017	1540	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	1009	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	941	1017	1540	-	-	-
Mov Cap-2 Maneuver	941	-	-	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	1009	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1540	-	941	-	-
HCM Lane V/C Ratio	-	-	0.015	-	-
HCM Control Delay (s)	0	-	8.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	0	0	7	12	23
Future Vol, veh/h	13	0	0	7	12	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	0	0	8	13	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	34	26	38	0	-	0
Stage 1	26	-	-	-	-	-
Stage 2	8	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	979	1050	1572	-	-	-
Stage 1	997	-	-	-	-	-
Stage 2	1015	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	979	1050	1572	-	-	-
Mov Cap-2 Maneuver	979	-	-	-	-	-
Stage 1	997	-	-	-	-	-
Stage 2	1015	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1572	-	979	-	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	0	0	0	0	0	0	0	0	0	12
Future Vol, veh/h	7	0	0	0	0	0	0	0	0	0	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	0	0	0	0	0	0	0	0	0	13
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	7	7	7	7	13	0	13	0	0	0	0	0
Stage 1	7	7	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	7	13	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	1013	888	1075	1013	881	-	1606	-	-	-	-	-
Stage 1	1015	890	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1015	885	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	888	1075	1013	881	-	1606	-	-	-	-	-
Mov Cap-2 Maneuver	-	888	-	1013	881	-	-	-	-	-	-	-
Stage 1	1015	890	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1015	885	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s				0			0			0		
HCM LOS				A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1606	-	-	-	-	-	-	-				
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-				
HCM Control Delay (s)	0	-	-	-	0	0	-	-				
HCM Lane LOS	A	-	-	-	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-	-				

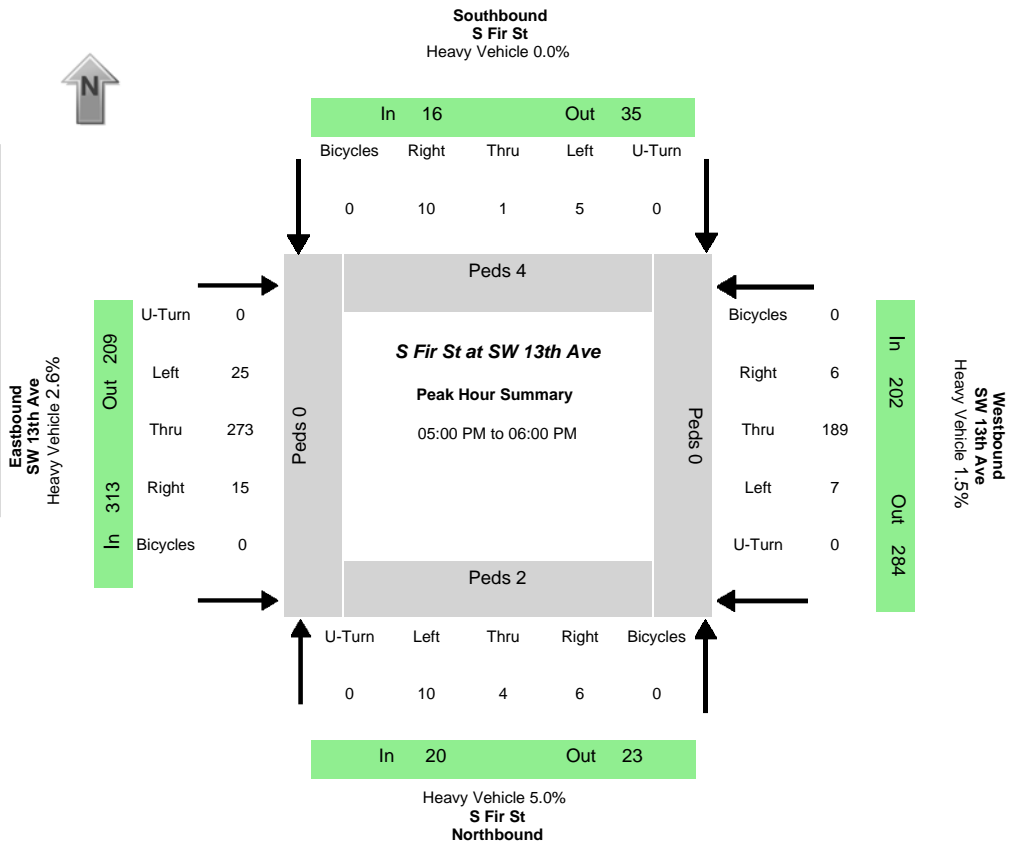


APPENDIX B

Existing Counts

Data Provided by K-D-N.com 503-594-4224

N/S street	S Fir St
E/W street	SW 13th Ave
City, State	Canby OR
Site Notes	
Location	45.252166 - -122.691978
Start Date	Tuesday, July 11, 2017
Start Time	04:00:00 PM
Weather	
Study ID #	
Peak Hour Start	05:00:00 PM
Peak 15 Min Start	05:10:00 PM
PHF (15-Min Int)	0.91



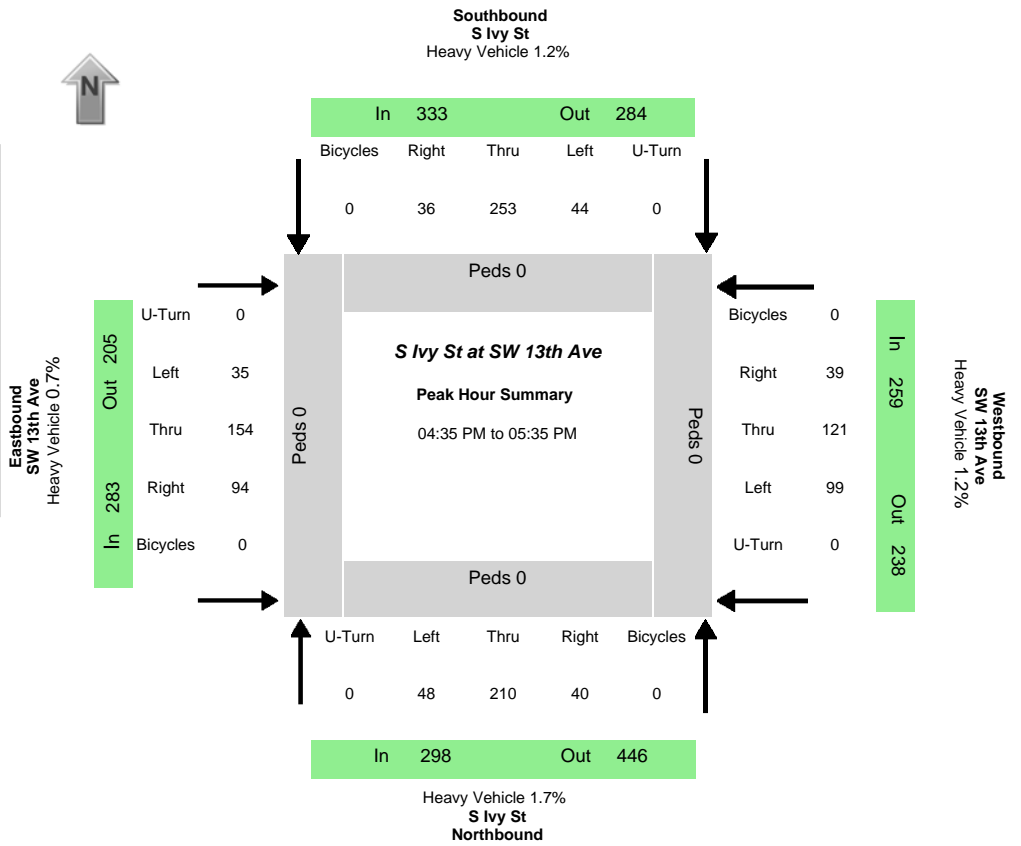
Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
10	4	6	0	5	1	10	0	25	273	15	0	7	189	6	0	20	16	313	202	23	35	209	284
Percent Heavy Vehicles																							
0.0%	0.0%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	6.7%	0.0%	0.0%	1.6%	0.0%	0.0%	5.0%	0.0%	2.6%	1.5%	4.3%	0.0%	1.4%	2.8%

PHV- Bicycles														PHV- Pedestrians							
Northbound				Southbound				Eastbound				Westbound				in Crosswalk					
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	0	6

Time	Northbound S Fir St				Southbound S Fir St				Eastbound SW 13th Ave				Westbound SW 13th Ave				15 Min Sum	1 HR Sum
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		
04:00:00 PM	2	0	0	0	1	0	2	0	3	23	3	0	3	16	2	0		
04:05:00 PM	0	0	1	0	3	0	0	0	1	19	2	0	0	17	2	0		
04:10:00 PM	2	0	0	0	0	1	1	0	4	18	1	0	0	14	2	0	143	
04:15:00 PM	0	0	1	0	1	1	2	0	1	30	0	0	1	21	1	0	147	
04:20:00 PM	3	0	0	0	0	0	1	0	0	20	2	0	2	16	0	0	146	
04:25:00 PM	2	0	0	0	0	0	0	0	0	19	1	0	0	15	1	0	141	
04:30:00 PM	2	1	0	0	0	0	1	0	2	15	0	0	0	6	1	0	110	
04:35:00 PM	1	0	0	0	0	0	1	0	3	23	1	0	2	15	0	0	112	
04:40:00 PM	0	0	0	0	0	0	3	0	0	26	1	0	1	15	1	0	121	
04:45:00 PM	4	0	1	0	1	1	2	0	3	23	1	0	1	16	0	0	146	
04:50:00 PM	1	0	0	0	0	0	1	0	3	17	1	0	0	18	0	0	141	
04:55:00 PM	2	0	0	0	1	0	1	0	1	16	0	0	1	10	0	0	126	531
05:00:00 PM	2	1	0	0	1	1	0	0	2	28	4	0	0	19	0	0	131	534
05:05:00 PM	0	0	0	0	1	0	1	0	0	17	1	0	0	13	0	0	123	522
05:10:00 PM	0	0	0	0	0	0	0	0	2	23	2	0	1	14	2	0	135	523
05:15:00 PM	0	1	0	0	1	0	1	0	2	23	1	0	1	19	1	0	127	514
05:20:00 PM	0	0	1	0	0	0	1	0	3	32	0	0	2	19	0	0	152	528
05:25:00 PM	0	0	1	0	0	0	0	0	0	15	1	0	0	16	0	0	141	523
05:30:00 PM	4	0	0	0	1	0	3	0	3	22	1	0	0	17	1	0	143	547
05:35:00 PM	0	2	0	0	0	0	1	0	1	22	1	0	0	14	0	0	126	542
05:40:00 PM	2	0	1	0	0	0	2	0	4	21	1	0	2	19	1	0	146	548
05:45:00 PM	2	0	1	0	0	0	1	0	5	18	1	0	1	14	1	0	138	539
05:50:00 PM	0	0	1	0	0	0	0	0	1	32	0	0	0	10	0	0	141	542
05:55:00 PM	0	0	1	0	1	0	0	0	2	20	2	0	0	15	0	0	129	551

Data Provided by K-D-N.com 503-594-4224

N/S street	S Ivy St
E/W street	SW 13th Ave
City, State	Canby OR
Site Notes	
Location	45.252157 - -122.686946
Start Date	Tuesday, July 11, 2017
Start Time	04:00:00 PM
Weather	
Study ID #	
Peak Hour Start	04:35:00 PM
Peak 15 Min Start	04:55:00 PM
PHF (15-Min Int)	0.96



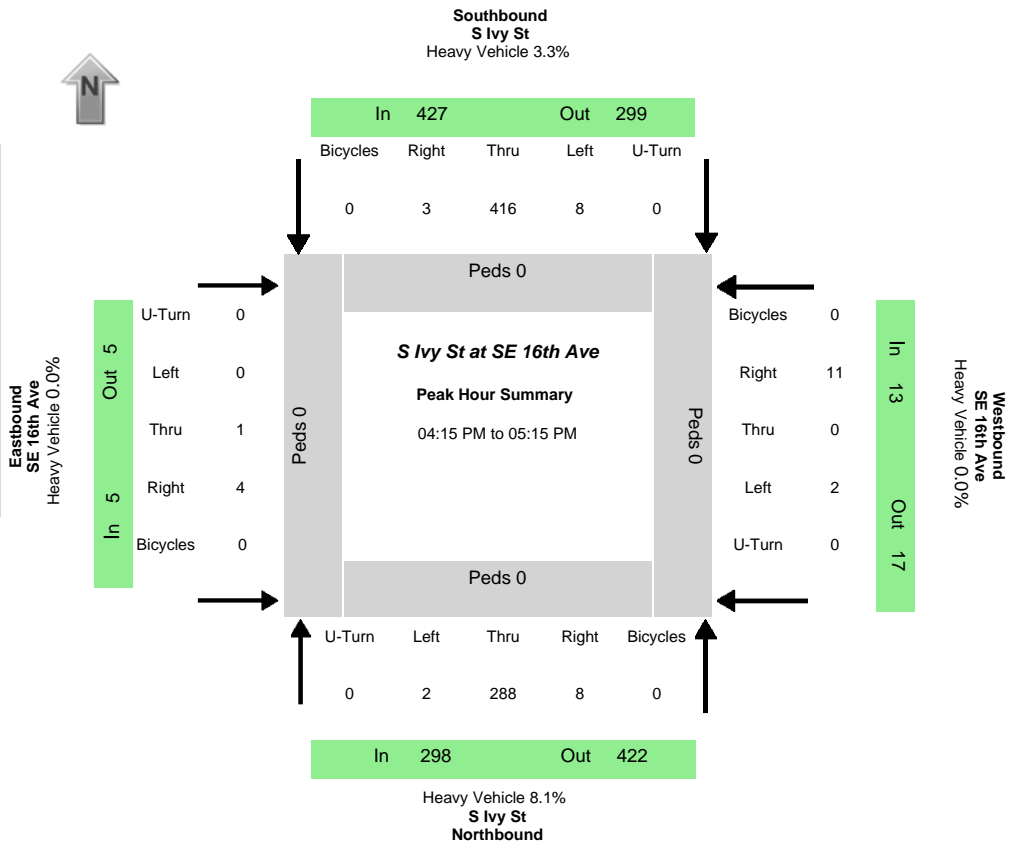
Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
48	210	40	0	44	253	36	0	35	154	94	0	99	121	39	0	298	333	283	259	446	284	205	238
Percent Heavy Vehicles																							
0.0%	2.4%	0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	2.0%	0.8%	0.0%	0.0%	1.7%	1.2%	0.7%	1.2%	1.3%	1.8%	0.5%	0.8%

PHV - Bicycles												PHV - Pedestrians									
Northbound				Southbound				Eastbound				Westbound				in Crosswalk					
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Time	All Vehicle Volumes																15 Min Sum	1 HR Sum
	Northbound S Ivy St				Southbound S Ivy St				Eastbound SW 13th Ave				Westbound SW 13th Ave					
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		
04:00:00 PM	6	17	3	0	0	15	7	0	3	12	6	0	8	11	6	0	285	
04:05:00 PM	9	23	7	0	4	18	4	0	2	13	11	0	12	12	5	0	298	
04:10:00 PM	1	12	5	0	0	11	1	0	1	10	5	0	8	15	2	0	283	
04:15:00 PM	7	25	4	0	3	13	2	0	2	21	8	0	8	11	3	0	304	
04:20:00 PM	4	28	6	0	6	18	3	0	0	16	5	0	8	10	1	0	274	
04:25:00 PM	5	20	5	0	0	22	3	0	1	10	2	0	12	10	2	0	270	
04:30:00 PM	1	18	4	0	0	18	1	0	0	13	2	0	12	5	3	0	253	
04:35:00 PM	1	17	3	0	0	21	5	0	0	18	7	0	9	13	7	0	287	
04:40:00 PM	2	15	1	0	3	17	3	0	1	9	9	0	6	8	1	0	283	
04:45:00 PM	9	16	7	0	3	31	2	0	6	13	5	0	6	10	3	0	300	1142
04:50:00 PM	3	19	2	0	4	20	3	0	5	13	5	0	11	8	4	0	302	1161
04:55:00 PM	4	16	4	0	4	25	2	0	2	10	3	0	12	6	4	0	307	1143
05:00:00 PM	8	18	5	0	5	25	3	0	6	12	6	0	10	9	2	0	305	1162
05:05:00 PM	6	17	4	0	5	20	2	0	4	12	11	0	9	8	2	0	298	1161
05:10:00 PM	2	23	3	0	6	13	1	0	2	11	10	0	6	20	1	0	298	1158
05:15:00 PM	3	20	4	0	4	18	5	0	3	11	11	0	6	10	1	0	300	1158
05:20:00 PM	5	14	2	0	4	19	6	0	3	22	10	0	4	12	4	0	286	1173
05:25:00 PM	1	21	3	0	3	22	2	0	2	12	9	0	8	10	4	0	276	1164
05:30:00 PM	4	17	4	0	5	14	2	0	3	10	9	0	12	9	3	0	267	1172
05:35:00 PM	5	9	3	0	1	17	3	0	6	9	5	0	10	11	4	0	264	1150
05:40:00 PM	4	16	5	0	5	16	0	0	2	10	6	0	10	12	3	0	274	1155
05:45:00 PM	0	14	7	0	9	15	0	0	4	21	9	0	10	11	2	0	260	1132
05:50:00 PM	3	12	4	0	2	13	1	0	0	8	8	0	4	12	2	0		

Data Provided by K-D-N.com 503-594-4224

N/S street	S Ivy St
E/W street	SE 16th Ave
City, State	Canby OR
Site Notes	
Location	45.249 - -122.686981
Start Date	Tuesday, July 11, 2017
Start Time	04:00:00 PM
Weather	
Study ID #	
Peak Hour Start	04:15:00 PM
Peak 15 Min Start	05:00:00 PM
PHF (15-Min Int)	0.91



Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
2	288	8	0	8	416	3	0	0	1	4	0	2	0	11	0	298	427	5	13	422	299	5	17
Percent Heavy Vehicles																							
0.0%	8.3%	0.0%	0.0%	0.0%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.1%	3.3%	0.0%	0.0%	3.3%	8.0%	0.0%	0.0%

PHV - Bicycles														PHV - Pedestrians							
Northbound				Southbound				Eastbound				Westbound				in Crosswalk					
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Time	Northbound S Ivy St				Southbound S Ivy St				Eastbound SE 16th Ave				Westbound SE 16th Ave				15 Min Sum	1 HR Sum
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		
04:00:00 PM	0	27	0	0	0	27	0	0	0	0	0	0	1	0	0	0		
04:05:00 PM	0	22	1	0	1	34	0	0	0	0	0	0	0	0	1			
04:10:00 PM	0	21	0	0	1	24	1	0	0	0	0	0	0	0	0	161		
04:15:00 PM	0	35	0	0	1	32	0	0	0	0	0	0	0	0	1	175		
04:20:00 PM	0	24	2	0	0	30	0	0	0	0	0	1	0	0	1	174		
04:25:00 PM	0	30	0	0	0	32	3	0	0	0	0	0	0	0	0	192		
04:30:00 PM	1	20	0	0	0	29	0	0	0	0	0	0	0	0	0	173		
04:35:00 PM	0	16	0	0	0	33	0	0	0	0	0	0	1	0	0	165		
04:40:00 PM	0	15	0	0	1	35	0	0	0	0	0	0	0	0	1	152		
04:45:00 PM	0	33	1	0	0	47	0	0	0	0	0	0	0	0	1	184		
04:50:00 PM	1	16	1	0	1	24	0	0	0	0	0	1	0	0	1	179		
04:55:00 PM	0	25	0	0	0	42	0	0	0	0	0	0	0	0	1	195	700	
05:00:00 PM	0	22	1	0	2	33	0	0	0	0	0	2	0	0	1	174	706	
05:05:00 PM	0	24	1	0	1	37	0	0	0	0	0	0	1	0	1	194	712	
05:10:00 PM	0	28	2	0	2	42	0	0	0	0	1	0	0	0	3	204	743	
05:15:00 PM	1	27	0	0	0	34	0	0	0	0	0	0	0	0	0	205	736	
05:20:00 PM	0	17	2	0	0	36	0	0	0	0	0	0	2	0	0	197	735	
05:25:00 PM	0	21	0	0	0	29	0	0	0	0	0	0	0	0	0	169	720	
05:30:00 PM	0	18	0	0	2	33	0	0	0	0	0	0	1	0	2	163	726	
05:35:00 PM	0	25	0	0	1	36	0	0	0	0	0	0	1	0	0	169	739	
05:40:00 PM	0	15	0	0	3	30	1	0	0	0	0	0	0	0	1	169	737	
05:45:00 PM	3	24	0	0	0	32	0	0	0	0	0	0	3	0	1	176	718	
05:50:00 PM	0	15	1	0	1	28	0	0	0	0	0	0	0	0	0	158	718	
05:55:00 PM	0	20	1	0	2	27	1	0	0	0	0	0	1	0	1	161	703	

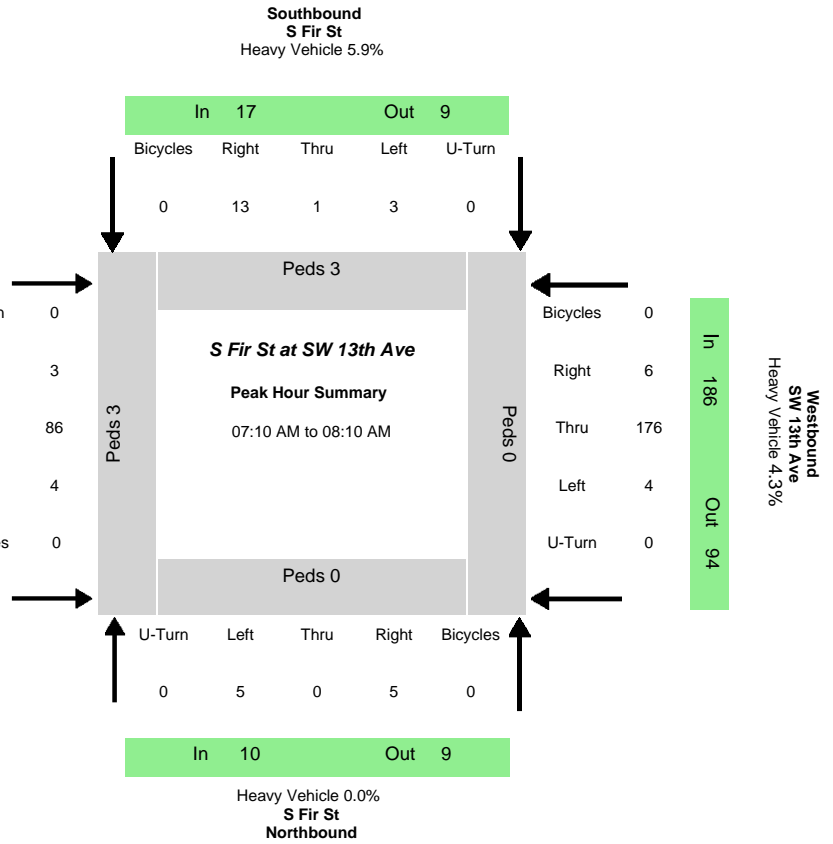
Data Provided by K-D-N.com 503-594-4224

N/S street	S Fir St
E/W street	SW 13th Ave
City, State	Canby OR
Site Notes	
Location	45.252166 - -122.691978
Start Date	Tuesday, July 11, 2017
Start Time	07:00:00 AM
Weather	
Study ID #	
Peak Hour Start	07:10:00 AM
Peak 15 Min Start	07:20:00 AM
PHF (15-Min Int)	0.89

Eastbound
SW 13th Ave
Heavy Vehicle 6.5%



In 93
Out 194



Westbound
SW 13th Ave
Heavy Vehicle 4.3%

Peak-Hour Volumes (PHV)

Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
5	0	5	0	3	1	13	0	3	86	4	0	4	176	6	0	10	17	93	186	9	9	194	94
0.0%				33.3%				0.0%				0.0%				0.0%				0.0%			
0.0%				0.0%				0.0%				0.0%				5.9%				6.5%			
0.0%				0.0%				0.0%				0.0%				0.0%				4.3%			

PHV - Bicycles																PHV - Pedestrians					
Northbound				Southbound				Eastbound				Westbound				Sum	in Crosswalk				Sum
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		NB	SB	EB	WB	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	6

All Vehicle Volumes

Time	Northbound S Fir St				Southbound S Fir St				Eastbound SW 13th Ave				Westbound SW 13th Ave				15 Min Sum	1 HR Sum
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		
07:00:00 AM	0	0	0	0	0	0	1	0	0	3	1	0	1	7	2			
07:05:00 AM	0	0	0	0	0	0	2	0	0	8	0	0	0	9	0			
07:10:00 AM	1	0	0	0	0	0	2	0	0	3	1	0	0	15	0	56		
07:15:00 AM	1	0	0	0	0	0	0	0	0	7	0	0	0	12	0	61		
07:20:00 AM	0	0	0	0	0	0	2	0	0	7	0	0	0	22	0	73		
07:25:00 AM	0	0	1	0	1	0	0	0	0	11	1	0	0	10	1	76		
07:30:00 AM	0	0	2	0	1	0	2	0	0	8	1	0	1	15	0	86		
07:35:00 AM	0	0	1	0	0	0	1	0	0	5	0	0	0	14	1	77		
07:40:00 AM	0	0	0	0	1	0	0	0	1	5	0	0	0	23	1	83		
07:45:00 AM	0	0	1	0	0	0	3	0	1	7	0	0	1	15	0	81		
07:50:00 AM	1	0	0	0	0	0	1	0	0	9	0	0	0	14	1	85		
07:55:00 AM	1	0	0	0	0	0	1	0	1	9	1	0	1	13	1	82	297	
08:00:00 AM	0	0	0	0	0	0	0	0	0	9	0	0	1	13	0	77	305	
08:05:00 AM	1	0	0	0	0	1	1	0	0	6	0	0	0	10	1	71	306	
08:10:00 AM	0	0	1	0	0	0	1	0	0	5	0	0	0	10	0	60	301	
08:15:00 AM	0	0	0	0	0	0	2	0	0	11	0	0	0	8	0	58	302	
08:20:00 AM	2	0	0	0	0	0	1	0	0	6	0	0	0	10	0	57	290	
08:25:00 AM	0	0	0	0	0	0	1	0	1	7	1	0	1	15	0	66	291	
08:30:00 AM	1	0	0	0	1	1	0	0	2	6	1	0	0	8	0	65	281	
08:35:00 AM	2	0	2	0	1	0	1	0	1	1	1	0	0	8	0	63	276	
08:40:00 AM	2	0	0	0	0	0	2	0	0	11	2	0	0	13	0	67	275	
08:45:00 AM	1	0	2	0	1	0	1	0	0	13	0	0	0	17	0	82	282	
08:50:00 AM	0	0	0	0	0	0	0	0	1	10	0	0	1	13	0	90	281	
08:55:00 AM	1	0	0	0	0	1	0	0	1	12	0	0	1	14	0	90	283	

Data Provided by K-D-N.com 503-594-4224

N/S street	S Ivy St
E/W street	SE 16th Ave
City, State	Canby OR
Site Notes	
Location	45.249 - -122.686981
Start Date	Tuesday, July 11, 2017
Start Time	07:00:00 AM
Weather	
Study ID #	
Peak Hour Start	07:05:00 AM
Peak 15 Min Start	07:20:00 AM
PHF (15-Min Int)	0.86

Eastbound
SE 16th Ave
Heavy Vehicle 0.0%

In 2
Out 1

U-Turn 0
Left 1
Thru 0
Right 1
Bicycles 0

Southbound
S Ivy St
Heavy Vehicle 1.4%

In 144 Out 298

Bicycles Right Thru Left U-Turn
0 0 140 4 0

Peds 0

S Ivy St at SE 16th Ave

Peak Hour Summary

07:05 AM to 08:05 AM

Bicycles 0
Right 12
Thru 0
Left 3
U-Turn 0

In 15
Out 5

Westbound
SE 16th Ave
Heavy Vehicle 0.0%

In 287 Out 144

Heavy Vehicle 0.3%
S Ivy St
Northbound

Peak-Hour Volumes (PHV)

Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
1	285	1	0	4	140	0	0	1	0	1	0	3	0	12	0	287	144	2	15	144	298	1	5
Percent Heavy Vehicles																							
0.0%	0.4%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	1.4%	0.0%	0.0%	1.4%	0.3%	0.0%	0.0%

PHV- Bicycles

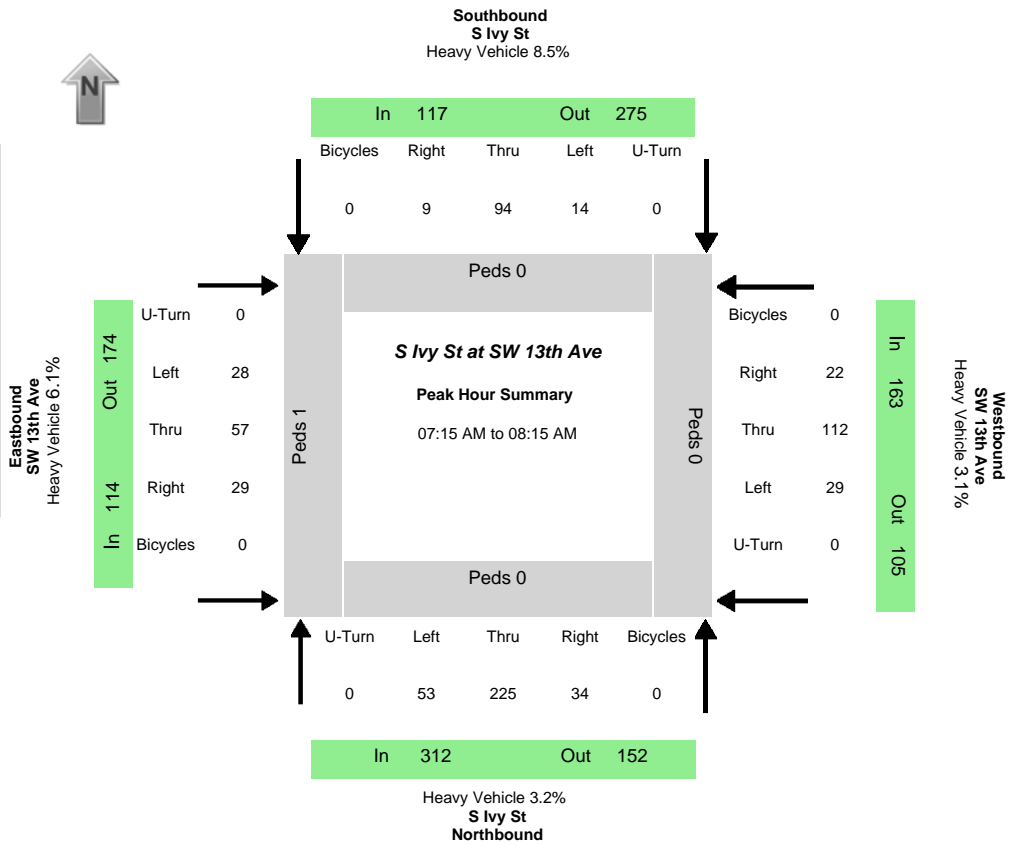
PHV- Bicycles																PHV- Pedestrians					
Northbound				Southbound				Eastbound				Westbound				in Crosswalk					
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

All Vehicle Volumes

Time	Northbound S Ivy St				Southbound S Ivy St				Eastbound SE 16th Ave				Westbound SE 16th Ave				15 Min Sum	1 HR Sum
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		
07:00:00 AM	0	18	0	0	0	13	0	0	0	0	0	0	0	0	0	2		
07:05:00 AM	1	20	0	0	0	14	0	0	0	0	0	0	0	0	1			
07:10:00 AM	0	12	1	0	0	5	0	0	0	0	0	0	0	0	3		90	
07:15:00 AM	0	29	0	0	0	8	0	0	0	0	0	0	0	0	1		95	
07:20:00 AM	0	19	0	0	0	15	0	0	0	0	0	1	0	0	1		96	
07:25:00 AM	0	29	0	0	2	11	0	0	0	0	0	0	0	0	0		117	
07:30:00 AM	0	27	0	0	0	23	0	0	1	0	0	0	0	0	0		130	
07:35:00 AM	0	20	0	0	0	9	0	0	0	0	0	0	0	0	0		122	
07:40:00 AM	0	20	0	0	0	6	0	0	0	0	0	0	0	2			108	
07:45:00 AM	0	37	0	0	0	11	0	0	0	0	0	0	0	1			106	
07:50:00 AM	0	30	0	0	2	8	0	0	0	0	0	0	0	0			117	
07:55:00 AM	0	20	0	0	0	16	0	0	0	0	0	0	1	0	2		128 443	
08:00:00 AM	0	22	0	0	0	14	0	0	0	0	0	0	1	0	1		117 448	
08:05:00 AM	0	27	0	0	0	5	0	0	0	0	0	0	0	0	1		110 445	
08:10:00 AM	0	2	0	0	1	6	0	0	0	0	0	0	0	0	0		80 433	
08:15:00 AM	0	9	0	0	0	7	0	0	0	0	0	0	0	0	1		59 412	
08:20:00 AM	0	39	0	0	0	28	2	0	0	0	0	0	0	0	1		96 445	
08:25:00 AM	0	13	0	0	1	8	0	0	0	0	0	0	0	0	1		110 426	
08:30:00 AM	1	18	1	0	0	12	1	0	0	0	0	0	0	0	0		126 408	
08:35:00 AM	0	24	0	0	0	12	0	0	0	0	0	0	0	0	0		92 415	
08:40:00 AM	0	13	0	0	1	8	0	0	0	0	0	0	0	0	0		91 409	
08:45:00 AM	0	21	0	0	0	15	1	0	0	0	0	0	0	0	0		95 397	
08:50:00 AM	0	30	0	0	1	10	0	0	0	0	0	0	0	0	2		102 400	
08:55:00 AM	0	17	1	0	0	17	0	0	0	0	0	0	0	0	0		115 396	

Data Provided by K-D-N.com 503-594-4224

N/S street	S Ivy St
E/W street	SW 13th Ave
City, State	Canby OR
Site Notes	
Location	45.252157 - -122.686946
Start Date	Tuesday, July 11, 2017
Start Time	07:00:00 AM
Weather	
Study ID #	
Peak Hour Start	07:15:00 AM
Peak 15 Min Start	07:45:00 AM
PHF (15-Min Int)	0.90



Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
53	225	34	0	14	94	9	0	28	57	29	0	29	112	22	0	312	117	114	163	152	275	174	105
Percent Heavy Vehicles																							
0.0%	4.0%	2.9%	0.0%	7.1%	9.6%	0.0%	0.0%	0.0%	10.5%	3.4%	0.0%	0.0%	4.5%	0.0%	0.0%	3.2%	8.5%	6.1%	3.1%	6.6%	3.3%	2.9%	7.6%

PHV - Bicycles												PHV - Pedestrians									
Northbound				Southbound				Eastbound				Westbound				in Crosswalk					
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1

Time	Northbound S Ivy St				Southbound S Ivy St				Eastbound SW 13th Ave				Westbound SW 13th Ave				15 Min Sum	1 HR Sum
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		
07:00:00 AM	0	17	2	0	0	11	0	0	1	0	1	0	2	7	3			
07:05:00 AM	1	20	4	0	2	7	0	0	3	6	1	0	6	8	3			
07:10:00 AM	6	7	2	0	0	4	0	0	0	1	0	0	0	9	0	134		
07:15:00 AM	5	18	2	0	0	5	1	0	0	8	0	0	2	12	1	144		
07:20:00 AM	7	19	3	0	0	7	0	0	0	4	7	0	4	13	3	150		
07:25:00 AM	3	16	3	0	1	3	0	0	2	6	3	0	4	5	1	168		
07:30:00 AM	1	22	4	0	2	12	1	0	2	4	5	0	1	15	1	184		
07:35:00 AM	1	15	3	0	0	9	0	0	4	4	2	0	3	10	1	169		
07:40:00 AM	4	18	1	0	1	5	1	0	4	1	0	0	0	15	2	174		
07:45:00 AM	9	29	3	0	0	8	1	0	2	5	1	0	3	6	1	172		
07:50:00 AM	8	18	3	0	2	11	2	0	6	5	1	0	1	5	2	184		
07:55:00 AM	1	22	1	0	2	9	2	0	3	5	1	0	5	10	3	196	672	
08:00:00 AM	4	18	1	0	1	7	1	0	1	8	3	0	3	12	3	190	690	
08:05:00 AM	6	18	5	0	3	7	0	0	2	3	0	0	2	4	2	178	681	
08:10:00 AM	4	12	5	0	2	11	0	0	2	4	6	0	1	5	2	168	706	
08:15:00 AM	5	5	2	0	0	6	0	0	0	4	2	0	2	2	2	136	682	
08:20:00 AM	2	12	7	0	2	10	0	0	2	4	1	0	4	8	2	138	669	
08:25:00 AM	5	13	2	0	2	8	1	0	2	1	4	0	3	8	2	135	673	
08:30:00 AM	4	17	3	0	1	11	1	0	3	4	2	0	2	4	3	160	658	
08:35:00 AM	3	14	2	0	1	9	0	0	2	1	0	0	3	6	2	149	649	
08:40:00 AM	3	13	3	0	0	4	0	0	4	6	3	0	4	11	3	152	651	
08:45:00 AM	6	13	4	0	2	15	0	0	3	5	5	0	2	13	2	167	653	
08:50:00 AM	5	17	3	0	0	6	1	0	1	7	4	0	2	7	1	178	643	
08:55:00 AM	3	19	1	0	4	12	2	0	0	6	3	0	2	9	3	188	643	

KEY DATA NETWORK

K-D-N.com
 Tualatin, OR 97062
 503-804-3294

Fir St south of 13th

Date Start: 13-Jul-17

Latitude: 0' 0.0000 Undefined
 Longitude: 0' 0.0000 Undefined

SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
07/13/17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
03:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
06:00	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
06:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
07:15	0	4	0	0	0	0	0	0	0	0	0	0	0	0	5
07:30	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
07:45	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
08:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
08:30	0	2	7	0	0	0	0	0	0	0	0	0	0	0	9
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
09:15	0	6	0	0	1	0	0	0	0	0	0	0	0	0	4
09:30	0	12	1	1	1	0	0	0	0	0	0	0	0	0	7
09:45	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
10:00	0	7	2	0	0	0	0	0	0	0	0	0	0	0	9
10:15	0	4	1	0	1	0	0	0	0	0	0	0	0	0	6
10:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
10:45	0	18	3	0	2	0	0	0	0	0	0	0	0	0	23
11:00	0	6	1	0	1	0	0	0	0	0	0	0	0	0	8
11:15	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
11:30	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
11:45	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	2	81	15	1	7	0	0	0	0	0	0	0	0	2	108
Percent	1.9%	75.0%	13.9%	0.9%	6.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	

KEY DATA NETWORK

K-D-N.com
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Fir St south of 13th

Date Start: 13-Jul-17

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SB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
12 PM	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
12:15	0	3	1	0	1	0	0	0	0	0	0	0	0	0	5
12:30	0	9	1	0	1	0	0	0	0	0	0	0	0	1	12
12:45	2	6	0	0	0	0	0	0	0	0	0	0	0	0	8
	2	26	2	0	2	0	0	0	0	0	0	0	0	1	33
13:00	0	11	0	0	0	0	0	0	0	0	0	0	0	0	11
13:15	0	3	1	0	2	0	0	0	0	0	0	0	0	0	6
13:30	0	3	2	0	0	0	0	0	0	0	0	0	0	0	5
13:45	0	9	2	0	0	0	0	0	0	0	0	0	0	0	11
	0	26	5	0	2	0	0	0	0	0	0	0	0	0	33
14:00	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
14:15	1	5	2	0	0	0	0	0	0	0	0	0	0	0	8
14:30	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
14:45	1	4	0	0	0	0	0	0	0	0	0	0	0	0	5
	2	16	3	0	1	0	0	0	0	0	0	0	0	0	22
15:00	1	6	0	0	0	0	0	0	0	0	0	0	0	0	7
15:15	0	9	0	0	1	0	0	0	0	0	0	0	0	0	10
15:30	1	6	1	0	1	0	0	0	0	0	0	0	0	0	9
15:45	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
	2	25	2	0	2	0	0	0	0	0	0	0	0	0	31
16:00	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4
16:15	0	3	1	0	1	0	0	0	0	0	0	0	0	2	7
16:30	0	2	0	0	0	0	0	0	0	0	0	0	0	1	3
16:45	0	8	1	0	0	0	0	0	0	0	0	0	0	1	10
	1	16	2	0	1	0	0	0	0	0	0	0	0	4	24
17:00	0	6	3	0	0	0	0	0	0	0	0	0	0	0	9
17:15	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
17:30	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
17:45	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
	0	15	3	0	1	0	0	0	0	0	0	0	0	0	19
18:00	1	3	3	0	1	0	0	0	0	0	0	0	0	0	8
18:15	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
18:30	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
18:45	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
	1	19	4	0	1	0	0	0	0	0	0	0	0	0	25
19:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
19:15	0	3	1	0	1	0	0	0	0	0	0	0	0	0	5
19:30	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
19:45	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
	0	11	3	0	1	0	0	0	0	0	0	0	0	0	15
20:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
20:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
20:30	0	2	2	0	0	0	0	0	0	0	0	0	0	1	5
20:45	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3
	1	5	4	0	0	0	0	0	0	0	0	0	0	1	11
21:00	0	4	1	0	1	0	0	0	0	0	0	0	0	0	6
21:15	0	5	0	0	1	0	0	0	0	0	0	0	0	0	6
21:30	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
21:45	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
	0	15	2	0	2	0	0	0	0	0	0	0	0	0	19
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	9	176	30	0	13	0	0	0	0	0	0	0	0	6	234
Percent	3.8%	75.2%	12.8%	0.0%	5.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	
Grand Total	11	257	45	1	20	0	0	0	0	0	0	0	0	8	342
Percent	3.2%	75.1%	13.2%	0.3%	5.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	

KEY DATA NETWORK

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 503-804-3294

Fir St south of 13th

Date Start: 13-Jul-17

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NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
07/13/17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2
05:00	1	1	0	0	0	0	0	0	0	0	0	0	0	1	3
05:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4
06:15	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
06:30	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	6	1	0	0	0	0	0	0	0	0	0	0	1	8
07:15	0	12	2	0	0	0	0	0	0	0	0	0	0	1	15
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	1	2	1	0	0	0	0	0	0	0	0	0	0	0	5
08:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
08:30	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
08:45	0	7	0	0	1	0	0	0	0	0	0	0	0	0	8
09:00	0	17	1	0	1	0	0	0	0	0	0	0	0	0	19
09:15	1	3	1	0	0	0	0	0	0	0	0	0	0	0	5
09:30	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4
09:45	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4
10:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
10:15	1	13	5	0	1	0	0	0	0	0	0	0	0	0	20
10:30	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
10:45	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
11:00	0	3	3	0	1	0	0	0	0	0	0	0	0	0	7
11:15	0	7	2	0	0	0	0	0	0	0	0	0	0	2	11
11:30	0	21	6	0	1	0	0	0	0	0	0	0	0	2	30
11:45	0	9	2	0	0	0	0	0	0	0	0	0	0	0	11
11:55	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
12:00	0	6	1	0	0	0	0	0	0	0	0	0	0	1	8
12:05	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
12:10	0	23	5	0	0	0	0	0	0	0	0	0	0	1	29
Total	3	95	23	0	3	1	0	0	0	0	0	0	0	6	131
Percent	2.3%	72.5%	17.6%	0.0%	2.3%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.6%	

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NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
12 PM	0	8	0	0	1	0	0	0	0	0	0	0	0	0	9
12:15	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
12:30	0	7	2	0	0	0	0	0	0	0	0	0	0	0	9
12:45	0	8	2	0	0	0	0	0	0	0	0	0	0	0	10
	0	29	4	0	1	0	0	0	0	0	0	0	0	0	34
13:00	1	2	1	0	1	0	0	0	0	0	0	0	0	1	6
13:15	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
13:30	0	6	1	0	1	0	0	0	0	0	0	0	0	0	8
13:45	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
	1	15	4	0	2	0	0	0	0	0	0	0	0	1	23
14:00	0	8	1	0	0	0	0	0	0	0	0	0	0	0	9
14:15	0	6	3	0	2	0	0	0	0	0	0	0	0	2	13
14:30	0	5	1	0	1	0	0	0	0	0	0	0	0	0	7
14:45	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
	0	25	5	0	3	0	0	0	0	0	0	0	0	2	35
15:00	1	6	0	0	0	0	0	0	0	0	0	0	0	0	7
15:15	0	4	0	0	1	0	0	0	0	0	0	0	0	0	5
15:30	0	5	0	0	1	0	0	0	0	0	0	0	0	0	6
15:45	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
	1	19	1	0	2	0	0	0	0	0	0	0	0	0	23
16:00	1	5	1	0	0	0	0	0	0	0	0	0	0	0	7
16:15	0	3	1	0	0	0	0	0	0	0	0	0	0	3	7
16:30	2	1	2	0	0	0	0	0	0	0	0	0	0	0	5
16:45	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
	3	15	5	0	0	0	0	0	0	0	0	0	0	3	26
17:00	3	6	0	0	0	0	0	0	0	0	0	0	0	0	9
17:15	1	2	1	0	0	0	0	0	0	0	0	0	0	0	4
17:30	2	4	0	0	0	0	0	0	0	0	0	0	0	0	6
17:45	4	6	0	0	0	0	0	0	0	0	0	0	0	0	10
	10	18	1	0	0	0	0	0	0	0	0	0	0	0	29
18:00	2	6	2	0	0	0	0	0	0	0	0	0	0	0	10
18:15	3	5	0	0	0	0	0	0	0	0	0	0	0	0	8
18:30	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
18:45	0	6	2	0	0	0	0	0	0	0	0	0	0	0	8
	5	22	6	0	0	0	0	0	0	0	0	0	0	0	33
19:00	0	8	1	0	0	0	0	0	0	0	0	0	0	0	9
19:15	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
19:30	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
19:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	0	14	1	0	0	0	0	0	0	0	0	0	0	0	15
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
20:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
20:30	0	3	3	0	0	0	0	0	0	0	0	0	0	0	6
20:45	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
	0	7	4	0	0	0	0	0	0	0	0	0	0	0	11
21:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
21:15	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
21:30	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
21:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	1	7	2	0	0	0	0	0	0	0	0	0	0	0	10
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
22:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	21	174	33	0	8	0	0	0	0	0	0	0	0	6	242
Percent	8.7%	71.9%	13.6%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	
Grand Total	24	269	56	0	11	1	0	0	0	0	0	0	0	12	373
Percent	6.4%	72.1%	15.0%	0.0%	2.9%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	

KEY DATA NETWORK

K-D-N.com
 Tualatin, OR 97062
 503-804-3294

Fir St south of SW 13th

Date Start: 12-Jul-17

Latitude: 0' 0.0000 Undefined
 Longitude: 0' 0.0000 Undefined

SB

Start Time	1 20	21 22	23 24	25 26	27 28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 999	Total	85th Percent	95th Percent
07/12/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	19	0	0	0	0	0	0	0	0	0	0	0	0	0	19	17	19
13:00	24	1	0	0	0	0	0	0	0	0	0	0	0	0	25	17	19
14:00	19	1	0	0	0	0	0	0	0	0	0	0	0	0	20	17	20
15:00	21	2	1	0	0	0	0	0	0	0	0	0	0	0	24	19	21
16:00	18	1	0	0	0	0	0	0	0	0	0	0	0	0	19	17	20
17:00	21	1	0	0	0	0	0	0	0	0	0	0	0	0	22	17	19
18:00	19	0	0	0	0	0	0	0	0	0	0	0	0	0	19	17	19
19:00	19	1	0	0	0	0	0	0	0	0	0	0	0	0	20	17	20
20:00	17	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17	19
21:00	13	0	0	0	0	0	0	0	0	0	0	0	0	0	13	16	19
22:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	17	19
23:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	17	19
Total	195	7	1	0	0	0	0	0	0	0	0	0	0	0	203		
Percent	96.1%	3.4%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak Vol.																	
PM Peak Vol.	13:00 24	15:00 2	15:00 1												13:00 25		

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Fir St south of SW 13th

Date Start: 12-Jul-17

Latitude: 0' 0.0000 Undefined
Longitude: 0' 0.0000 Undefined

SB

Start Time	1 20	21 22	23 24	25 26	27 28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 999	Total	85th Percent	95th Percent
07/13/17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	17	19
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7	16	19
06:00	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	17	19
07:00	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9	16	19
08:00	15	0	0	0	0	0	0	0	0	0	0	0	0	0	15	17	19
09:00	21	2	0	0	0	0	0	0	0	0	0	0	0	0	23	18	20
10:00	19	0	0	0	0	0	0	0	0	0	0	0	0	0	19	17	19
11:00	23	2	1	0	0	0	0	0	0	0	0	0	0	0	26	19	21
12 PM	33	0	0	0	0	0	0	0	0	0	0	0	0	0	33	16	19
13:00	32	0	0	1	0	0	0	0	0	0	0	0	0	0	33	17	19
14:00	22	0	0	0	0	0	0	0	0	0	0	0	0	0	22	17	19
15:00	31	0	0	0	0	0	0	0	0	0	0	0	0	0	31	17	19
16:00	21	2	1	0	0	0	0	0	0	0	0	0	0	0	24	19	21
17:00	16	2	0	1	0	0	0	0	0	0	0	0	0	0	19	20	24
18:00	25	0	0	0	0	0	0	0	0	0	0	0	0	0	25	17	19
19:00	14	1	0	0	0	0	0	0	0	0	0	0	0	0	15	18	20
20:00	10	1	0	0	0	0	0	0	0	0	0	0	0	0	11	18	20
21:00	18	0	1	0	0	0	0	0	0	0	0	0	0	0	19	17	22
22:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	23	23
Total	326	10	4	2	0	0	0	0	0	0	0	0	0	0	342		
Percent	95.3%	2.9%	1.2%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	09:00	11:00												11:00		
Vol.	23	2	1												26		
PM Peak	12:00	16:00	16:00	13:00											12:00		
Vol.	33	2	1	1											33		
Grand Total	521	17	5	2	0	0	0	0	0	0	0	0	0	0	545		
Percent	95.6%	3.1%	0.9%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 3 MPH
50th Percentile : 10 MPH
85th Percentile : 17 MPH
95th Percentile : 19 MPH

Statistics
10 MPH Pace Speed : 1-10 MPH
Number in Pace : 261
Percent in Pace : 47.9%
Number of Vehicles > 35 MPH : 0
Percent of Vehicles > 35 MPH : 0.0%
Mean Speed(Average) : 11 MPH

KEY DATA NETWORK

K-D-N.com
 Tualatin, OR 97062
 503-804-3294

Fir St south of SW 13th

Date Start: 12-Jul-17

Latitude: 0' 0.0000 Undefined
 Longitude: 0' 0.0000 Undefined

NB

Start Time	1 20	21 22	23 24	25 26	27 28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 999	Total	85th Percent	95th Percent
07/12/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	18	0	0	0	0	0	0	0	0	0	0	0	0	0	18	16	19
13:00	25	0	0	0	0	0	0	0	0	0	0	0	0	0	25	17	19
14:00	31	0	0	0	0	0	0	0	0	0	0	0	0	0	31	17	19
15:00	17	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17	19
16:00	17	1	0	0	0	0	0	0	0	0	0	0	0	0	18	18	20
17:00	23	0	0	0	0	0	0	0	0	0	0	0	0	0	23	17	19
18:00	23	0	0	0	0	0	0	0	0	0	0	0	0	0	23	17	19
19:00	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11	17	19
20:00	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11	17	19
21:00	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	17	19
22:00	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	17	19
23:00	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	17	19
Total	188	1	0	0	0	0	0	0	0	0	0	0	0	0	189		
Percent	99.5%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak Vol.																	
PM Peak Vol.	14:00 31	16:00 1															
															14:00 31		

KEY DATA NETWORK

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Tualatin, OR 97062
503-804-3294

Fir St south of SW 13th

Date Start: 12-Jul-17

Latitude: 0' 0.0000 Undefined
Longitude: 0' 0.0000 Undefined

NB	Start Time	1 20	21 22	23 24	25 26	27 28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 999	Total	85th Percent	95th Percent
07/13/17		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
01:00		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00		1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19
04:00		3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	17	19
05:00		4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	17	19
06:00		15	0	0	0	0	0	0	0	0	0	0	0	0	0	15	17	19
07:00		10	0	0	0	0	0	0	0	0	0	0	0	0	0	10	17	19
08:00		19	0	0	0	0	0	0	0	0	0	0	0	0	0	19	17	19
09:00		20	0	0	0	0	0	0	0	0	0	0	0	0	0	20	17	19
10:00		29	1	0	0	0	0	0	0	0	0	0	0	0	0	30	17	19
11:00		29	0	0	0	0	0	0	0	0	0	0	0	0	0	29	17	19
12 PM		34	0	0	0	0	0	0	0	0	0	0	0	0	0	34	17	19
13:00		22	1	0	0	0	0	0	0	0	0	0	0	0	0	23	17	19
14:00		35	0	0	0	0	0	0	0	0	0	0	0	0	0	35	17	19
15:00		23	0	0	0	0	0	0	0	0	0	0	0	0	0	23	17	19
16:00		26	0	0	0	0	0	0	0	0	0	0	0	0	0	26	16	19
17:00		29	0	0	0	0	0	0	0	0	0	0	0	0	0	29	17	19
18:00		33	0	0	0	0	0	0	0	0	0	0	0	0	0	33	16	19
19:00		15	0	0	0	0	0	0	0	0	0	0	0	0	0	15	17	19
20:00		11	0	0	0	0	0	0	0	0	0	0	0	0	0	11	17	19
21:00		10	0	0	0	0	0	0	0	0	0	0	0	0	0	10	17	19
22:00		2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	17	19
23:00		1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19
Total		371	2	0	0	0	0	0	0	0	0	0	0	0	0	373		
Percent		99.5%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	10:00														10:00		
Vol.	29	1														30		
PM Peak	14:00	13:00														14:00		
Vol.	35	1														35		
Grand Total		559	3	0	0	0	0	0	0	0	0	0	0	0	0	562		
Percent		99.5%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 3 MPH
50th Percentile : 10 MPH
85th Percentile : 17 MPH
95th Percentile : 19 MPH

Statistics
10 MPH Pace Speed : 11-20 MPH
Number in Pace : 279
Percent in Pace : 49.6%
Number of Vehicles > 35 MPH : 0
Percent of Vehicles > 35 MPH : 0.0%
Mean Speed(Average) : 11 MPH

KEY DATA NETWORK

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 Tualatin, OR 97062
 503-804-3294

Fir St south of 13th

Date Start: 7/12/2017

Latitude: 0' 0.0000 Undefined
 Longitude: 0' 0.0000 Undefined

Start Time	7/12/2017 Wed	SB	NB	Combined Total	
12:00 AM		*	*	*	
01:00		*	*	*	
02:00		*	*	*	
03:00		*	*	*	
04:00		*	*	*	
05:00		*	*	*	
06:00		*	*	*	
07:00		*	*	*	
08:00		*	*	*	
09:00		*	*	*	
10:00		*	*	*	
11:00		*	*	*	
12:00 PM		19	18	37	
01:00		25	25	50	
02:00		20	31	51	
03:00		24	17	41	
04:00		19	18	37	
05:00		22	23	45	
06:00		19	23	42	
07:00		20	11	31	
08:00		17	11	28	
09:00		13	4	17	
10:00		3	4	7	
11:00		2	4	6	
Total		203	189	392	
Percent		51.8%	48.2%		

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Fir St south of 13th

Date Start: 7/12/2017

Latitude: 0' 0.0000 Undefined
 Longitude: 0' 0.0000 Undefined

Start Time	7/13/2017 Thu	SB	NB	Combined Total	
12:00 AM		0	0	0	
01:00		0	0	0	
02:00		0	0	0	
03:00		4	1	5	■
04:00		0	3	3	■
05:00		7	4	11	■
06:00		5	15	20	■
07:00		9	10	19	■
08:00		15	19	34	■
09:00		23	20	43	■
10:00		19	30	49	■
11:00		26	29	55	■
12:00 PM		33	34	67	■
01:00		33	23	56	■
02:00		22	35	57	■
03:00		31	23	54	■
04:00		24	26	50	■
05:00		19	29	48	■
06:00		25	33	58	■
07:00		15	15	30	■
08:00		11	11	22	■
09:00		19	10	29	■
10:00		1	2	3	■
11:00		1	1	2	■
Total		342	373	715	
Percent		47.8%	52.2%		
Grand Total		545	562		
Percentage		49.2%	50.8%		

ADT

ADT 627

AADT 627



APPENDIX C

Existing (2017) Level of Service Worksheet

HCM Signalized Intersection Capacity Analysis
 1: S Ivy Street & SW 13th Avenue

Existing No Project
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	177	99	104	141	61	50	205	43	59	243	36
Future Volume (vph)	34	177	99	104	141	61	50	205	43	59	243	36
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.95		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1623		1630	1638		1630	1671		1630	1682	
Flt Permitted	0.61	1.00		0.46	1.00		0.58	1.00		0.57	1.00	
Satd. Flow (perm)	1042	1623		791	1638		998	1671		985	1682	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	35	184	103	108	147	64	52	214	45	61	253	38
RTOR Reduction (vph)	0	41	0	0	32	0	0	12	0	0	8	0
Lane Group Flow (vph)	35	246	0	108	179	0	52	247	0	61	283	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	11.4	11.4		11.4	11.4		22.0	20.5		23.8	21.4	
Effective Green, g (s)	11.4	11.4		11.4	11.4		22.0	20.5		23.8	21.4	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.46	0.43		0.50	0.45	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	248	387		188	390		479	716		522	753	
v/s Ratio Prot		c0.15			0.11		0.00	0.15		c0.01	c0.17	
v/s Ratio Perm	0.03			0.14			0.05			0.05		
v/c Ratio	0.14	0.64		0.57	0.46		0.11	0.34		0.12	0.38	
Uniform Delay, d1	14.3	16.3		16.1	15.6		7.2	9.1		6.3	8.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	3.0		3.5	0.6		0.1	1.3		0.1	1.4	
Delay (s)	14.5	19.3		19.5	16.2		7.3	10.5		6.3	10.2	
Level of Service	B	B		B	B		A	B		A	B	
Approach Delay (s)		18.8			17.3			9.9			9.5	
Approach LOS		B			B			A			A	

Intersection Summary




HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	47.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	292	12	8	207	10	4	0	7	4	0	3
Future Vol, veh/h	28	292	12	8	207	10	4	0	7	4	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	321	13	9	227	11	4	0	8	4	0	3
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	238	0	0	334	0	0	641	645	327	644	647	233
Stage 1	-	-	-	-	-	-	389	389	-	251	251	-
Stage 2	-	-	-	-	-	-	252	256	-	393	396	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1329	-	-	1225	-	-	388	391	714	386	390	806
Stage 1	-	-	-	-	-	-	635	608	-	753	699	-
Stage 2	-	-	-	-	-	-	752	696	-	632	604	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1329	-	-	1225	-	-	376	377	714	371	376	806
Mov Cap-2 Maneuver	-	-	-	-	-	-	376	377	-	371	376	-
Stage 1	-	-	-	-	-	-	617	590	-	731	693	-
Stage 2	-	-	-	-	-	-	743	690	-	607	586	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.3			11.8			12.6		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	538	1329	-	-	1225	-	-	483				
HCM Lane V/C Ratio	0.022	0.023	-	-	0.007	-	-	0.016				
HCM Control Delay (s)	11.8	7.8	0	-	8	0	-	12.6				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0				

Intersection

Int Delay, s/veh 0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	11	288	8	8	416
Future Vol, veh/h	2	11	288	8	8	416
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	12	316	9	9	457

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	796	321	0	0	325	0
Stage 1	321	-	-	-	-	-
Stage 2	475	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	356	720	-	-	1235	-
Stage 1	735	-	-	-	-	-
Stage 2	626	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	352	720	-	-	1235	-
Mov Cap-2 Maneuver	352	-	-	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	620	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	10.9		0		0.1
HCM LOS	B				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 620	1235	-
HCM Lane V/C Ratio	-	- 0.023	0.007	-
HCM Control Delay (s)	-	- 10.9	7.9	0
HCM Lane LOS	-	- B	A	A
HCM 95th %tile Q(veh)	-	- 0.1	0	-



APPENDIX D

Future (2035) Plus Project Level of Service Worksheet

HCM Signalized Intersection Capacity Analysis
1: S Ivy Street & SW 13th Avenue

Future 2035 Plus Project
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	304	72	161	320	79	134	228	161	207	321	6
Future Volume (vph)	28	304	72	161	320	79	134	228	161	207	321	6
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.94		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1666		1630	1665		1630	1609		1630	1711	
Flt Permitted	0.30	1.00		0.34	1.00		0.51	1.00		0.37	1.00	
Satd. Flow (perm)	523	1666		578	1665		867	1609		637	1711	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	29	317	75	168	333	82	140	238	168	216	334	6
RTOR Reduction (vph)	0	16	0	0	17	0	0	45	0	0	1	0
Lane Group Flow (vph)	29	376	0	168	398	0	140	361	0	216	339	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	16.6	16.6		16.6	16.6		23.4	19.9		25.4	20.9	
Effective Green, g (s)	16.6	16.6		16.6	16.6		23.4	19.9		25.4	20.9	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.43	0.37		0.47	0.38	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	159	507		176	507		421	587		378	656	
v/s Ratio Prot		0.23			0.24		0.02	c0.22		c0.05	0.20	
v/s Ratio Perm	0.06			c0.29			0.12			0.22		
v/c Ratio	0.18	0.74		0.95	0.79		0.33	0.61		0.57	0.52	
Uniform Delay, d1	14.0	17.0		18.6	17.3		9.7	14.2		9.4	12.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	5.5		54.2	7.6		0.3	4.8		1.7	2.9	
Delay (s)	14.4	22.5		72.7	24.9		10.1	18.9		11.1	15.8	
Level of Service	B	C		E	C		B	B		B	B	
Approach Delay (s)		22.0			38.7			16.7			14.0	
Approach LOS		C			D			B			B	

Intersection Summary

HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	54.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	381	105	15	336	101	21	19	1	0	7	6
Future Vol, veh/h	37	381	105	15	336	101	21	19	1	0	7	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	419	115	16	369	111	23	21	1	0	8	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	480	0	0	534	0	0	1023	1071	476	1027	1073	425
Stage 1	-	-	-	-	-	-	558	558	-	458	458	-
Stage 2	-	-	-	-	-	-	465	513	-	569	615	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1082	-	-	1034	-	-	214	221	589	213	220	629
Stage 1	-	-	-	-	-	-	514	512	-	583	567	-
Stage 2	-	-	-	-	-	-	578	536	-	507	482	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1082	-	-	1034	-	-	194	204	589	185	204	629
Mov Cap-2 Maneuver	-	-	-	-	-	-	194	204	-	185	204	-
Stage 1	-	-	-	-	-	-	486	484	-	551	555	-
Stage 2	-	-	-	-	-	-	552	525	-	458	455	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.3	27.9	17.8
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	202	1082	-	-	1034	-	-	296
HCM Lane V/C Ratio	0.223	0.038	-	-	0.016	-	-	0.048
HCM Control Delay (s)	27.9	8.5	0	-	8.5	0	-	17.8
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0	-	-	0.2

Intersection

Int Delay, s/veh 0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	21	501	7	26	479
Future Vol, veh/h	6	21	501	7	26	479
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	23	551	8	29	526

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1138	554	0	0	558	0
Stage 1	554	-	-	-	-	-
Stage 2	584	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	223	532	-	-	1013	-
Stage 1	575	-	-	-	-	-
Stage 2	557	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	214	532	-	-	1013	-
Mov Cap-2 Maneuver	214	-	-	-	-	-
Stage 1	575	-	-	-	-	-
Stage 2	535	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	14.7		0		0.4
HCM LOS	B				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	400	1013
HCM Lane V/C Ratio	-	-	0.074	0.028
HCM Control Delay (s)	-	-	14.7	8.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

Intersection

Intersection Delay (sec/veh): 0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	41	0	31	0	0	0	4	420	0	0	388	52
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade (%)		0%			0%			0%			0%	
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
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	45	0	34	0	0	0	4	457	0	0	422	57
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Minor 1		Minor 1		Major 1		Major 2					
Conflicting Flow Rate - All	915	915	450	-	943	-	478	0	-	-	0	0
Stage 1	450	450	0	-	465	-	0	0	-	-	0	0
Stage 2	465	465	0	-	478	-	0	0	-	-	0	0
Follow-up Headway	3.518	4.018	3.318	-	4.018	-	2.218	-	-	-	0	0
Pot Capacity-1 Maneuver	253	273	609	-	263	-	1083	-	-	-	-	-
Stage 1	589	572	-	-	563	-	-	-	-	-	-	-
Stage 2	578	563	-	-	556	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	-	271.9	609	-	261.9	-	1083	-	-	-	-	-
Mov Capacity-2 Maneuver	-	271.9	-	-	261.9	-	-	-	-	-	-	-
Stage 1	589	0	-	-	560.7	-	-	-	-	-	-	-
Stage 2	575.7	560.7	-	-	0	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	-	0	0.1	0
HCM LOS	-	A	A	A

Lane	NBL	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (vph)			-	-		
HCM Control Delay (s)	8.337	0	-	0	-	-
HCM Lane VC Ratio	0.004	-	-	-	0	-
HCM Lane LOS	A	-	-	A	-	-
HCM 95th Percentile Queue (veh)	0.012	-	-	-	0	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	1	0	30	99	10
Future Vol, veh/h	3	1	0	30	99	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	1	0	33	108	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	146	113	118	0	-	0
Stage 1	113	-	-	-	-	-
Stage 2	33	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	846	940	1470	-	-	-
Stage 1	912	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	846	940	1470	-	-	-
Mov Cap-2 Maneuver	846	-	-	-	-	-
Stage 1	912	-	-	-	-	-
Stage 2	989	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1470	-	868	-	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	0	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	1	0	22	83	7
Future Vol, veh/h	3	1	0	22	83	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	1	0	24	90	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	118	94	98	0	-	0
Stage 1	94	-	-	-	-	-
Stage 2	24	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	878	963	1495	-	-	-
Stage 1	930	-	-	-	-	-
Stage 2	999	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	878	963	1495	-	-	-
Mov Cap-2 Maneuver	878	-	-	-	-	-
Stage 1	930	-	-	-	-	-
Stage 2	999	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

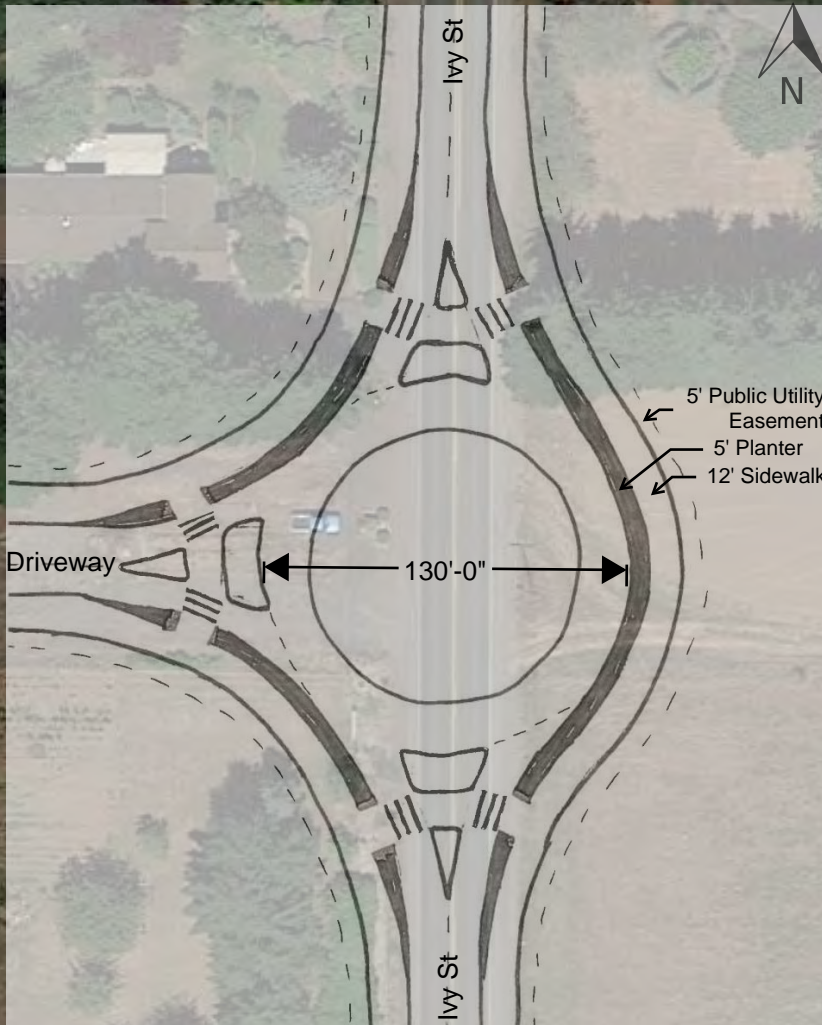
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1495	-	898	-	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	0	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	4	0	0	0	6	0	11	4	44	25	11
Future Vol, veh/h	3	4	0	0	0	6	0	11	4	44	25	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	4	0	0	0	7	0	12	4	48	27	12
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	146	145	33	145	149	14	39	0	0	16	0	0
Stage 1	129	129	-	14	14	-	-	-	-	-	-	-
Stage 2	17	16	-	131	135	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	823	746	1041	824	743	1066	1571	-	-	1602	-	-
Stage 1	875	789	-	1006	884	-	-	-	-	-	-	-
Stage 2	1002	882	-	873	785	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	799	723	1041	801	720	1066	1571	-	-	1602	-	-
Mov Cap-2 Maneuver	799	723	-	801	720	-	-	-	-	-	-	-
Stage 1	875	765	-	1006	884	-	-	-	-	-	-	-
Stage 2	996	882	-	841	761	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.8			8.4			0			4		
HCM LOS	A			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1571	-	-	754	1066	1602	-	-				
HCM Lane V/C Ratio	-	-	-	0.01	0.006	0.03	-	-				
HCM Control Delay (s)	0	-	-	9.8	8.4	7.3	0	-				
HCM Lane LOS	A	-	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0	0.1	-	-				



APPENDIX E

Roundabout Sketch



209

Scale | 50'-0" |



APPENDIX F

Transportation Planning Rule (TPR) Evaluation



Transportation Planning Rule (TPR) Evaluation

This memorandum summarizes how the requirements of Oregon Administrative Rule (OAR) 660-012-0060, the Transportation Planning Rule (TPR), are met for the proposed zone changes within the Stafford Development Concept Plan Area in Canby, Oregon. The following section describes the land use applications consistency with both the City's Comprehensive Plan and Transportation System Plan.

Transportation Planning Rule Findings

The Stafford Development Concept Plan Area is located inside Canby's Urban Growth Boundary (UGB) in unincorporated Clackamas County. The area is proposed to have a mix of zoning types through annexation to the City of Canby, which is consistent with the City's adopted Comprehensive Plan designation.

The requirements of Oregon Administrative Rule (OAR) 660-012-0060, the Transportation Planning Rule (TPR), must be met for proposed changes in land use zoning. The intent of the TPR (OAR 660-12-0060) is to ensure that future land use and traffic growth is consistent with transportation system planning, and does not create a significant impact on the surrounding transportation system beyond currently allowed uses. The TPR allows a change in land use zoning in the event that a zone change would make the designation consistent with both the Comprehensive Plan and the Transportation System Plan. The allowance (found in Section 9) was added to the TPR in December 2011 and fits the circumstances of the project parcels. Specifically, section 9 states:

Notwithstanding section (1) of this rule, a local government may find that an amendment to a zoning map does not significantly affect an existing or planned transportation facility if all of the following requirements are met.

- (a) The proposed zoning is consistent with the existing comprehensive plan map designation and the amendment 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 subject to the zoning map amendment was not exempted from this rule at the time of an urban growth boundary amendment as permitted in OAR 660-024-0020(1)(d), or the area was exempted from this rule but the local government has a subsequently acknowledged TSP amendment that accounted for urbanization of the area

The City of Canby makes the finding that all three criteria are satisfied; therefore, the proposed rezone will not have a significant effect on the transportation system. The proposed rezoning is consistent with the existing comprehensive plan map designation as shown in Table 1. Additionally, the transportation assessment performed as part of the City's TSP and Stafford Development Concept Plan account for the proposed uses

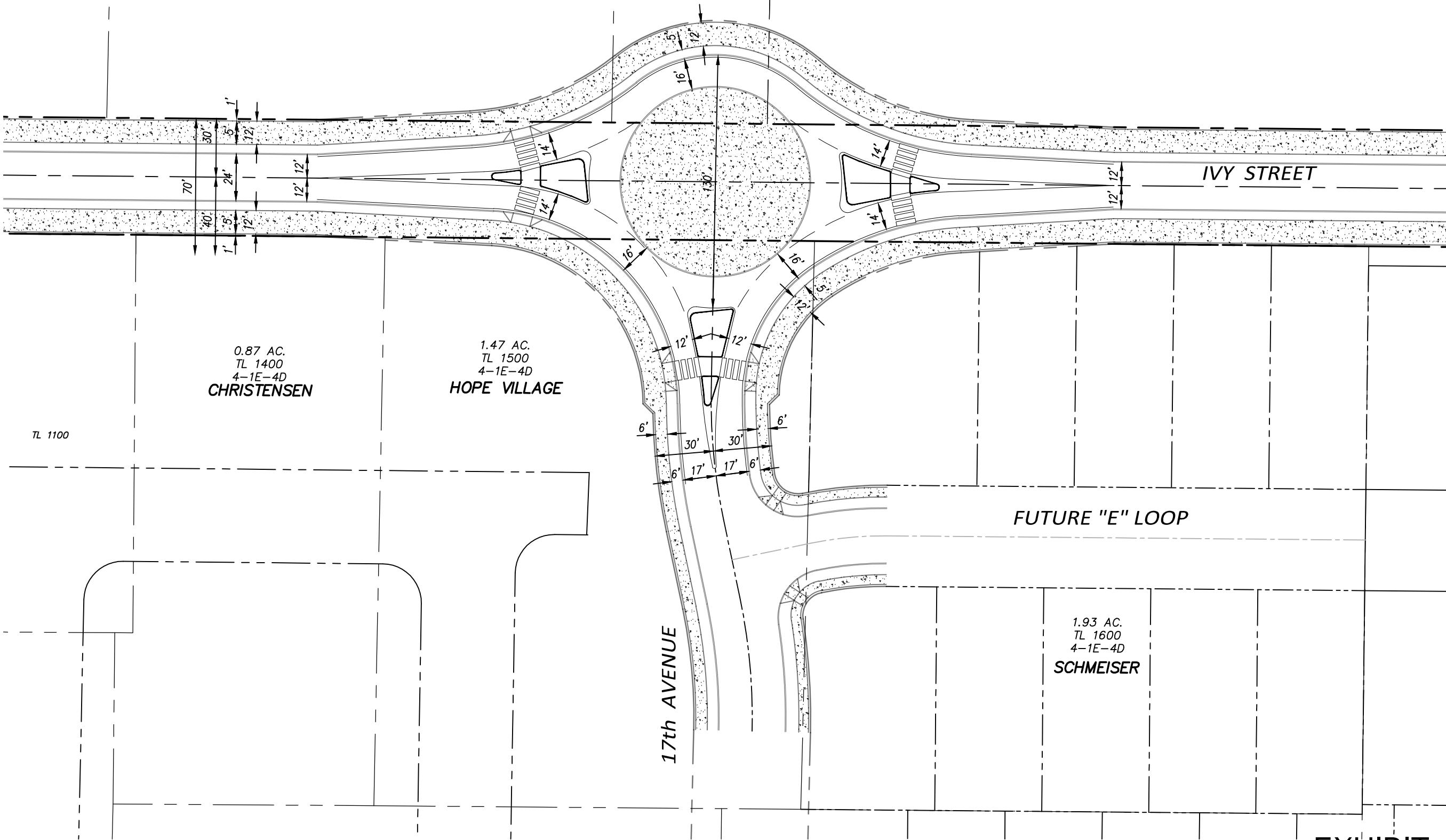
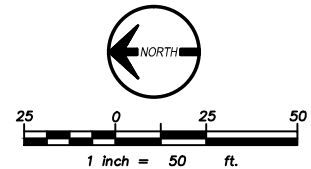


related to annexation of the Stafford Development Area, therefore the proposed rezoning is consistent with the acknowledged transportation system plan. Lastly, subsection (c) applies if the area was added to the urban growth boundary (UGB). Since the parcels are already within the UGB, provisions from subsection (c) would not apply.

Table 1: Land Use Summary

Tax Lots	City of Canby Comprehensive Plan Land Use	Proposed Land Use
1500, 1600, 1602, 1800, 2000	R-1 (Low Density Residential)	R-1 (Low Density Residential)
1401, 1500, 1400, 1700, 1600	R-1.5 (Medium Density Residential)	R-1.5 (Medium Density Residential)
1700	R-2 (High Density Residential)	R-2 (High Density Residential)
1400, 1500	C-R (Residential Commercial)	C-R (Residential Commercial)

IVY STREET & 17th AVENUE ROUNDABOUT



SOUTHWEST CANBY
TAX MAP T4S, R1E, SECTION 4
SEC. 4C, LOTS 1401, 1600, 1602 & 1600
SEC. 4D, LOTS 900, 1000, 1100, 1101, 1400, 1500, 1600, 1700, 1800 & 2000
SEC. 4CA, LOTS 1400, 1500 & 1600
CITY OF CANBY, OREGON

STAFFORD
DEVELOPMENT COMPANY, LLC
485 SOUTH STATE STREET
LAKE OSWEGO, OREGON 97034

IVY ST. & 17th AVE.
17th AVENUE
ROUNDABOUT

REVISIONS	
NO.	DATE
1	2-12-17

PLANNING & LAND DESIGN
1862 NE ESTATE DRIVE
HILLSBORO, OREGON 97124
RYAN O'BRIEN
(503) 780-4061

SHEET
9

EXHIBIT 15

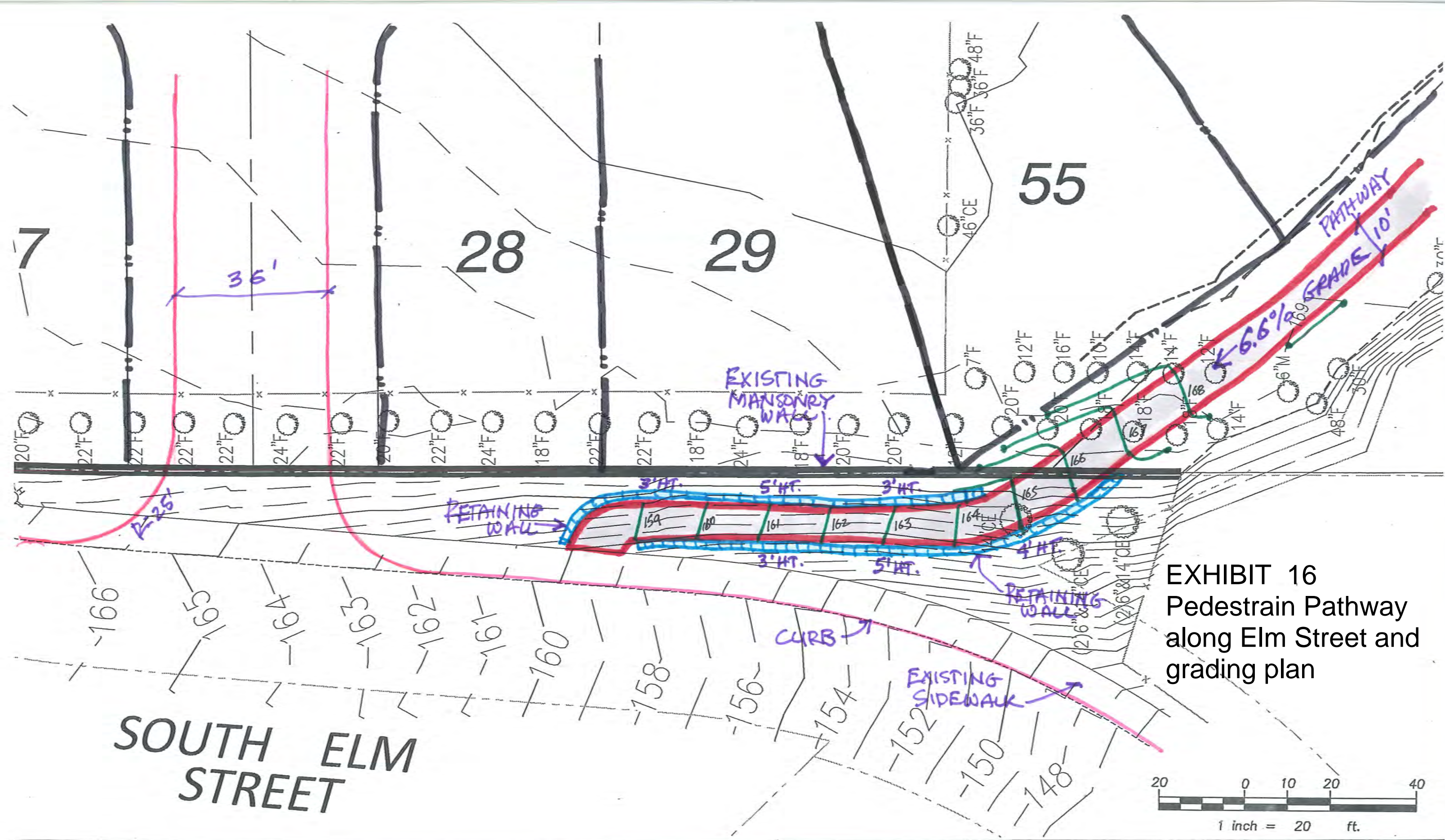
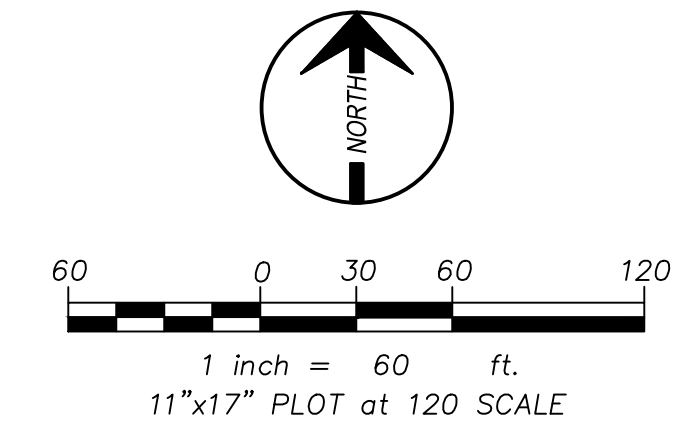


EXHIBIT 16
Pedestrian Pathway
along Elm Street and
grading plan

12-22-17

PEDESTRIAN PATHWAY ALONG TOP OF BANK & S. IVY STREET



UGB BOUNDARY AT
TOP OF 18% BANK

UGB

EXHIBIT 17

SOUTHWEST CANBY
TAX MAP T4S, R1E, SECTION 4
SEC. 4C, LOTS 1401, 1600, 1602 & 1600
SEC. 4D, LOTS 900, 1000, 1100, 1400, 1500, 1600, 1700, 1800 & 2000
SEC. 4CA, LOTS 1400, 1500 & 1600
CITY OF CANBY, OREGON

STAFFORD
DEVELOPMENT COMPANY, LLC
486 SOUTH STATE STREET
LAKE OSWEGO, OREGON 97034

PEDESTRIAN PATHWAY
ALONG TOP OF BANK
& S. IVY STREET

NO.	DATE	REVISIONS	DESCRIPTION

PLANNING & LAND DESIGN
1862 NE ESTATE DRIVE
HILLSBORO, OREGON 97124
RYAN O'BRIEN
(503)780-4061

SHEET
OF

Laney Fouse

From: Laney Fouse
Sent: Thursday, December 07, 2017 9:33 AM
To: PublicComments
Subject: FW: Request for Comments Form attached

From: Todd Gary [mailto:tgary@canbyfire.org]
Sent: Thursday, December 07, 2017 9:29 AM
To: Laney Fouse <FouseL@canbyoregon.gov>
Subject: Re: Request for Comments Form attached

Canby Fire ok with annexation will make comments on access, fire flow and OFC requirements before development starts

Sent from my iPhone

PUBLIC RECORDS LEGAL DISCLOSURE

This email is a public record of the City of Canby, Oregon, and is subject to public disclosure unless exempt from disclosure under Oregon Public Records Law. This email is subject to the State Retention Schedule.

Laney Fouse

From: Tom Scott <tomscott@scott-investments.com>
Sent: Thursday, December 07, 2017 12:00 PM
To: Laney Fouse; Bryan Brown
Subject: ANN 17-02/ZC 17-03

Hi Bryan,

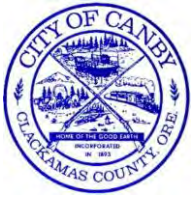
I received notice of this annexation and ZC hearing as I own two properties on S. Fir Street. The letter mentions the adoption of a SW Canby Development concept plan. I was aware that a concept plan is required for this area prior to annexation, however I was not aware a concept plan had been designed. If a concept plan affecting my properties has been designed I certainly was not notified nor able to comment. Could you clarify?

Also, I would like a copy of the staff report emailed once it becomes available.

Thanks,

Tom Scott
Scott Investment Companies
130 SW 2nd Avenue - Suite 103
Canby, Oregon 97013
503-266-5488
503-266-4570 fax





City of Canby

PUBLIC HEARING NOTICE & REQUEST FOR COMMENTS FORM
City File No.: ANN 17-02/ZC 17-03
Project Name: SOUTHWEST CANBY DCP, ANNEXATION, & ZONE CHANGE STAFFORD DEVELOPMENT
PUBLIC HEARING DATES: PC- January 8, 2018
CC – February 7, 2018

The purpose of this Notice is to invite you to the Planning Commission and City Council Public Hearings and to request your written comments regarding Annexation and Zoning Map Amendment applications (ANN 17-02/ZC 17-03). Applicant proposes to annex and re-zone in accordance with the Canby Comprehensive Plan, properties located in an unincorporated area of Clackamas County southwest of Canby, and adopt the Southwest Canby Development Concept Plan. Both Public Hearings will be held in the Council Chambers, at 222 NE 2nd Ave, Canby, OR 97013. **The Planning Commission will meet at 7:00 PM, January 8, 2018. The City Council will meet at 7:30 PM, February 7, 2018.**



Location: 1547, 1555, & 1715 S Fir St; 1701, 1735 & 1841 S Ivy St, & No Situs (See properties hatched in red on map at left).
Tax Lots: 41E04C1401; 41E04CA1600; 41E04C1500; 41E04CA1500; 41E04D1400; 41E04D1500; & 41E04D1600.
Lot Size & Zoning: 23.72 Acres, zoned EFU (Exclusive Farm Use),
Property Owners: Rodney & Carol Beck, Roger & Cheryl Steinke, Brian Christensen, Hope Village, Inc., and Rita Schmeiser.
Applicant: Gordon Root, Stafford Development Co, and Ryan O'Brien, Planning Consultant

Application Type: Annexation & Zone Map Amendment (Type IV)
City File Number: ANN 17-02/ZC 17-03

Contact: Bryan Brown, Planning Director at 503-266-0702
Comments due – If you would like your comments to be incorporated into the City's Staff Report, please return the Comment Form by Wednesday, December 27, 2017 for the Planning Commission Meeting and by Monday, January 29, 2018 for the City Council meeting. Written and oral comments can also be submitted up to the time of the Public Hearings and may also be delivered in person during the Public Hearings.

What is the Decision Process? The Planning Commission will consider the Annexation/Zoning Map Amendment applications to

annex and zone property in the Southwest Development Concept Plan area and make a recommendation to the City Council. The City Council will then consider the Annexation/Zoning Map Amendment applications and make a final decision on each one individually. Most types of property annexations no longer need approval by the Canby electorate (Senate Bill 1573).

Where can I send my comments? Written and oral comments can be submitted up to the time of the Public Hearings and may also be delivered in person during the Public Hearings. Prior to the Public Hearings comments may be mailed to the Canby Planning Department, P O Box 930, Canby, OR 97013; delivered in person to 222 NE 2nd Ave; or emailed to PublicComments@canbyoregon.gov.

How can I review the documents and staff report? Weekdays from 8 AM to 5 PM at the Canby Planning Department. The staff report will be available for inspection starting Friday, December 22, 2017, and can be viewed on the City's website: www.canbyoregon.gov. Copies are available at \$0.25 per page or can be emailed to you upon request.

Applicable Canby Municipal Code Chapters:

- 16.08 General Provisions
- 16.16 R-1 Low Density Residential Zone
- 16.18 R-1.5 Medium Density Residential Zone
- 16.24 CR Residential Commercial Zone
- 16.46 Access Limitations on Project Density
- 16.54 Amendments to Zoning Map
- 16.24 Annexations
- 16.64 Subdivisions Design
- 16.86 Street Alignments
- 16.88 General Standards & Procedures
- 16.89 Application & Review Procedures

Please Note: Failure of an issue to be raised in a hearing, in person 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 board based on that issue.

CITY OF CANBY – COMMENT FORM

If you are unable to attend the Public Hearings, you may submit written comments on this form or in a letter. Please send comments to the City of Canby Planning Department:

By mail: Planning Department, PO Box 930, Canby, OR 97013
In person: Planning Department at 222 NE Second Street
E-mail: PublicComments@canbyoregon.gov

Written comments to be included in Planning Commission packet are due by Wednesday, December 27, 2017.
 Written comments to be included in City Council packet are due by January 29, 2018.

Written and oral comments can be submitted up to the time of the Public Hearings and may also be delivered in person during the Public Hearings.

Application: ANN 17-02/ZC 17-03 Annexation, Zone Change & Southwest Canby DCP, Stafford Land Company

COMMENTS:

My main concern is that the property be zoned for single family dwellings and not large apartment complexes. The 50 MPH traffic here on Ivy is frightening and dangerous considering it is only a two lane road. The speed limit on four lane 99E is only 5 MPH faster. I often have to wait for 20 or more fast moving vehicles to go by before I can pull out of my driveway. Caution should be taken when considering the addition of a new road that creates more fast moving traffic on Ivy, especially that close to the bridge. It seems that it would make more sense to add the new road closer to Hope Village and further from the crest of the bridge. The safety of people traffic, animals and wildlife are a very major concern of mine. In 2015 or 2016 a traffic study was done by Clackamas County. The study showed that over 6,000 vehicles traveled this road each day.

CITIZEN NAME: Rita J. Schmeiser
 EMAIL: itssewnice35@hotmail.com
 ORGANIZATION/BUSINESS/AGENCY: _____
 ADDRESS: 1841 S. Ivy
 PHONE # (optional): 503-266-9108
 DATE: 12/11/17

PLEASE EMAIL COMMENTS TO
PublicComments@canbyoregon.gov

AGENCIES: Please check one box and fill in your Name/Agency/Date below:

- Adequate Public Services (of your agency) are available
- Adequate Public Services will become available through the development
- Conditions are needed, as indicated
- Adequate public services are not available and will not become available
- No Comments

NAME: _____
 AGENCY: _____
 DATE: _____

Thank you!

City of Canby, Canby Planning Department, 222 NE 2nd Ave, Canby 97013, 503-266-7001

CITY OF CANBY – COMMENT FORM

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Written and oral comments can be submitted up to the time of the Public Hearings and may also be delivered in person during the Public Hearings.

Application: ANN 17-02/ZC 17-03 Annexation, Zone Change & Southwest Canby DCP, Stafford Land Company

COMMENTS:

SEE ATTACHED

CITIZEN NAME: TOM SCOTT + JEFF SCOTT
EMAIL: _____
ORGANIZATION/BUSINESS/AGENCY: S.T.J. 1, LLC
ADDRESS: 130 SW 2nd Ave - CANBY
PHONE # (optional): 503-266-5488
DATE: 12/26/17

PLEASE EMAIL COMMENTS TO
PublicComments@canbyoregon.gov

AGENCIES: Please check one box and fill in your Name/Agency/Date below:

- Adequate Public Services (of your agency) are available
- Adequate Public Services will become available through the development
- Conditions are needed, as indicated
- Adequate public services are not available and will not become available
- No Comments

NAME: _____
AGENCY: _____
DATE: _____

Thank you!

S.T.J. 1, LLC

130 SW 2nd Avenue, Suite 103
Canby, Oregon 97013
503-266-5488

December 26, 2017

City of Canby - Planning Department

RE: ANN 17-02/ZC 17-03 - SW Canby DCP

Please accept these comments for City of Canby File # ANN 17-02/ZC 17-03.

Our company owns tax lots #900 and #1000 consisting of 4 acres of property immediately to the South of the Hope Village campus.

The City of Canby's Development Concept Area map for this portion of land clearly shows our above mentioned properties to be included the Development Concept Plan (DCP). However, as you can see in the application material our properties have not been included in the DCP prepared by the applicant.


We can accept our properties being removed from the DCP area as long as the City of Canby acknowledges this to be true. If our properties are not removed from the DCP we would like for the applicant to present us with a DCP that includes our properties and allow us time to both comment and recommend any modifications necessary to ensure our property rights are protected.

In addition, if our properties are removed from the DCP we want to be assured that all public utilities will become available to our site through development of surrounding properties. We would also like to be assured that we will have more than one access point to each of our tax lots if our properties are not the first to develop.

It appears that most of the lots on the West side of South Fir Street are planned to have driveway access directly onto Fir Street. We are opposed to this lot configuration due to safety of homeowners, pedestrian and drivers. Significant traffic will be added to Fir St through development of these sites. In fact, the traffic impact analysis states that the project will add significant traffic levels to South Fir Street and potential volume reductions measures may be needed to reduce the impact. A residential street with this expected volume creates a hazard to the community if driveways are allowed direct access onto South Fir Street. The applicant can easily reconfigure the roadways to avoid direct driveway access onto S Fir St.

Thank you for allowing us to comment on this application.

Sincerely,



Thomas Scott
Managing Member

Jeff Scott
Managing Member



CITY OF CANBY – COMMENT FORM

If you are unable to attend the Public Hearings, you may submit written comments on this form or in a letter. Please send comments to the City of Canby Planning Department:

By mail: Planning Department, PO Box 930, Canby, OR 97013
In person: Planning Department at 222 NE Second Street
E-mail: PublicComments@canbyoregon.gov

Written comments to be included in Planning Commission packet are due by Wednesday, December 27, 2017.

Written comments to be included in City Council packet are due by January 29, 2018.

Written and oral comments can be submitted up to the time of the Public Hearings and may also be delivered in person during the Public Hearings.

Application: ANN 17-02/ZC 17-03 Annexation, Zone Change & Southwest Canby DCP, Stafford Land Company

COMMENTS:

SEE ATTACHED

CITIZEN NAME: Tom Scott
EMAIL: _____
ORGANIZATION/BUSINESS/AGENCY: _____
ADDRESS: 1893 S. FIR ST., CANBY
PHONE # (optional): _____
DATE: 12/26/17

PLEASE EMAIL COMMENTS TO
PublicComments@canbyoregon.gov

AGENCIES: Please check one box and fill in your Name/Agency/Date below:

- Adequate Public Services (of your agency) are available
- Adequate Public Services will become available through the development
- Conditions are needed, as indicated
- Adequate public services are not available and will not become available
- No Comments

NAME: _____
AGENCY: _____
DATE: _____

Thank you!

December 22, 2017

City of Canby - Planning Department

RE: ANN 17-02/ZC 17-03 - SW Canby DCP

Please accept these comments for City of Canby File # ANN 17-02/ZC 17-03.

My wife and I own tax lot #1900 consisting of 12 acres of property at the southwest corner of the DCP. Approximately 3 acres of our property is within the UGB and part of the DCP. The remainder is outside the UGB. Our family has lived on this property for 14 years.

First, I'm utterly disappointed in the lack of communication in the preparation of the DCP. I'm a real estate developer by profession. The DCP process should be inclusive and collaborative. I have had zero communication with the applicant prior to the notification of the public hearing. I was not asked if I wanted to be part of the annexation application nor was I asked if I approve of the applicant's DCP of my property. This was definitely not a collaborative planning process. I do not believe that the City of Canby instituted a requirement to master plan an area of the City and then exclude certain property owners in that process. I understand I'm a minority property owner in the overall plan but that should not diminish my voice.

Concerning the DCP presented by the applicant I have a few concerns.

The applicant has graciously offered a 35 ft wide by approximately 630 ft long strip of my property for future park land. Thus I'm being asked to provide approximately .5 acres (22,000 sf) of property for future parks. Currently the City of Canby code requires my property to provide up to .11 acres (4,700 sf) of land for parks. In comparison the remaining 54 acres in the DCP are offering just over 3 acres total. Thus I'm being asked to provide approx 17% of my property for parks while the remaining property owners provide less than 5% combined. I can not and will not agree to dedicate or sell this park land as part of the DCP. If the DCP is approved as presented the park dedication requirement will devalue my property and is a violation of my property rights.

It appears that most of the lots on the West side of South Fir Street are planned to have driveway access directly onto Fir Street. We are opposed to this lot configuration due to safety of homeowners, pedestrian and drivers. Significant traffic will be added to Fir St through development of these sites. In fact, the traffic impact analysis states that the project will add significant traffic levels to South Fir Street and potential volume reductions measures may be needed to reduce the impact. A residential street with this expected volume creates a hazard to the community if driveways are allowed direct access onto South Fir Street. The applicant can easily reconfigure the roadways to avoid direct driveway access onto S Fir St. In my opinion, they are only trying to maximize the lot yield on their property and not consider the neighborhood impacts as a whole.

The applicant is proposing a knuckle intersection on my property at the end of South Fir Street. The roadway creates a poor lot layout for future development of my property by creating flag lots. Flag lots are not desirable. As you can see neither large property owner has proposed flag lots on their property. Instead they have created a road system that provides them premium type lot frontages. Furthermore, I have no intentions to sell or develop my property and don't envision the road extension for potentially 30-40 years. I would suggest that the DCP should look at other ways to extend Fir St so that the roadway can be used as a thru street upon development of the McMartin property.


Both the Beck and McMartin properties contain multiple comprehensive zones - LDR, MDR and HDR. The DCP proposes using some of the designated MDR land for LDR lot development. However, I do not see in the DCP where the loss of MDR designated land is being traded elsewhere. Thus the City is losing a portion of the MDR land from their comprehensive property plan. I believe the DCP should be adjusted to make sure that land is traded proportionally to meet the comprehensive plan zoning designations.

Lastly, I would like the Planning commission to consider requiring adding a 4 way stop intersection at South Fir St and 13th Avenue. The traffic volume on 13th Avenue is significant. The existing site lines from the South side of the intersection are poor which makes entering 13th Avenue both difficult and dangerous. Furthermore, there are significant pedestrian crossings at this intersection. The development of the DCP site will obviously create additional pedestrian traffic. I have witnessed several near misses to both adults and children at this intersection. Please consider the safety of our neighborhood and citizens.

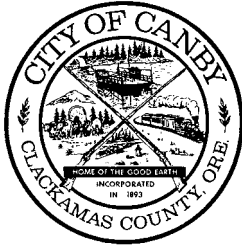
Many of these issues could have been addressed if ALL property owners were allowed a voice in the DCP process. The City of Canby should require an inclusive and collaborative process in the development of DCP's.

Thank you for allowing us to comment on this application.

Sincerely,



Thomas Scott
503-266-5488
tomscott@scott-investments.com



**BEFORE THE PLANNING COMMISSION
OF THE CITY OF CANBY**

A REQUEST FOR APPROVAL OF ANNEXATION AND ZONE CHANGE FOR PROPERTY LOCATED ON THE SOUTHWEST CANBY BETWEEN S. IVY AND S. FIR STREETS)))))	FINDINGS, CONCLUSION & FINAL ORDER ANN 17-02/ZC 17-03 ROGER AND CHERYL STEINKE, RODNEY AND CAROL BECK, NADINE BECK, BRIAN CHRISTENSEN, HOPE VILLAGE, RITA SCHMEISER
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NATURE OF THE APPLICATION

The Applicants sought approval for an annexation/zone change application ANN 17-02/ZC 17-03 to annex 20.25 acres of real property described as Tax Lots 41E04CA01500, 1600 and 41E04C01401, 1500 and 41E04D01400, 1500, 1600, Clackamas County, Oregon. The property is zoned Clackamas County EFU and is requested to be zoned City R-1, Low Density Residential, R-1.5, (Medium Density Residential) and C-R, (Residential Commercial).

HEARINGS

The Planning Commission considered applications ANN 17-02/ZC 17-03 after the duly noticed hearing on November 8, 2017 during which the Planning Commission recommended by a _/_ vote that the City Council approve ANN 17-02/ZC 17-03 per the recommendation contained in the staff report. This includes approval of the proposed SW Canby Area Development Concept Plan.

CRITERIA AND STANDARDS

In judging whether or not the annexation and zone change applications shall be approved, the Planning Commission determines whether criteria from the *City of Canby Land Development and Planning Ordinance* are met, or can be met by observance of conditions. Applicable criteria and standards were reviewed in the Planning Commission staff report dated January 8, 2018 and presented at the January 8, 2018 public hearing of the Planning Commission.

FINDINGS AND REASONS

The Planning Commission considered applications ANN 17-02/ZC 17-03 at a public hearing held on January 8, 2018 during which the staff report was presented, including all applicant submittal attachments. Staff recommended that the Planning Commission forward a recommendation of approval to the City Council for the proposed annexation and new zoning designation based on adoption of the SW Canby Area Development Concept Plan.

After hearing public testimony, and closing the public hearing, the Planning Commission made no additional findings beyond those contained in the staff report to arrive at their decision and support their recommendation:

CONCLUSION

In summary, the Planning Commission adopted the findings contained in the staff report, concluded that the annexation/zone change/SW Canby Area Development Concept Plan meets all applicable approval criteria, and approved Files ANN 17-02/ZC 17-03 as stated below. The Planning Commission's order is reflected below.

ORDER

Based on the application submitted and the facts, findings, and conclusions of the staff report, and the supplemental findings from the public hearing, the Planning Commission recommended to the City Council **APPROVAL** of annexation and zone change applications **ANN 17-02/ZC 17-03** as follows:

1. The SW Canby Area Development Concept Plan be adopted, and
2. ANN 17-02/ZC 17-03 be approved and,
3. Upon annexation, the zoning of the subject properties be designated as R-1, R-1.5, and C-R as indicated by the Southwest Canby Development Concept Plan Map and the Canby Comprehensive Plan Map.